

BID DOCUMENT



FOR

Project No. 7207
Foothill Drive Sanitary Sewer Upgrade



June 2026

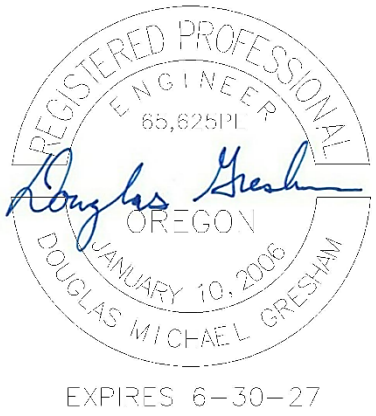
Clean Water Services

CLEAN WATER SERVICES

BID DOCUMENT

FOR

FOOTHILL DRIVE SANITARY SEWER UPGRADE
PROJECT NO. 7207



JUNE 2026

CLEAN WATER SERVICES

BID DOCUMENT

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ADVERTISEMENT FOR BIDS

FOR THE

FOOTHILL DRIVE SANITARY SEWER UPGRADE PROJECT NO. 7207

(Engineer's Estimate $597,340)

Sealed written bids for construction of the Foothill Drive Sanitary Sewer Upgrade Project No. 7207 (Project) will be received by Connie Wilson, Procurement Specialist, electronically via Bid Locker at https://bidlocker.us/details/6119 until the bid closing deadline of 2:00:00 p.m., local time, July 14, 2026, after which time bids will not be received. It is each Bidder's responsibility, when submitting its Bid electronically via Bid Locker, to ensure timely delivery by submitting its Bid sufficiently in advance of the deadline. Before bidders can submit their bids, they will need to register with Bid Locker at https://bidlocker.us/Home/bidlockerus. There is no cost to register. Clean Water Services (District) will not accept bids by facsimile or email. District will not accept bids by facsimile or email.

Upon bid closing, District will publicly open and read aloud by telephone conference all bids received by District. Bidders can attend the opening by calling the telephone conference number (503) 681-4497.

Bidders must submit their First-Tier Subcontractor Disclosure Form to the same Bid Locker location within two working hours of the bid closing time (Deadline). District will reject any bid received that does not have a First-Tier Subcontractor Disclosure Form submitted by the Deadline.

The Project consists of the following work: This Project consists of upsizing an existing 1,587 linear feet, 10-inch sanitary sewer line to a 14-inch sanitary sewer line through the pipe-bursting method within Commonwealth Lake Park.

The pre-bid conference will be held at CWS Central 1st Floor Board Room - 15195 NW Greenbrier Pkwy, Beaverton, OR 97006 on Monday June 29, 2026 at 10:00 a.m. All bidders are encouraged to attend this non-mandatory meeting. Representations and statements made by District representatives at the pre-bid conference are not binding on District unless confirmed in writing.

The Contract Documents may be downloaded from Bid Locker at https://www.bidlocker.us/details/5887. It is the Bidder's responsibility to refer daily to Bid Locker's website to check for any available amendments or addenda, response to inquiries or questions, cancellations, or notices of intent to award, and any and all information regarding this opportunity. It is not District's responsibility to notify participating Bidders by email or by any other means of any of the above. Copies of this advertisement can be obtained on the Bid Locker website or District's website at https://dynamic.cleanwaterservices.org/Bids. A hard copy of the bid documents is available for viewing at the District's office upon request. To make arrangements to view a hard copy, contact the Procurement Specialist identified in the paragraph below.

Bids and inquiries should be directed to Connie Wilson, Procurement Specialist, WilsonCo@cleanwaterservices.org, (503) 503-681-4464. Bids must be made upon the bid form found in the Contract Documents, and must be accompanied by a copy of a certified check, cashier's check, an irrevocable letter of credit issued by an insured institution as defined in ORS 706.008, or a bid bond payable to Clean Water Services in an amount not less than 5% of the total amount bid. Bidders must deliver the original of the bid security to District's office at 2550 S Hillsboro Hwy, Hillsboro, OR 97123 in a sealed envelope with the following notation: "Bid Security for Foothill Drive Sanitary Sewer Upgrade Project No. 7207" within five business days after the Deadline or District may declare the bid nonresponsive.

Each bidder must be licensed by the Oregon Construction Contractors Board (or, for landscaping projects, licensed by the Oregon Landscape Contractors Board). Prevailing wage rates must be paid by bidder and any subcontractor on the project in accordance with ORS 279C.800 to 279C.870. Each bid must contain a statement as to whether the bidder is a resident bidder, as defined by ORS 279A.120. Bidders must be licensed under ORS 468A.720 (regarding licensing of contractors on projects involving asbestos abatement). District will not receive or consider any bid that is not in compliance with the Instructions to Bidders and the Contract Documents. Bidders and any subcontractors will be required to have a public works bond filed with the Construction Contractors Board before starting work on the Project unless there is an applicable exemption under ORS 279C.836(4), (7), (8) or (9).

District may cancel this procurement or reject any bid that does not comply with all prescribed public bidding procedures and requirements, including the requirement to demonstrate the bidder's responsibility under ORS 279C.375(3)(b) and that District may reject for good cause all bids after finding that doing so is in the public interest.

INSTRUCTIONS TO BIDDERS



INSTRUCTIONS TO BIDDERS

1. Executive Summary

Clean Water Services (District) is soliciting bids for the **Foothill Drive Sanitary Sewer Upgrade Project No. 7207** (Project), which involves all of the work described in or required by the Contract Documents, including, but not limited to, the following: upsizing an existing 1,587 linear feet, 10-inch sanitary sewer line to 14-inch sanitary sewer line through the pipe-bursting method within Commonwealth Lake Park (Work).

2. Definitions

Unless defined differently herein, the terms used in these Instructions to Bidders will have the same meaning and definition as provided in the General Conditions of the Construction Contract.

3. Submission of Bids

All bids will be submitted before the time and at the place prescribed in the Advertisement for Bids. Bidders must submit their bid electronically to Connie Wilson, Procurement Specialist, via Bid Locker at https://bidlocker.us/details/6119 (Bid Locker). District will not accept facsimile or email transmissions.

4. Bid Deadline

District will receive sealed bids for the Project until the bid closing deadline of 2:00:00 p.m., local time, July 14, 2026 (Bid Closing), after which time bids will not be accepted. Upon Bid Closing, District will publicly open and read aloud any bids received by telephone conference. Bidders can attend the opening by calling the telephone conference number (503) 681-4497. Bidders must submit the First-Tier Subcontractor Disclosure Form within two working hours of Bid Closing at the place prescribed in the Advertisement for Bids (Deadline). District will reject any bid received that does not have a First-Tier Subcontractor Disclosure Form submitted by the Deadline.

5. Late Bids

Bids received after the Bid Closing deadline will not be opened or considered by District.

6. Bid Schedule

District reserves the right to alter the following schedule by written Addenda.

Advertisement for Bids:	**June 19, 2026**
Non- Mandatory Pre-Bid Conference:	**10:00:00 a.m., June 29, 2026**
Bid Closing Deadline Date and Time:	**2:00:00 p.m., July 14, 2026**
First-Tier Subcontractor Disclosure Due:	**4:00:00 p.m., July 14, 2026**

7. Pre-Bid Conference

The pre-bid conference will be held at CWS Central 1st Floor Board Room -15195 NW Greenbrier Pkwy, Beaverton, OR 97006 on June 29, 2026 at 10:00 a.m. All bidders are encouraged to attend this non-mandatory meeting. Representations and statements made by District representatives at the pre-bid conference are not binding on District unless confirmed in writing.

8. Preparation of Bids

Bids will be submitted on the Bid Form provided herein. All blank spaces in the Bid Form must be filled in, in ink or typewritten, in both unit prices and extensions. Discrepancies between unit prices and extensions will be resolved in favor of unit prices. No modifications will be made in the phraseology of the Bid Form. The representative of the bidder whose signature appears on the signature page must initial, in ink, modifications made to the bidder's entries in the bid.

The following items must be submitted to the Bid Locker as one PDF file by the Bid Closing deadline for a bid to be considered complete:

1. Complete and executed Bid Form including the applicable Signature Page,

2. Completed Resident/Nonresident Bidder Status, Contractors Board Licensing, Public Works Bond and Joint Venture/Partnership/Corporate Disclosure Form, and

3. Copy of completed and executed Bid Bond or other bid security.

Bidders must deliver originals of the bid security in a sealed envelope with the following notation on the front: "Bid Security for Foothill Drive Sanitary Sewer Upgrade Project No. 7207" to District's office at 2550 SW Hillsboro Hwy, Hillsboro, OR 97123 within five business days after the Deadline or District may declare the bid nonresponsive.

District may deem any bid nonresponsive if the bid contains omissions, erasures, alterations, additions of any kind, unsolicited prices, or obviously unbalanced line item bids, or in any manner fails to conform to the conditions stated in the Contract Documents.

The bidder will sign its bid in the blank space provided, with its legal and binding signature. District will consider the signatures on the Bid Form as electronic signatures.

Bids submitted by corporations, partnerships, or limited liability companies will contain names and addresses of the principal officers, partners, or members, respectively. If a corporation submits the bid, it must be acknowledged by one of the principal officers thereof, if a partnership submits the bid, by one of the general partners, if a limited liability company submits the bid, by one of its members or managers.

9. Contract Documents

The Contract Documents, including these Instructions to Bidders, are enumerated in the Contract. The Contract Documents may be downloaded from Bid Locker at https://bidlocker.us/details/6119. It is the Bidder's responsibility to refer daily to Bid Locker's website to check for any available amendments or addenda, response to inquiries or questions, cancellations, or notices of intent to award, and any and all information regarding this opportunity. It is not District's responsibility to notify participating Bidders by email or by any other means of any of the above.

District disclaims all responsibility for errors, ambiguities, or misinterpretations resulting from the use of an incomplete set of the Contract Documents. By making the Contract Documents available, neither District nor its representatives or agents (including design professionals) confer a license of any kind or grant permission for any use of the Contract Documents other than on the Project.

10. Request for Correction/Clarification/Substitution

All requests for correction, clarification, or substitution will be in writing and should be submitted via the Question and Answer (QA Period) functionality in Bid Locker. Questions received less than five business days before the bid due date may not be answered unless District determines, in its sole discretion, that it is in the public interest to do so. Oral and other interpretations or clarifications will be without legal effect.

Clarifications or answers to questions, whether verbal, in writing, or included in an Addendum as a "clarification" or "answer" do not change Plans, Specifications, contractual terms, or procurement requirements of an Invitation to Bid (ITB). If a request for clarification or question raises an issue that the District determines should be handled by formally amending the ITB, District will do so only by announcing such an amendment in a written Addendum, not through information identified as a "clarification" or "answer".

District will post both answers and clarifications as well as Addenda that amend the ITB on Bid Locker. Any corrections or substitutions made in any manner other than a written Addendum will not be binding, and bidders will not rely thereon. The Contract Documents are intended to be complementary and to provide all of the information reasonably required for the execution and completion of the Work. All corrections or substitutions made by District by Addendum will be final and binding on the successful bidder.

11. Examination of Site and Work Conditions

By submitting a bid for the Project, the bidder represents that it has made a careful examination of the Contract Documents and all conditions pertaining to the work, that the bidder is fully informed as to the quality of materials and character of work required, and that the bidder has made a careful examination of the location and condition of the work and the sources of supply for materials.

If investigations or testing of site or soil conditions have been performed by or for District, the special specifications will indicate their availability and place of inspection. District

does not warrant the accuracy of any information in such investigations, and bidders will have no right to rely on the information in such records or investigations. Should the bidder determine that additional investigations of site or soil or both conditions are necessary or desirable, bidder will at its expense, make additional investigations before submitting a bid. If District does not provide investigations or tests, the bidder will make its own investigation and analysis of site and subsurface conditions as the bidder believes necessary. The bidder will inspect the site with special attention directed to work conditions. If the bidder conducts its own tests, the bidder is responsible to secure all necessary permission(s) and to restore the area to its original condition.

Any failure of a bidder to acquaint itself with all of the available information concerning site, soil, and work conditions or to make its own investigations will not relieve the bidder from responsibility for properly estimating the difficulties or cost of the work. The bidder will, regardless of such failures, be bound to its bid.

12. Substitution of Materials

Except for equipment selected by District, whenever any material, construction method, product, or process is specified by manufacturer, proprietary name, or catalog number, such specification will be for establishing a standard of quality and for facilitating the description of the method, material, or process desired. This procedure is not to be construed as eliminating other methods, materials, processes, or products that are fully suitable for the proposed application in the sole professional judgment of District. References to all such proprietary items will be deemed to be followed by the words "or as approved" or "approved equal." The burden of proof of the merit of the proposed substitute is upon the proposer. District's decision of approval or disapproval of a proposed substitution will be a matter of District's sole discretion.

13. Bid Security

Bids must be accompanied by a cashier's check or certified check drawn on a bank in good standing, an irrevocable letter of credit issued by an insured institution as defined in ORS 706.008, or a Bid Bond on the form provided herein issued by a surety company authorized to issue such bonds in the State of Oregon. The surety company must carry an "A" rating and be of the appropriate class for the bond amount as determined by Best's rating system. The Bid Bond will be issued in an amount of not less than 5% of the total amount of the bid submitted. This check, letter of credit, or Bid Bond will be given as a guarantee that the bidder will not withdraw its bid for a period of 60 days after bid opening. The successful bidder will execute the attached Contract, furnish a properly executed Performance Bond and Payment Bond in the full amount of the contract price within 10 calendar days after receiving notification of conditional award, and provide District's public works bond information form and insurance certificates.

The Attorney-in-Fact (Resident Agent) who executes these bonds on behalf of the surety must attach a notarized copy of their Power of Attorney as evidence of their authority to bind the surety on the date of execution of the bond.

See the Preparation of Bids section for further instructions on submitting the bid security. District reserves the right to retain the bid security of the three lowest, responsible bidders until

the successful bidder has signed and delivered the Contract and furnished the documents required in the Award of Contract section.

14. Prevailing Wage Rates

Unless otherwise exempt, prevailing wage rates must be paid by the bidder and any subcontractor on the Project in accordance with ORS 279C.838 and ORS 279C.840. By submitting a bid and signing the Bid Form, the bidder represents that it will comply with the applicable prevailing wage rate requirements.

Contractor and any subcontractor will pay workers in each trade or occupation required for the Work not less than the applicable minimum Oregon prevailing rate of wage in accordance with ORS 279C.838 and 279C.840. The applicable Oregon minimum prevailing wage rates for such workers in the *Prevailing Wage Rates for Public Works Contracts* dated January 5, 2026 including the *Amendments to Oregon Determination 2026-01* (dated February 18, 2026) and *Amendments to Oregon Determination 2026-02* (dated April 5, 2026) (see links to the prevailing wage rate books titled *"January 5, 2026 Prevailing Wage Rate Book,"* "*February 18, 2026 Prevailing Wage Rates Amendment*" and "*April 5, 2026 Prevailing Wage Rate Amendment"* at https://www.oregon.gov/boli/employers/pages/prevailing-wage.aspx) available on www.oregon.gov/boli, and are incorporated herein as though fully set forth. Contractor will also include in every subcontract a provision requiring the subcontractor to comply with this provision.

15. Contractors Board Licensing

No bids for a construction or landscaping contract will be received or considered by District unless the bidder is licensed by the Construction Contractors Board or licensed by the Landscape Contractors Board as required by Oregon law.

16. Asbestos Abatement License

This public contract does involve asbestos abatement work, and contractors bidding on this public contract are required to be licensed with the Department of Environmental Quality pursuant to ORS 468A.720.

17. Resident Bidder

Each bidder must complete the Resident/Nonresident Bidder Status form and disclose whether the bidder is a resident bidder. A nonresident bidder will be subject to an out-of-state preference penalty equal to the preference given in its state.

18. Discrimination

By submitting a bid for the Project, a bidder certifies that it has not discriminated against any minority, women or emerging small business enterprise certified under ORS 200.055, or against a business enterprise that is owned or controlled by or that employs a disabled veteran as defined in ORS 408.225 in obtaining a required subcontract as required in 279A.110.

19. Noncollusion Certifications

A properly executed Bid Form containing the noncollusion certifications is material to any contract awarded pursuant to this bid. According to Oregon law, District may reject any or all bids upon a finding of District that it is in the public interest to do so. District finds that it is in the public interest to require the noncollusion certifications by potential contractors.

The Bid Form must be executed by a member, officer, or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.

Bid rigging and other efforts to restrain competition and making false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the Bid Form will examine it carefully before signing and ensure that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the bidder with responsibility for preparing, approving, or submitting the bid.

In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and each party must sign the Bid Form.

20. Disclosure of Subcontractors

a. Bidders must disclose information about certain first-tier subcontractors within two working hours of Bid Closing. The first-tier subcontractor disclosure requirement applies when the Contract value is greater than $100,000. These are the subcontractors who will be furnishing labor or labor and materials and will have a Contract value that is equal to or greater than 5% of the total Project bid or $15,000, whichever is greater, or $350,000 regardless of the percentage of the total Project bid. Subcontractors who are only furnishing materials are excluded from this requirement.

b. If there are no subcontractors that need to be disclosed, enter "none" and submit the form. Failure to submit the disclosure form will result in a nonresponsive bid. A nonresponsive bid will not be considered for award.

c. District will reject a bid if the bidder fails to disclose this information for each subject subcontractor within two working hours after the bid closing time.

d. To determine disclosure requirements, District recommends that the bidder disclose subcontract information for any subcontractor as follows:

i. Determine the lowest possible contract price. That price will be the base bid amount less all alternate deductive bid amounts (exclusive of any options that can only be exercised after bid award).

ii. Provide the required disclosure information for any first-tier subcontractor whose contract value is greater than or equal to:

(1) 5% of the lowest contract price, but at least $15,000, or

(2) $350,000 regardless of the percentage of the total Project bid.

iii. Total all possible work for each subcontractor in making this determination. (For example, if a subcontractor will provide $15,000 worth of services and materials on the base bid and $40,000 on an additive alternative, then the potential amount of the subcontractor's services and material is $55,000. Assuming that $55,000 exceeds 5% of the lowest contract price, provide the disclosure for both the $15,000 subcontract and the $40,000 subcontract.)

21. Modification or Withdrawal of Bid

Bids may be withdrawn and resubmitted from the Bid Locker up until bid closing. After bid opening, bidders must submit a written request to District to withdraw. A written request for withdrawal must have the legal and binding signature of the bidder.

22. Rejection of Bids

District reserves the right to reject all bids or any bid not conforming to the intent and purpose of the Contract Documents. District reserves the right to reject any bid not in compliance with all prescribed public bidding procedures and requirements, including the requirement to demonstrate the bidder's responsibility under ORS 279C.375(3)(b), and to cancel this solicitation or reject any or all bids, for good cause, upon a finding by District that it is in the public interest to do so. District also reserves the right to waive any informality or irregularity in any bid or bids.

23. Evaluation of Bids

District will evaluate bids to determine which responsible bidder has made the lowest responsive bid. District may reject a bid when the bidder has not demonstrated its responsibility under ORS 279C.375(3)(b). District may also reject any bids from bidders declared ineligible under ORS 279C.860, from bidders listed as not qualified by the State of Oregon Construction Contractors Board, from bidders that have not met the requirements of ORS 279A.105, or for other circumstances that indicate acceptance of the bid may impair the integrity of the selection process. District may conduct such investigations as District deems necessary to assist in bid evaluation and to establish responsibility, qualifications, and financial ability of bidders, proposed subcontractors, suppliers and other persons and organizations to execute the work in accordance with the Contract Documents to District's satisfaction within the prescribed time. District may request additional documentation within seven days of Bid Closing from bidders to aid it in its responsibility determination.

24. Award of Contract

The award, if made, will be made within 60 days after the opening of bids. The acceptance of the bid will be by written Notice of Conditional Award, emailed to the email address designated in the bid. The Notice of Conditional Award will not entitle the party to whom it is delivered to any rights whatsoever.

District intends to obtain electronic signatures on the Contract using DocuSign. If the successful bidder elects to sign the Contract electronically, the successful bidder will deliver to District's Office the proof of insurance required by the Contract, the Performance and Payment Bonds required under Paragraph 26, and the District's public works bond information form for its subcontractors (collectively, Required Documents) within ten days of receipt of the Notice of Conditional Award. If the successful bidder elects not to sign the Contract electronically, the successful bidder will submit to District's Office the Required Documents with the signed originals of the Contract. Upon District's receipt of the signed Contract and Required Documents and any necessary action by District's Board of Directors, District may sign the Contract and issue a written Notice to Proceed to Contractor.

If the lowest responsive, responsible bidder fails to sign and return the Contract and the Required Documents with the required timeframe, District may award the Contract to the next lowest responsive, responsible bidder, and so on, until a Contract is formed.

25. Basis of Award

The Contract, if awarded, will be awarded to the lowest responsive, responsible bidder based upon the lowest total bid.

In determining the lowest responsive, responsible bidder, District will, for the purpose of awarding the Contract, add a percent increase to the bid of a nonresident bidder, equal to the percent of the preference given to that nonresident bidder in the state in which that bidder resides. For purposes of determining the percent increases to be applied pursuant to this section, District will rely on the list published by the Oregon Department of Administrative Services. District will not incur any liability to any bidder by relying on such list.

26. Performance Bond and Payment Bond

Within ten days of receipt of the Notice of Conditional Award, the successful bidder will file with District a Performance Bond and Payment Bond, on the forms bound herein, in the amounts equal to the total of the Contract price. These bonds will be conditioned upon the faithful performance by the Contractor of all undertakings, covenants, terms, and conditions of the Contract Documents and will cover all guarantees and warranties against defective workmanship or materials, or both, for a period of one year after acceptance of the work and will be further conditioned upon the payment of all persons supplying labor or materials, or both, in the prosecution of the work.

The surety furnishing these bonds will have a sound financial standing and a record of services satisfactory to District, will be authorized to do business in the State of Oregon, and will carry an "A" rating and be of the appropriate class for the bond amount as determined by Best's rating system. If more than one surety is on a bond, each surety must agree that it is jointly and severally liable on the bond for all obligations of the bond.

The Attorney-in-Fact (Resident Agent) who executes the Performance Bond and the Payment Bond on behalf of the surety must attach a notarized copy of his or her Power of Attorney as evidence of his or her authority to bind the surety on the date of execution of the bond.

27. Public Works Bond

The successful bidder and every subcontractor performing Work on the Project must have filed with the Construction Contractors Board a public works bond in the amount of $30,000 with a corporate surety authorized to do business in the State of Oregon before starting work on the Project unless exempt under ORS 279C.836(4), (7), (8) or (9).

28. Bidder's Representations

By submitting a bid for the Project, bidder represents that it has read and understood the Contract Documents, visited the site, carefully studied and compared the Contract Documents with each other, become familiar with the conditions under which the Work will be performed, and has taken no exception to any term, condition, obligation or requirement of the Contract Documents. Bidder agrees to execute the form of Contract provided by District. Bidder further represents that it will immediately report all errors, inconsistencies, or ambiguities they discover in the Contract Documents in writing to District.

29. Failure to Execute Contract and Furnish Required Documents

The bidder to whom a Contract is awarded and who fails to properly execute the Contract and furnish the Required Documents and all other documents required to be provided by the bidder under the Contract Documents within ten days of receipt of Notice of Conditional Award will forfeit the bid security that accompanied its bid. The bid security will be retained as liquidated damages by District. It is agreed that this sum is a fair estimate of the amount of damages District will sustain in case the bidder fails to enter into a Contract and furnish the bonds provided in these Instructions to Bidders.

30. BOLI Fee

District will be responsible for paying the fee to the Commissioner for the Bureau of Labor and Industries pursuant to ORS 279C.825(1).

31. Proof of Insurance

Work will not commence until all insurance required by the Contract has been obtained and the requisite certificates of insurance have been submitted and approved by District. The Contractor will not allow any subcontractor to commence work until the subcontractor has obtained insurance applicable to such work. The Contractor will maintain insurance for the period required by the Contract.

32. Time of Completion

Time is of the essence for completion of the work to be performed under the Contract. The successful bidder agrees to complete the Project by November 29, 2026. The Contractor will be fully responsible for all aspects of workmanship, materials, and site conditions through the maintenance period ending one year after the written Final Acceptance by District of the work.

33. Protest Procedure

District has adopted its own public contracting rules and is not subject to the Attorney General's Model Public Contracting Rules. District's procurement rules have opportunities for Bidders to protest at various stages in the procurement process. This section only contains a brief summary of the deadlines, conditions required to file a protest and the information required to be included in the protest. Copies of District's rules containing the protest process may be obtained by contacting District's representative.

a. Specification Protest Process

A Bidder must submit a written protest of Specifications to the District not less than ten calendar days prior to the due date for Bids. The written protest must:

1) Be delivered to Connie Wilson, Procurement Specialist via email to WilsonCo@cleanwaterservices.org or by first class mail to District's Office located at 2550 SW Hillsboro Highway, Hillsboro, OR 97123.
2) Reference the title of the Bidding Documents.
3) Identify the prospective bidder's name and contact information.
4) Be signed by an authorized representative.
5) State the reason or grounds for the protest, including;
    i. A detailed statement of the legal and factual grounds for the request or protest;
    ii. A description of the resulting prejudice to the bidder; and
    iii. A statement of the form of relief requested or any proposed changes to the Specifications.
6) Be received by Ms. Wilson within ten calendar days prior to the due date for Bids. District will not consider a prospective bidder's protest if it is submitted after the established time period.

b. Solicitation Protest

Under District's rules, prospective Bidders may submit a written protest of anything in the Bidding Documents, including but not limited to the Invitation to Bid process, Scope of Work and the Contract Documents. Should a Bidder find discrepancies in, or omissions from the Bidding Documents, or should the Bidder be in doubt as to their meaning, or believes that any aspect of the Bidding Documents is improvident or unlawful, or which may unnecessarily restrict competition, the Bidder should at once notify Owner in the form of a Solicitation protest. This is a prospective bidder's only opportunity to protest the provisions of the Bidding Documents. The purpose of this protest procedure is to permit Owner time to correct, prior to the submission of Bids, aspects of the Bidding Documents that may be improvident or unlawful, or which may unnecessarily restrict competition. This requirement is intended to eliminate, by permitting corrections prior to the submission of Bids, the waste of resources and delay that may result from the untimely detection of errors in the Bidding Documents, possible protests, and possible rejection of Bids. Failure to file a protest by the time and date indicated below will be deemed a waiver of any claim by

a Bidder that the selection process is improvident or unlawful, or which may unnecessarily restrict competition. The written protest must:

1) Be delivered to Connie Wilson, Procurement Specialist via email to WilsonCo@cleanwaterservices.org or by first class mail to District's Office located at 2550 SW Hillsboro Highway, Hillsboro, OR 97123.
2) Reference the title of the Bidding Documents.
3) Identify the prospective bidder's name and contact information.
4) Be signed by an authorized representative.
5) State the reason or grounds for the protest, including:
    i. The grounds that demonstrate how the procurement process is contrary to law or unnecessarily restrictive, is legally flawed or improperly specifies a brand name;
    ii. Evidence or documentation that supports the grounds on which the protest is based; and
    iii. Relief sought.
6) State the desired changes to the procurement process or the Bidding Document provisions that the prospective bidder believes will remedy the conditions that were the basis of the protest.
7) Be received by Ms. Wilson within ten calendar days prior to the due date for Bids. District will not consider a prospective bidder's protest if it is submitted after the established time period.

c. Award Protest

Adversely affected or aggrieved bidders will also have an opportunity to protest District's Notice of Intent to Award, which District will post on its website at http://bids.cleanwaterservices.org under the title of the Bidding Documents. A bidder is adversely affected or aggrieved only if the bidder is eligible for award of the Contract as the responsible bidder submitting the lowest responsive bid and is next in line for award, i.e., the protesting bidder must claim that all lower bidders are ineligible for award. The written protest must:

1) Be delivered to Connie Wilson, Procurement Specialist by email to WilsonCo@cleanwaterservices.org or by first class mail to 2550 SW Hillsboro Highway, Hillsboro, OR 97123.
2) Reference the title of the Bidding Documents.
3) Identify the prospective bidder's name and contact information.
4) Be signed by an authorized representative.
5) Specify the grounds for the protest.
6) Be received by Ms. Wilson within seven calendar days after issuance and posting of the Notice of Intent to Award. District will not consider a prospective bidder's protest if it is submitted after the established time period.

d. A bidder must exhaust all administrative remedies before seeking judicial review of District's Contractor Selection or Contract Award Decision.

e. The award by the District's Board of Directors of a Contract will constitute a final decision of the District to award a Contract if no written protest of the award is filed.

BID PACKET INFO
RETURN ALL INFO IN THIS SECTION TO SUBMIT A COMPLETE BID PACKAGE

BID

❖

BID FORM

FOOTHILL DRIVE SANITARY SEWER UPGRADE PROJECT NO. 7207

Clean Water Services
2550 SW Hillsboro Highway
Hillsboro, Oregon 97123-9379

Bidder's Name: _____

1. The undersigned (Bidder) certifies that the only persons or parties interested in this Bid are those named herein; that this Bid is, in all respects, fair and without fraud; that this Bid is made without collusion with any official of Clean Water Services (District); and that this Bid is made without any connection or collusion with any person submitting a bid on the Contract.

2. Bidder further certifies that it has carefully examined the Contract Documents; that it has personally inspected the site or otherwise become familiar with all conditions pertaining to the work; that it has satisfied itself as to the quantities involved, including materials, labor, and equipment, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the quantities with the detailed requirements of the Contract Documents; and that this Bid is made according to the provisions and under the terms of the Contract Documents, which are hereby made a part of this Bid.

3. Bidder certifies that it has exercised its own judgment regarding the interpretation of subsurface information and has used all data that Bidder believes pertinent from the Engineer, District, and other sources in arriving at conclusions.

4. Bidder certifies that it will comply with the provisions of ORS 279C.800 to 279C.870 regarding prevailing wage rates. Bidder also certifies that it will comply with ORS 279C.838, 279C.840.

5. Bidder certifies that Bidder has not discriminated and will not discriminate, in violation of ORS 279A.110(1) against any disadvantaged business enterprise, a minority-owned business, women-owned business, a business that a service-disabled veteran owns or an emerging small business that is certified under ORS 200.055, in obtaining a required subcontract.

6. Bidder certifies that it has in place or has initiated and will implement before performance of the Work for this Project begins a mandatory employee drug-testing program. Bidder further certifies that it will maintain the program through the completion of the Work of the Project and will demonstrate to District that the employee drug-testing program is in place.

7. Bidder agrees that all of the applicable provisions of Oregon law relating to public contracts are, by this reference, incorporated in and made a part of this Bid.

8. Bidder further agrees that if this Bid is accepted, it will, within ten calendar days

after notification of conditional award, execute the Construction Contract with District in the form of the Construction Contract attached hereto, and will, at the time of execution of the Construction Contract, deliver to District the Performance Bond and Payment Bond required herein, and Certificates of Insurance.

9. Bidder by signing the below Signature Page hereby attests or affirms under penalty of perjury: That I am authorized to act on behalf of the Contractor in this matter that I have authority and knowledge regarding payment of taxes, and that Contractor is to the best of my knowledge, not in violation of any Oregon Tax Laws. For the purposes of this certification, "Oregon Tax Laws" means a state tax imposed by ORS 320.005 to 320.150; ORS 403.200 to 403.250; ORS Chapters 118, 314, 316, 317, 318, 320, 321, 323, the elderly rental assistance program under ORS 310.630 to 310.706; and any local tax laws administered by the Oregon Department of Revenue under ORS 305.620.

10. Any printed matter on any letter or paper enclosed herewith that is not part of the Bidding Documents or that was not requested by District is not to be considered a part of this Bid, and the undersigned agrees that such printed matter will be entirely disregarded and, notwithstanding such printed matter, that this Bid is a bid to do the work and furnish the labor and materials and all other things required by the Contract Documents.

11. This Bid is irrevocable for 60 days following the date of the opening of bids.

12. The undersigned acknowledges receipt of Addenda Nos. ____ through ____.

13. Bidders certifies that the information in the Resident/Nonresident Bidder Status, Contractors Board Licensing and Joint Venture/Partnership/Corporate Disclosure sections is true and correct.

14. Bidder certifies that it will comply with the prohibitions set forth in ORS 652.220 prohibiting discriminatory wage rates based upon an employee's membership in a protected class and acknowledges that compliance is a material element of the Contract and that failure to comply is a breach that entitles District to terminate the Contract for cause.

15. Bidder certifies and attests that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this paragraph:

a. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

b. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of District, (b) to establish Bid prices at artificial noncompetitive levels, or (c) to deprive District of the benefits of free and open competition;

c. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of District, a purpose of which is to establish Bid prices at artificial, noncompetitive levels; and

d. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

16. Bidder, whose legal signature is on the Signature Page, hereby bids and binds Bidder to the bid prices indicated on these pages.

SIGNATURE PAGE

IF BIDDER IS AN INDIVIDUAL COMPLETE THE FOLLOWING:

The undersigned has signed this Bid Form as of _____ day of _____, 20_____.

Signature of Bidder: _____

Printed Name of Bidder: _____

Address: _____

_____

_____

Telephone: _____

Email: _____

IF BIDDER IS A PARTNERSHIP OR JOINT VENTURE COMPLETE THE FOLLOWING:

The undersigned has signed this Bid Form as of _____ day of _____, 20_____.

Name of Partnership or Joint Venture (Bidder): _____

Signature of Bidder: By: _____

Printed Name of Person Signing: _____

Title of Person Signing: _____

Address: _____

_____

_____

Telephone: _____

Email: _____

OTHER PARTY IN THE PARTNERSHIP OR JOINT VENTURE:

The undersigned has signed this Bid Form as of _____ day of _____, 20_____.

Name of Partnership or Joint Venture (Bidder): _____

Signature of Bidder: By: _____

Printed Name of Person Signing: _____

Title of Person Signing: _____

Address: _____

_____

_____

Telephone: _____

Email: _____

IF BIDDER IS A CORPORATION OR LIMITED LIABILITY COMPANY (LLC) COMPLETE THE FOLLOWING:

The undersigned corporation or LLC has caused this instrument to be executed and its seal affixed by its duly authorized officers this _____ day of _____, 20_____.

Name of Corporation/LLC (Bidder): _____

Signature of Bidder: By: _____

Printed Name of Person Signing: _____

Title of Person Signing: _____

State of Incorporation: _____

Address: _____

_____

_____

Telephone: _____

Email: _____

SUBMIT – BID TAB

FOOTHILL DRIVE SANITARY SEWER UPGRADE, PROJECT NO. 7207

All blanks shall be filled in. The column "Amount" shall be the product of the Unit Price multiplied by the quantity. In case of error, the Unit Price shall govern. The chapter number refers to the chapter in the General Conditions which governs the item. The S-xx number refers to the Special Specification related to the item.

The bidder, whose legal signature binding the bidder to the bid prices indicated on this Schedule of Bid Prices is found on the signature page, hereby bids as follows:

ITEM #	SPEC #	DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT
CHAPTER 10 - GENERAL REQUIREMENTS						
1	**S-12**	Mobilization (not to exceed 10% of total bid)	1	LS		
2	**S-13**	Construction Staking	1	LS		
3	**S-16**	Traffic Control & Flagging	1	LS		
CHAPTER 11 - ENVIRONMENTAL REQUIREMENTS						
4	**S-17**	Tree Protection/ Construction Fence	2,700	LF		
5	**S-19**	Erosion & Sediment Control	1	LS		
CHAPTER 12 - TRENCH EXCAVATION AND BACKFILL						
6	**S-20**	Abandonment of Existing Sanitary Manhole	1	EA		
7	**S-21**	Removal of Existing Sanitary Manholes	7	EA		
CHAPTER 13 - MANHOLES AND CATCH BASINS						
8	**S-22**	Install New 48-inch Diameter Standard Concrete Manholes (all depths, all connections)	7	EA		
9	**S-23**	Connections to New Manhole (all depths)	2	EA		
CHAPTER 15 - STREET RESTORATION						
10	**S-25**	Curb Removal and Replacement	40	LF		
11	**S-26**	Sidewalk/Driveway Ramp Removal and Replacement	120	SF		
11a	**S-26**	Extra for Sidewalk Ramps	1	EA		
CHAPTER 16 - LANDSCAPE RESTORATION						
12	**S-27**	Construction Zone Impacts within Private and Public Property	1	LS		
CHAPTER 19 - SEWER REHABILITATION						
13	**S-28**	Bypass Pumping	1	LS		
14	**S-29**	Sewer Main Video Inspection (Pre and Post-Construction)	3,480	LF		
15	**S-30**	Pipe Burst Existing 10-inch Sewer Main to 14-inch DR17 IPS HDPE - (all depths)	1,740	LF		
SPECIAL SPECIFICATIONS						
16	**S-32**	6-Ft Chain-Link Security Fence	1,000	**LF**		
17	**S-33**	Construction Plastic Matting	1	**LS**		
18	**S-34**	Predetermined Contingency	1	**LS**	$20,000.00	$20,000.00

Total Bid	**$20,000.00**

FIRST-TIER SUBCONTRACTOR

DISCLOSURE FORM

PROJECT NAME: **Foothill Drive Sanitary Sewer Upgrade Project No. 7207**

BID CLOSING: **Date**: **July 14, 2026 Time: 2:00:00 p.m., local time**

This form must be submitted at the location specified in the Advertisement for Bids on the advertised bid closing date and within two working hours after the advertised bid closing time.

List below the name of each subcontractor that will be furnishing labor or will be furnishing labor and materials and that is required to be disclosed, the category of work that the subcontractor will be performing, and the dollar value of the subcontract. Enter "NONE" if there are no subcontractors that need to be disclosed. (ATTACH ADDITIONAL SHEETS IF NEEDED.)

	NAME	DOLLAR VALUE	CATEGORY OF WORK
1)		$	
2)		$	
3)		$	
4)		$	
5)		$	
6)		$	
7)		$	
8)		$	
9)		$	
10)		$	

Failure to submit this form by the disclosure deadline will result in a nonresponsive bid. A nonresponsive bid will not be considered for award.

Form submitted by (bidder name): _____

Contact name: _____

Phone no.: _____

RESIDENT/NONRESIDENT BIDDER STATUS/CONTRACTORS BOARD LICENSING/PUBLIC WORKS BOND AND JOINT VENTURE/PARTNERSHIP/CORPORATE DISCLOSURE FORM

ORS 279A.120 requires that Clean Water Services, in determining the lowest responsible bidder, must add a percent increase on the bid of a nonresident bidder equal to the percent, if any, of the preference given to that bidder in the state in which that bidder resides. Consequently, each bidder must indicate whether it is a resident or nonresident bidder. A resident bidder is a bidder that has paid unemployment taxes or income taxes in the State of Oregon during the 12 calendar months immediately preceding submission of this bid, has a business address in the State of Oregon, and has stated in its bid that it is a resident bidder. A nonresident bidder is a bidder that is not a resident bidder.

The bidder whose signature appears on the Signature Page states that it is: (check one)

1. A resident bidder _____

2. A nonresident bidder _____

Indicate state in which bidder resides: _____

CONTRACTORS BOARD LICENSING

ORS 279C.365 requires that all contractors must be licensed by the Construction Contractors Board or the Landscape Contractors Board in order to submit a bid to do work and to do work as a contractor or a landscape contractor, respectively. The bidder whose signature appears on the Signature Page states that at the time of bid the bidder holds an active license issued by the Oregon Construction Contractors Board or the Landscape Contractors Board.

Indicate Bidder's Construction Contractor's Board License Number: _____

PUBLIC WORKS BOND INFORMATION

Name of Bidder's Public Works Bonding Company: _____

Address of Bidder's Public Works Bonding Company: _____

_____

Agent Name/Phone: _____

Bidder's Public Works Bond Number: _____

Check if exempt under ORS 279C.836(7) ☐

JOINT VENTURE/PARTNERSHIP/CORPORATE DISCLOSURE

The names of the principal officers of the corporation submitting this bid, or of all the partners, if the bidder is a partnership or joint venture, or of all persons interested in this bid as individuals are as follows:

BID BOND

(Bond No. _____)

KNOW ALL MEN BY THESE PRESENTS, 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 Oregon, as Surety, are held and firmly bound unto Clean Water Services as the Obligee in the sum of _____ _____ Dollars ($_____) for the payment of which, well and truly to be made, as agreed and liquidated damages, we bind ourselves and our heirs, executors, administrators, successors, and assigns, jointly and severally, and firmly by these presents.

The condition of this bond is such that the Principal herein is herewith submitting their bid for Foothill Drive Sanitary Sewer Upgrade Project No. 7207, which proposal or bid is made a part of this bond by reference.

NOW, THEREFORE, if the Obligee does not award a contract to the Principal within the time specified in the Contract Documents for the work described in the bid, or in the alternative if the bid submitted by the Principal is accepted and the contract is conditionally awarded to the Principal and if the Principal executes the proposed contract and furnishes the Performance Bond and Payment Bond as required by the Contract Documents within the time fixed by the documents, then this obligation will be void, otherwise to remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of the Surety and this bond will not be impaired or affected by any extension of the time within which the Obligee may accept such bid, and the Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the below parties have caused this instrument to be executed by their duly authorized legal representatives this _____ day of _____, 20_____.

SURETY	PRINCIPAL
By: _____	By: _____
Signature	Signature
_____	_____
Printed Name and Title	Printed Name and Title

(A Power of Attorney for the Attorney in Fact must be attached to this bond.)

END OF BID PACKET INFO
RETURN ALL INFO IN THIS SECTION
TO SUBMIT A COMPLETE BID PACKAGE



PERFORMANCE BOND

(Bond No. _____)

KNOW ALL MEN BY THESE PRESENTS, that the undersigned _____ _____ as Principal and _____, a corporation organized and existing under the laws of the State of _____, as Surety are held and bound unto Clean Water Services as the Obligee, in the penal sum of _____ Dollars ($_____), lawful money of the United States of America, for the payment of which Principal and Surety bind themselves and their heirs, executors, administrators, successors, and assigns, jointly and severally.

WHEREAS the Principal has entered into a contract dated _____, 20____ (Contract) with the Obligee for **Foothill Drive Sanitary Sewer Upgrade Project No. 7207**, which Contract is made a part hereof as if fully incorporated herein.

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if the Principal will faithfully, punctually, and completely perform and abide with the covenants, terms, conditions, and provisions of the Contract and any extensions thereof in all respects and within the time prescribed therein, including, but not limited to, the terms of any warranty and guarantee required under the Contract; will pay all laborers, mechanics, subcontractors, material and equipment suppliers, and persons supplying to the Principal or its subcontractors and suppliers at any tier labor, materials, supplies, or equipment for the prosecution of the work or any part thereof; will fully defend, indemnify, and hold Obligee harmless from all cost and damage that Obligee may suffer by reason of Principal's failure to do so; and will in all respects perform the Contract according to applicable law, then this obligation will be null and void; otherwise, it will remain in full force and effect. In any event, this obligation will remain in full force and effect until the expiration of any statutes of limitation or repose applicable to claims against Principal arising out of the Contract.

No prepayment or delay in payment and no change, extension, addition, or alteration of any provision of the Contract and no forbearance on the part of the Obligee will operate to relieve Surety from liability on this bond, and Surety hereby consents to any such changes, extensions, additions, or alterations without further notice to or consent by Surety.

If arbitration, litigation, or other proceeding is brought upon this bond by Obligee and judgment; or award is entered in Obligee's favor, Surety will pay all of Obligee's costs incurred in such arbitration, litigation, or other proceeding, including attorney and expert witness fees.

If there is an arbitration clause in the Contract, Surety agrees to participate in and to be bound by any such arbitration to the same extent Principal is bound.

No right of action will accrue on this bond to or for the use of any person or corporation other than the Obligee or the heirs, executors, administrators, or successors of the Obligee.

Executed this _____ day of _____, 20_____.

_____
PRINCIPAL

By:

_____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
SURETY

By:

_____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
Phone Number

_____
COUNTERSIGNED:

APPROVED AS TO FORM

_____
Resident Agent

_____
District Counsel

_____
Address

PAYMENT BOND

(Bond No. _____)

KNOW ALL MEN BY THESE PRESENTS, that the undersigned _____ _____ as Principal and _____ _____ as Surety, a corporation organized and existing under the laws of the State of _____, are held and bound unto Clean Water Services as Obligee, for the use and benefit of all persons or entities that provide labor, material, equipment, or supplies for use under the Contract described below, in the penal sum of _____ Dollars ($_____), lawful money of the United States of America, for the payment of which Principal and Surety bind themselves and their heirs, executors, administrators, successors, and assigns, jointly and severally.

WHEREAS the Principal has entered into a contract dated _____, 20 __ (Contract) with the Obligee for **Foothill Drive Sanitary Sewer Upgrade Project No. 7207**, which Contract is made a part hereof as if fully incorporated herein.

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION are such that if Principal will promptly make payment to all claimants as defined herein for all labor, material, equipment, or supplies used or reasonably required for use in the performance of the Contract, then this obligation will be null and void; otherwise, it will remain in full force and effect. In any event, this obligation will remain in full force and effect until the expiration of any statutes of limitation or repose applicable to claims against Principal arising out of the Contract.

Principal and Surety hereby jointly and severally agree with the Obligee that every claimant as herein defined who has not been paid in full before the expiration of a period of 180 days after the last date on which labor, material, equipment or supplies were supplied by such claimant may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due and owing claimant, and have execution thereon. The Obligee will not be liable for the payment of any damages, costs, or expenses (including attorney fees) of any such suit.

No prepayment or delay in payment and no change, extension, addition, or alteration of any provision of the Contract and no forbearance on the part of the Obligee will operate to relieve Surety from liability on this bond, and Surety hereby consents to any such changes, extensions, additions, and alterations without further notice to or consent by Surety.

If arbitration, litigation, or any other proceeding is brought upon this bond by the Obligee and judgment is entered or awarded in Obligee's favor, the Surety will pay all of Obligee's costs incurred in such arbitration, litigation, or any other proceeding, including attorney and expert witness fees.

Except as expressly provided above, no right of action will accrue on this bond to or for the use of any person or corporation other than the Obligee or its heirs, executors, administrators, or successors.

Executed this _____ day of _____, 20_____.

_____
PRINCIPAL

By: _____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
SURETY

By: _____
Signature

_____
Printed Name

_____
Title

_____
Address

_____
Phone Number

_____
COUNTERSIGNED:

APPROVED AS TO FORM

_____
Resident Agent

_____
District Counsel

_____
Address

CONSTRUCTION CONTRACT

THIS CONSTRUCTION CONTRACT (Contract) dated _____, 20___ is between Clean Water Services (District) and _____ (Contractor). Contractor and District for the considerations stated herein mutually agree as follows:

1. The Work

Contractor will furnish all supervision, contract administration, machinery, tools, apparatus, equipment, supplies, materials, labor, and other costs necessary to perform and complete all work required for the **Foothill Drive Sanitary Sewer Upgrade Project No. 7207** (Project) as more specifically outlined in the Contract Documents. Work is to be performed in strict accordance with the Contract Documents and in accordance with such alterations or modifications of the same as may be made by District. This Contract will be binding upon the heirs, executors, administrators, successors, and assigns of Contractor.

2. Contract Price

District will pay Contractor for performance of the Contract at the unit prices in the Bid Form attached hereto and incorporated herein, subject to additions and deductions as provided in the Contract Documents, the amount earned, as determined from the actual quantities of work performed and the prices and other basis of payment specified, and taking into consideration any amounts that may be deductible, withheld, or retained under the terms of the Contract and to make such payments in the manner and at the times provided in the applicable Contract Documents.

3. Contract Documents

The Contract Documents will consist of the following:

a. Advertisement for Bids

b. Instructions to Bidders

c. Signed copy of the Bid Form and Bid Prices listing

d. First-Tier Subcontractor Disclosure Form

e. Resident/Nonresident Bidder Status Form

f. Signature Page

g. Bid Bond

h. Performance Bond

i. Payment Bond

j. Construction Contract

k. Selection of Retainage Form

l. Special Specifications

m. General Conditions and Standard Specifications

n. Oregon Prevailing Wage Rates

o. Standard and Special Drawings, if applicable

p. Permits

q. Plans and any modifications of any of the foregoing in the form of Addenda are hereby specifically referred to and by this reference expressly made a part of this Contract and will by such reference have the same force and effect as though all of the foregoing were fully written or inserted herein.

4. Payroll and Certified Statement Filing Requirements and Additional Retainage

Contractor or Contractor's surety, and every subcontractor or subcontractor's surety, will file with District written payroll and certified statements (Certified Payrolls) that accurately and completely contain the payroll records for each week during which the Contractor or subcontractor employs a worker on a public works project. The Certified Payrolls will contain the information required and conform to the requirements set forth in ORS 279C.845 and OAR 839-025-0010. Contractor will file the Certified Payrolls with District once a month by the fifth business day of the following month. Once construction starts, Contractor will file a Certified Payroll with District containing the notation "No Work" each week that Contractor does not work on the Project. Contractor must file its last Certified Payroll before the final inspection of the Work by District.

District will retain 25 percent of any amount earned by Contractor, in addition to other retainage, on the Work until Contractor has filed with District the required Certified Payrolls. District will pay Contractor the amount retained under this section within 14 calendar days after the Contractor files the Certified Payrolls required by this section regardless of whether a subcontractor has failed to file Certified Payrolls. District is not required to verify the truth of the contents of the Certified Payrolls filed by Contractor.

Contractor will retain 25 percent of any amount earned by a first-tier subcontractor on the Work until the subcontractor has filed with District the required Certified Payrolls. Contractor will verify that the first-tier subcontractor has filed the Certified Payrolls before the Contractor may pay the subcontractor any amount retained under this section. Contractor will pay the first-tier subcontractor the amount retained under this section within 14 days after the subcontractor files the Certified Payrolls required by this section. Neither District nor Contractor is required to verify the truth of the contents of the Certified Payrolls filed by the first-tier subcontractor.

5. Applicable Law

It is expressly understood that this Contract in all respects will be governed by the laws of the State of Oregon and the ordinances of District.

6. Schedule

The time of completion of the work to be performed under this Contract is the essence of the Contract. The Contractor agrees to complete the Project by November 29, 2026 (Contract Time).

7. Assignment

Contractor will not assign Contractor's rights or duties pursuant to the Contract Documents without first obtaining District's written consent.

8. Miscellaneous

This Contract, including all incorporated Contract Documents, constitutes a final written expression of all the terms of this Contract. This Contract will be changed, amended, or modified only as provided in the Contract Documents.

Neither District nor Contractor will assign in whole or in part its interest in this Contract without the written consent of the other.

This Contract may be executed in several counterparts, each of which will be an original, all of which will constitute one and the same instrument. An electronic signature will be considered an original. The individuals signing this Contract certify that they are authorized to execute this Contract on behalf of Contractor and District, respectively.

CLEAN WATER SERVICES	CONTRACTOR NAME
By: _____	By: _____
General Manager or designee	
	_____
	Printed Name
APPROVED AS TO FORM	_____
	Title
_____	_____
District Counsel	Address
	_____

City/State/Zip

State License Number

Federal ID Number

SELECTION OF RETAINAGE OPTION FORM

(ORS 279C.560)

_____(insert name of Contractor) (Contractor) either intends to enter or has entered into a contract with Clean Water Services (Owner) for the Foothill Drive Sanitary Sewer Upgrade, Project No. 7207 (Project). If Owner decides to withhold retainage, it will be in the amount of five percent of the contract price of the work completed and will be held by Owner for up to 30 days after the Project has been accepted by Owner in writing. Oregon law allows specific alternatives for the holding and accounting of this retainage at the option of the Contractor. **FAILURE TO EXECUTE AND SUBMIT THIS FORM WITHIN 15 DAYS OF OWNER'S REQUEST WILL RESULT IN AUTOMATIC SELECTION OF THE FIRST OPTION. IF NO OPTION IS SELECTED, OWNER WILL WITHHOLD RETAINAGE BUT WILL NOT PAY INTEREST ON THE RETAINAGE.**

Contractor elects the following option to provide retainage for the Project. (**Check one only.**)

_____ 1. **Any Contract Price** – **Cash Retainage**. When Contractor has not elected either option 2 or 3 below within the 15-day period, District will hold all retained moneys in a District fund or account and interest is not required to accrue on the retained moneys.

_____ 2. **Any Contract Price – Contractor Provided Account.** If selected, Contractor will set up an interest-bearing account in a commercial bank or trust company in Oregon _____(name of lending institution) in the name of Owner. Owner will place the five percent retainage withheld from each progress payment, into the interest-earning account. Funds in the account will be under Owner's control and will be released to Contractor within 30 days of final acceptance of the Project. Interest on the account will accrue to Contractor. Contractor will provide a bank letter that includes ACH instructions.

Bank Contact_____

Contact telephone number_____

_____ 3. **Any Contract Price – Contractor-Provided Retainage Bond.** If selected and before the first progress payment is made where retainage will be withheld, Contractor will deposit acceptable bonds or securities, equal to at least five percent of the remaining contract amount, with Owner or with a bank or trust company authorized to transact business in Oregon and not a surety obligation of an individual. The bank or trust company will provide a safekeeping receipt to Owner. **The securities must cover <u>all</u> of the retainage.**

A. Acceptable bonds and securities to be held in lieu of retainage:

1. Bills, certificates, notes, bonds, or other obligations of the United States, its agencies, or its wholly-owned corporations.

2. Indebtedness of the Federal National Mortgage Association.

3. Surety Bond must substantially be in the form in ORS 701.435 and acceptable to Owner.

B. Complete only if Option 3 is selected:

The Contractor will deposit _____
_____
_____
(description of bonds or securities) in the amount of $ _____
_____with
_____ (depository name and address) on _____(date) and instruct the named depository to provide Owner with a safekeeping receipt and to hold the bonds or securities until authorized by Owner to release them.

CONTRACTOR NAME

_____	_____
Company Name	Federal Tax I.D. Number
_____	_____
By (Signature) By (Please print)	_____

SITE SPECIFIC SAFETY PLAN CERTIFICATION

The undersigned Contractor acknowledges, attests and certifies that:

1. Contractor performs all operations in strict accordance with all applicable standards set by Oregon Occupational Safety and Health Division (OR-OSHA), including, but not limited to Oregon Administrative Rules (OAR) 437, Division 2, Subdivision J (29 CFR Part 1910.141 – 1910.147) and OAR Chapter 437, Division 3 (29 CFR Part 1926).

2. Contractor has created and will maintain a Site-Specific Safety Plan and keep a copy of it on-site through the entirety of the project. The Contractor's Safety Manager is trained and knowledgeable in all safety requirements and is responsible for compliance with all applicable safety requirements. All job personnel are knowledgeable of and comply with the Site Specific Safety Plan requirements.

3. The Site-Specific Safety Plan includes the following basic elements:

    - Policy or goals statement
    - List of responsible persons, including contact information
    - Hazard identification
    - Hazard controls and safe practices
    - Emergency and accident response
    - Confined Space Entry Plan, including the Rescue Plan
    - Emergency Spill Response Plan
    - Pollution Control Plan
    - Employee training and communication
    - Recordkeeping

Contractor acknowledges that it is solely and completely responsible for the safety of the construction site, including, but not limited to, the safety of all persons and property present at the site at any time until final completion and acceptance by District.

_____ By:_____

Name of Firm Signature

Date:_____ _____

Print Name

_____ _____

Project Name Print Title

SPECIAL SPECIFICATIONS



SPECIAL SPECIFICATIONS

FOOTHILL DRIVE SANITARY SEWER UPGRADE
PROJECT NO. 7207

S-1 LIQUIDATED DAMAGES

Pursuant to Section 3.3 of Chapter 3 of the General Conditions and Standard Specifications, Contractor will pay to the District the amount of $1,000, not as a penalty, but as liquidated damages for each and every Day that final completion extends beyond the Contract Time.

S-2 PREVAILING WAGE RATES FOR PUBLIC WORKS CONTRACTS IN OREGON/PUBLIC WORKS BONDS/BOLI FEE

Unless otherwise exempt, Contractor, its consultants and any subcontractors will abide by ORS 279C.800 through 279C.870 that relate to the prevailing wage rates for the building and construction trades in the State of Oregon. Along with any subcontractors or consultants performing Work, Contractor will pay workers in each trade or occupation required for the Work not less than the applicable Oregon prevailing rate of wage in accordance with ORS 279C.838 and 279C.840. The applicable Oregon minimum prevailing wage rates for such workers in the Prevailing Wage Rates for Public Works Contracts dated January 5, 2026 including the Amendments to Oregon Determination 2026-01 (dated February 18, 2026) and Amendments to Oregon Determination 2026-02 (dated April 5, 2026) (see links to the prevailing wage rate books titled "January 5, 2026 Prevailing Wage Rate Book," "February 18, 2026 Prevailing Wage Rates Amendment" and "April 5, 2026 Prevailing Wage Rate Amendment" at https://www.oregon.gov/boli/employers/pages/prevailing-wage.aspx) available on www.oregon.gov/boli, and are incorporated herein as though fully set forth. Contractor will also include in every subcontract a provision requiring the subcontractor to comply with this provision.

Contractor must have a public works bond filed with the Construction Contractors Board unless exempt under ORS 279C.836(4), (7), (8) or (9). Contractor must also include in every subcontract a provision requiring the consultant or subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the Project unless exempt under ORS 279C.836(4), (7), (8) or (9).

District will be responsible for paying the required fee to the Commissioner of the Bureau of Labor and Industries.

S-3 CHANGE IN QUANTITY

Replace *Section 2.3.6 Change in Quantity* of the General Conditions and Standard Specifications with the following:

The quantities of unit-priced bid items listed in the Contract Documents are an estimated quantity. The actual quantity of the unit-priced items may vary above or below the estimated amount indicated on the

Bid Form. No adjustments of unit prices shall be made regardless of the change in quantity. If an increase in quantity is such as to cause an increase in the time necessary for completion, Contractor may request an extension of Contract Time as specified in the Contract Documents.

S-3a CONTRACTOR MARKUP FOR FORCE ACCOUNT (TIME AND MATERIALS) WORK

The Materials, Equipment, and Labor rates set forth in this section apply only to Force Account Work under the Force Account Work Procedure in Section 5.4 of the General Standards and Standard Specifications. These rates do not apply to any other Work performed under the Contract Documents, although may be used as a basis to determine reasonable compensation for overhead and profit as exclusively determined by the District representative. The rates and markups listed acknowledge the District's Representative's authority to control and alter the Materials, Equipment, and Labor used.

Allowable markup to actual costs, given as a percentage, will be paid as compensation to the Contractor, for overhead and profit, for Time and Materials work by the Contractor's own forces, as set forth below. No other markups are allowed or permissible:

1. Material: 10%
2. Equipment: 0%
3. Labor: 10%

The markup amounts shown above also apply to Force Account Work performed by a subcontractor. When Work is performed by a subcontractor on a Force Account basis or other basis agreed to by the District's Representative, the District shall pay an additional 5% Mark Up for both overhead and profit to the Contractor. Regardless of the number of tiers of subcontractors, this supplemental markup will be applied only once.

S-4 CONTRACTOR SUBMITTALS

Contractor is required to make the following submittals. Direct submittals from suppliers are not allowed. Submittals will consist of three types: (1) information for record, (2) information for District review/approval, and (3) operation and maintenance information. The following listing is considered the minimum and may be expanded during the course of the work at the direction of District:

1. Copy of all licenses and permits[1]
2. Subcontractor list[1]
3. Emergency response with company call-out list[1]
4. Project schedule[2]
5. Contractor agreements with property owners (if applicable)[2]
6. Staging Area Plan[2]
7. Erosion and Sediment Control Plan[2]
8. Approved Traffic control plan[2]

9. Bypass pumping plan sealed by licensed Engineer[2]
10. Manufacturer/Supplier Certificates for products where applicable[2]
11. Aggregate materials with current Proctor testing results[2]
12. Pipe products including manhole structures, fittings, jointing equipment/procedures, and products and procedures for connection of sewer pipe to manholes[2]
13. Sewer main rehabilitation and replacement submittals[2]
14. Manhole epoxy submittals[2]
15. Television inspection pre-construction submittals[3]
16. Television inspection post-construction submittals[3]
17. Contractor's Construction Drawings[3]
18. As-Built Survey Point Files and Contractor Notes for preparing As-Builts[3]

Submittal items listed as Type 1 or Type 2 above shall be submitted and approved, if applicable, prior to District issuing the Project Notice to Proceed.

Contractor is responsible for the accuracy and completeness of the information contained in each submittal and will ensure the material, equipment, or method of work is as described in the submittal. Contractor will verify that all features of all products conform to the specified requirements. Submittal documents must be clearly edited to indicate only those items, models, or equipment series being submitted for review. All extraneous materials must be crossed out or otherwise obliterated. Contractor will ensure that there is no conflict with other submittals and notify District in each case where its submittal may affect the work of another contractor or District.

Contractor will coordinate submittals with the Work so that Work will not be delayed. Contractor will coordinate and schedule different categories of submittals, so that none is delayed for lack of coordination with another. No extension of time will be allowed because of a failure to properly schedule submittals. Contractor must not proceed with Work related to a submittal until the submittal process is complete. This requires that submittals for review and comment will be returned to Contractor stamped "No Exceptions Taken" or "Make Corrections Noted."

Contractor will certify on each submittal document that it has reviewed the submittal, verified field conditions, and complied with the Contract Documents.

Review of Contract drawings, methods of work, or information regarding materials or equipment Contractor proposes to provide, does not relieve Contractor of its responsibility for errors therein and will not be regarded as an assumption of risks or liability by the Engineer or District, or by any officer or employee thereof, and Contractor will have no claim under the Contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "No Exceptions Taken" or "Make Corrections Noted" will mean that District has no objection to Contractor, upon its own responsibility, using the plan or method of work proposed, or providing

the materials or equipment proposed.

Cost associated with this item is considered as incidental to construction and no additional compensation will be due to Contractor.

S-5 PERMITS

The Contractor is to keep fully informed of all local ordinances, as well as State and federal laws that in any manner affect the Work specified herein. At all times, the Contractor shall comply with said ordinances, laws, and regulations and protect and indemnify Clean Water Services, Tualatin Hills Park & Recreation District (THPRD), Washington County, and their directors, officers, employees and agents against any claim or liability arising from or based on the violation of such laws, ordinances, or regulations.

The District has applied for many of the required permits for this Project. The Contractor is to secure any additional permits, licenses, and inspections necessary for prosecution and completion of the Work, unless otherwise specified. A description of the various permits include:

1. District has completed a Clean Water Services, **Sensitive Area Pre-Screening Site Assessment** (SPL) and attached a copy herein. Contractor shall be responsible for meeting all conditions of the SPL and all best management practices (BMPs) as required by District.

2. District has obtained a Programmatic Local Erosion and Sediment Control Permit and attached a copy herein. Contractor shall be responsible for meeting all conditions of the permit and approved Erosion and Sediment Control plan.

3. Washington County Right-of-Way Utility Permit: District has submitted a **Right-of-Way Utility** permit application to Washington County (County)**.** The application is currently incomplete pending the Contractor providing the County with the required information once the Contract has been awarded. Contractor shall comply with the requirements of this permit, including licensing, bonding and insurance requirements. District has submitted a traffic control plan as shown in the Project construction drawings. Contractor may, at their cost, prepare an alternative Traffic Control plan conforming to County standards and these specifications, for final approval of the Right-of-Way Utility Permit Application.

4. Corps/DSL/DEQ JPA: District has obtained the Corps/DSL/DEQ JPA permit. Upon execution, Contractor shall be responsible for meeting all conditions of that permit, including any and all tests, materials, equipment, and labor necessary for compliance.

5. Washington County Land Use and Grading Permit: District has applied and received a land use permit from the County. The grading permit has been submitted to the County

and is currently under review. Upon Contract execution, Contractor shall sign the grading acknowledgement form and submit an updated grading permit package to the County, along with the permit fee payment provided by District, for County permit approval. Upon execution of the permit, Contractor shall be responsible for meeting all permit conditions.

6. THPRD Site Safety Plan/ Permit: District has submitted the site safety plan to THPRD and is in the process of obtaining approval. Upon Contract execution, Contractor shall be responsible for providing an updated site-specific safety plan to THPRD that meets all the safety requirements of the parks.

If Contractor elects to use other means and methods for staging and access than those included in the Contract Drawings, or earthwork is utilized that is not shown on the Drawings (e.g., removal or fill), Contractor shall apply for and obtain any necessary permits for that work.

Contractor shall comply with all permit requirements and have copies of permits on site at all times. Contractor shall have copies of the Construction Drawings, General Conditions and Standard Specifications, and Special Specifications on site at all times. Willful violation of permit conditions and applicable laws would expose the offending Contractor and other violators to criminal and civil sanctions. District reserves the right to suspend work to determine damage and the nature and scope of any necessary site restoration or maintenance.

Costs associated with the requirements of this Section are considered incidental to construction and no additional compensation shall be due to Contractor.

S-6 PROJECT SCHEDULE

Contractor shall submit a Project work schedule to District for approval seven days in advance of the preconstruction meeting. The schedule shall meet the following conditions and requirements:

1. Date and duration of all construction activities, including final restoration. List of sewer line sections that Contractor intends to work on each week for the duration of the Project by manhole number and/or Project stationing;
2. List of service line reconnections by mainline, including the date notices will be delivered and the delivery method for said notices;
3. Dates traffic will be impacted on the roads by street name and cross street, as applicable; and
4. Schedule shall restrict the performance of construction activities outside the public right of way during the wet weather season, and until all construction easements and agreements are executed.

If it is evident the Project schedule has deviated or will deviate from the approved schedule by more than one week (five working days), Contractor will advise District and prepare a revised Project schedule for submittal at the next regularly scheduled Project meeting. Review of the

Project schedule will be included in the onsite meetings.

Contractor will be responsible for providing a 3-week lookahead schedule at each regularly scheduled Project meeting. The schedule shall provide a breakdown of the upcoming construction activities, the subcontractors involved, and the dates those activities, including all required notifications, will occur.

Costs associated with the requirements of this Section are considered incidental to construction and no additional compensation shall be due to Contractor.

S-7 PRE-CONSTRUCTION MEETING AND WEEKLY PROJECT MEETINGS

Contractor shall attend a pre-construction meeting held at a location designated by District. The meeting will be attended by District, THPRD and Contractor personnel a minimum of one week prior to the beginning of the Work. Alternative arrangements can be made by providing District with advance notice.

Contractor shall complete all Project submittal requirements and attend the pre-construction meeting with District prior to the issuance of the Notice to Proceed.

Contractor's project manager and/or site superintendent shall attend weekly Project progress meetings on-site or as arranged in advance. Contractor and District will establish the progress meeting schedule at the pre-construction meeting.

THPRD may require an additional on-site meeting with Contractor and District prior to beginning construction. This meeting will go over specific THPRD requirements to better understand the Contractor's work plans and impacts to THPRD facilities.

Costs associated with the requirements of this Section are considered incidental to construction and no additional compensation shall be due to the Contractor.

S-8 SAFETY AND EMERGENCY RESPONSE

All safety and emergency responses on the Project shall comply with the guidelines set out by this Contract, Chapter 6 of the General Conditions and Standard Specifications, the THPRD site safety permit, and all applicable safety rules and laws.

Prior to beginning any work, Contractor must provide District with a list identifying all key personnel associated with this Project and their responsibilities. Contractor must provide District with a list of contact numbers for those employees and those responsible for responding to after-hours call-outs associated with Contractor's work. Contractor must have personnel available to respond to emergency situations within two hours of receiving notice from District.

If Contractor fails to provide timely response or corrective action, District may provide response or corrective action without further notice to Contractor or Contractor's surety and deduct all costs incurred from any payments due or coming due to Contractor. District will not be required

to act in any situation and nothing will relieve Contractor of duties to prevent, correct, or respond to problems related to the Work.

Costs associated with the requirements of this Section are considered incidental to construction and no additional compensation shall be due to the Contractor.

S-9 WORK HOURS

Noise-producing Work is restricted to Monday through Friday between 7:00 a.m. and 5:00 p.m. This includes, but is not limited to, warming up equipment, parking on the site with vehicles running, sounding vehicle horns, and using signaling devices.

Saturday Work will be approved only on a case-by-case basis. Contractor must obtain the District's approval at least one week prior to performing work. Saturday work may also require THPRD approval.

No work is allowed on Sundays or legal holidays. If work on District holiday is requested, Contractor must obtain District and other authorities having jurisdiction approval at least one week prior to holiday or no work will be allowed.

Costs associated with the requirements of this Section are considered incidental to construction and no additional compensation shall be due to the Contractor.

S-10 PERMIT OF ENTRY, TEMPORARY CONSTRUCTION EASEMENTS, AND STAGING AREAS

Contractor shall confine construction activities within existing easements, temporary easements, THPRD permitted areas, and the public right-of-way. No construction shall proceed on a private property until a Permit of Entry (POE) or Temporary Construction Easement (TCE) has been obtained. Temporary staging areas require a written agreement negotiated between the property owner and contractor.

Any additional POE, Temporary Construction Easement or Staging Agreement that cannot be acquired, other than the ones listed in the Permits section of the Contract Documents, will not be cause for changes in the Project cost or schedule.

All property owner notification and access shall comply with Chapter 10 of the General Conditions and Standard Specifications. No work on private property or interruption of service will be allowed without prior notice.

District will provide all TCE documents prior to Project start. These will include the extents and location of each TCE. Contractor will be required to provide staking and work within designated permanent utility easements and TCE areas during all work on the mainlines and associated structures. No open cut mainline or associated structure work will be allowed on private property if a TCE has not been previously acquired.

Contractor shall submit a Staging Area Plan to District prior to conducting Work. The Staging Area Plan will highlight all areas that will be used by Contractor and methods for securing equipment, including all equipment used for bypass pumping operations. The Staging Area Plan must adhere to all requirements of the Contract Documents.

Contractor may establish agreements with private property owners to secure additional work, storage, or staging areas. Any agreement relative to staging, storage, access, or construction activities executed between Contractor and any private property owner must be in writing with all conditions pertaining to usage and restoration clearly defined. All agreements must contain language clearly excluding District as a party to the agreement(s). A signed copy must be provided to District prior to any construction activities occurring on private property. Any cost or liability and/or claim associated with Contractor's usage of private property is borne solely by Contractor at no cost to District.

Any stored equipment on private or public property must be secured from residents and the public by the use of temporary chain-link, orange construction fencing or other approved barrier. Continuous, unobstructed, safe, and adequate accessible pedestrian and vehicular access must be provided to fire hydrants, commercial and industrial establishments, private residences, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Continuous emergency vehicle access must be provided through work areas in public roadways. Contractor will cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential driveways must be maintained to the property line except when necessary construction precludes such access for reasonable periods, as approved by District.

Public access to the park shall always remain open during construction. Contractor shall sequence work, establish safe work zones, and install appropriate temporary fencing or barriers to ensure uninterrupted public use of designated park areas. The existing 25-foot-wide Permanent Sanitary Sewer Easement located within Tax Lot 1S104D000800, 1S104AD00201 and 1S103CB09300 shall be used as the primary access and work corridor for construction activities unless otherwise shown on the Drawings. The existing paved walking path within the park must remain open to the public and ADA accessible throughout the duration of the Project except for short-term closures approved in advance by the District and THPRD. Contractor shall utilize only the Temporary Construction Easement (TCE) areas shown on the plans for material laydown, equipment access, and pipe joining operations, and shall maintain all public pathways outside the TCE limits in a clean, safe, and unobstructed condition at all times.

Cost associated with the requirements of this Section are considered incidental to construction and no additional compensation shall be due to Contractor.

S-11 WATER SUPPLY

Contractor is responsible for providing all water necessary for the Project. Contractor may not use residential water services without prior written agreement from the property owner(s). Contractor shall work with **Tualatin Valley Water District (503-848-3000)** to obtain

appropriate permits, hydrant meter, backflow or other requirements by the authority having jurisdiction.

Costs associated with the Work necessary to comply with the requirements of this section are considered incidental to construction and no additional compensation will be due to Contractor.

Chapter 10 – General Requirements

S-12 MOBILIZATION

Mobilization shall comply with all requirements of Chapter 10 of the General Conditions and Standard Specifications as modified below: and the requirements by the authority having jurisdiction.

Replace the wording in Section 10.8.1 *Mobilization* with the following:

Payment for mobilization will be made on a lump sum basis under Bid Item 1, (S-12) Mobilization as stated in the Schedule of Bid Prices. Payment shall be as follows:

1. When equipment has been moved to the Project site, the Contractor has begun progress on the Work, and an unconditional Notice to Proceed has been issued, 50 percent of the contract amount for mobilization will be paid.
2. When 10 percent of the total original contract amount is earned from other bid items, the remaining 50 percent of the contract amount for mobilization will be paid.
3. Mobilization shall not exceed 10 percent of the total original contract amount.

S-13 CONSTRUCTION STAKING

Replace the wording in Section 10.6, Progress of Construction, of the General Conditions and Standard Specifications with the following:

> Contractor shall be responsible for all Project layout based upon the plans. A CAD file will be made available to Contractor for construction staking by a surveyor at Contractor's expense. Contractor shall maintain proper equipment on-site as necessary to ensure horizontal and vertical control and the proper location of improvements. Contractor is solely responsible for all layout of the Work. No additional construction staking will be provided except at the expense of Contractor.
>
> District did not perform a survey for this Project. Plans were prepared based on record drawings of existing utilities, available GIS data and aerial photography. Contractor's surveyor may require additional work to establish survey control, elevation data and structure locations. No survey control is available from District.
>
> At a minimum staking shall include:
>
> 1. Permanent and/or Temporary Easements/THPRD Permit Boundary
> 2. 1-hub at center of all structures

3. 2-offset hubs with tack and lath for each structure
4. All laths shall be marked with line station, offset distance, invert cut or fills, rim information, hub elevation, and slope where applicable
5. For any open trench sewer construction, surface information at every 25-ft station on centerline, with cuts computed
6. Fencing, both sediment control and construction fencing
7. Tree protection
8. Staging areas

Cut sheets shall be made available to District a minimum of 48 hours prior to construction of the improvements for review. Cut sheets shall include stationing as referenced on the plans, horizontal and vertical distances from hubs, slopes, invert elevations and design grades. Contractor shall be responsible for full management of all aspects of Work required to complete construction staking as necessary for the Project.

Payment for this item will be made on a lump sum basis under Bid Item 2, (S-13) Construction Staking as stated in the Schedule of Bid Prices Payment shall represent full compensation for all labor, equipment, and materials necessary to install and remove construction stakes as required and must meet the requirements of this Section.

S-14 CLEARING AND GRUBBING

Contractor shall make efforts to limit clearing and grubbing as much as practicable within developed park areas. Minor vegetation removal may be required around some of the existing maintenance holes within the work area. Contractor shall coordinate any clearing and grubbing work with THPRD prior to beginning the work. Clearing and grubbing shall include the disposal of any brush, shrubs, and any other vegetation and rubbish from the work area. Contractor shall be mindful of vegetation designated to remain along with fences and other structures that may cross the work area. It is the intent that Contractor minimize the impact to existing vegetation to the extent possible. Any damage resulting from the Contractor's operation or neglect shall be repaired or replaced by Contractor. Removal of shrubs, trees, and other vegetation outside the work area shall be replaced at the Contractor's expense.

The limits of the work area to be cleared and grubbed shall be clearly marked in the field by stakes, flags, tree markings or other suitable methods. Tree protection fencing shall be in place on all trees prior to any clearing and grubbing activities.

All materials cleared and grubbed from the designated work area shall be properly disposed of off site. Burning of debris shall NOT be allowed. Contractor is responsible for complying with all local rules and regulations and for paying any and all fees that may result from disposal locations away from the Project site.

Costs associated with this item are considered incidental to construction and no additional compensation will be due to Contractor.

S-15 SITE RESTORATION AND CLEAN-UP

Site restoration and clean-up shall comply with all requirements of Chapter 10.7 of the General Conditions and Standard Specifications.

Contractor shall keep the premises clean and orderly at all times during the Work and leave the Project site free of rubbish or excess materials of any kind upon completion of the Work. Surfaces used by bicycles must be kept free of all dirt, mud, gravel and other harmful materials. This includes but is not limited to bike paths, bike lanes, roadway shoulders or the outside 6 feet of the roadway.

During construction, Contractor shall stockpile the excavated trench materials so as to cause the least damage to adjacent lawn, grassed areas, gardens, shrubbery, trees, or fences, regardless of the ownership of the areas. All excess excavated materials shall be removed from the areas, and the surfaces shall be left in a condition equivalent to or better than the original condition and free from all rocks, gravel, boulders or other foreign materials. Contractor shall restore topsoil areas as specified in Chapter 12 of the General Specifications.

On paved areas, sweeping shall be performed with a vacuum truck (broom sweepers will not be allowed). Contractor shall control the dust, dirt, and roadway debris through the application of water, vacuuming and sweeping. Sweeping, vacuuming, and debris/dirt control shall occur at a minimum twice daily. If District determines dust, dirt, and roadway debris control is needed, Contractor shall take immediate, remedial action.

All unpaved surfaces disturbed by construction shall be returned to original grades, fertilized and reseeded with a perennial Ryegrass seed mix approved by THPRD in accordance with Chapter 16 of the General Conditions and Standard Specifications and these specifications. Any areas disturbed by the Contractor's operations outside the Work limits (easements or right-of-way) shall be restored in a method acceptable to the property owner. Contractor shall obtain a written release from all such property owners before final payment on this Contract.

Costs associated with this item are considered incidental to construction and no additional compensation will be due to Contractor.

S-16 TRAFFIC CONTROL AND FLAGGING

Traffic Control shall comply with all requirements of Chapter 10 of the General Conditions and Standard Specifications, the Manual on Uniform Traffic Control Devices (MUTCD), 2026 ODOT Temporary Traffic Control Handbook and any Washington County requirements as the authority having jurisdiction for the road.

Contractor shall be required to maintain access to the park entrances, private residences and driveways to the extent practical. It shall be incumbent upon Contractor to provide a minimum of 48 hours' notification to individual property owners regarding impending temporary interruptions to residences and/or driveway access by private vehicles. Access for school vehicles, mail services, emergency vehicles, and police and fire vehicles shall be continuously maintained. Failure of Contractor to abide by access

requirements shall be cause for work stoppage until effective access is reestablished.

Contractor must notify emergency services, public transportation, school authorities, school bus companies, all affected utilities, and local agencies and properly coordinate the Work in a way that causes the least amount of conflict between the Work and operations of other agencies. Contractor shall provide a minimum of two weeks of advance notice for any construction that will interfere with access. Access for school vehicles, mail services, garbage, emergency vehicles, public transportation, and police and fire vehicles must be continuously maintained.

Contractor shall ensure safe and continuous pedestrian circulation inside the park (but outside of the temporary construction easement) throughout the project site, including the provision of ADA-compliant temporary pedestrian accommodations wherever construction activities, equipment, or bypass pumping interfere with existing pedestrian routes. This includes furnishing and maintaining temporary ADA ramps or other compliant measures as needed to maintain accessibility. Traffic Control shall also include all devices and practices necessary to manage pedestrian, bicycle, and vehicular movements safely within and around the work zone, and to protect the public from open excavations or equipment associated with the Work. Temporary ADA ramps and all measures required to ensure accessible pedestrian circulation shall be incidental to this item.

Payment for this item will be made on a lump sum basis under Bid Item 3, (S-16) Traffic Control & Flagging as stated in the Schedule of Bid Prices. Payment will include, but not be limited to, all Work necessary to prepare, submit, and gain approval for traffic control plans and/or road closure applications from the authority having jurisdiction and other governing jurisdiction(s). Payment shall also include, but not be limited to, all Work necessary to implement and maintain traffic control, including signage and traffic control devices, maintenance of continuous access, all labor, including flagging and all other miscellaneous tasks necessary to comply with the requirements. Payment will be as follows:

1. When the District-provided or Contractor-developed Traffic Control Plan and schedule are complete, accepted, and initial traffic control devices installed, 25% of the Contract amount for Traffic Control & Flagging will be paid.

2. When 25% of the total original Contract amount is earned from other bid items, 25% of the contract amount for Traffic Control & Flagging will be paid.

3. When 50% of the total original Contract amount is earned from other bid items, 25% of the Contract amount for Traffic Control & Flagging will be paid.

4. When 75% of the total original Contract amount is earned from other bid items, the final 25% of the contract amount for Traffic Control & Flagging will be paid.

Chapter 11 – Environmental Protection Requirements

S-17 TREE PROTECTION/CONSTRUCTION FENCE

Trees not scheduled for removal that are located in close proximity to the work area shall be protected with fencing. Tree protection fencing shall be installed per the Tree

Protection/Construction Fence Detail shown on the construction plans and at the locations shown on the construction plans to avoid incidental scarring or damage by equipment. Orange construction fence, existing fences, and other barriers, as approved, may serve as tree protection fencing where indicated on the construction plans. Tree protection fencing (and other approved tree protection barriers) shall be installed prior to performing any construction-related activities.

Install orange construction fencing to prevent pedestrians and park users from entering construction areas. Orange construction fencing shall be a minimum of 4 feet high and installed where shown on the plans. Construction fencing shall be inspected every day and maintained in good condition to prevent park users and their pets from entering the work area.

Staging areas and areas of active construction/open excavations shall be enclosed with 6-foot-tall temporary chain-link fence panels. In addition to fencing requirements, any open excavation shall be covered with plywood or other appropriate measures as approved by District at the end of each workday.

Payment for Work associated with tree protection/construction fencing shall be paid on a per linear foot basis under Bid Item 4, (S-17) Tree Protection/Construction Fence. Payment shall represent full compensation for all labor, equipment, and materials necessary to install and remove tree and other protections indicated on the construction plans and meet the requirements of this Section.

S-18 HAZARDOUS, TOXIC, AND WASTE MATERIAL HANDLING

This section shall comply with all requirements of Chapter 11 of the General Conditions and Standard Specifications.

Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint, wood treated with leachable preservatives or other deleterious waste materials shall not be allowed to enter waters of the state. Contractor shall submit an Emergency Spill Response Plan and a Pollution Control Plan that identifies specific hazardous material containment measures for equipment to be used within 150 feet of Water Quality Sensitive Areas, see General Conditions Chapter 11. Measures for pollution prevention may include machinery refueling, which shall occur at least 150 feet from waters of the state and confined in a designated area to prevent spillage into waters of the state, performing frequent checks of all equipment for fuel and fluid leaks, and keeping a spill kit on site during construction. Project-related spills into waters of the state or onto land with a potential to enter waters of the state shall be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311 and the District's project manager.

If above-ground fuel storage will exceed 660 gallons per container or 1,320 gallons aggregate, Contractor will develop and submit to District for approval 10 days before the preconstruction conference, a spill prevention control and countermeasures (SPCC) plan, signed and stamped by a professional engineer, in accordance with 40 CFR 112. Employees must be trained as specified in 40 CFR 112 and the SPCC plan. Contractor will maintain a copy of the SPCC plan onsite at

all times during construction activities, readily available to employees and inspectors.

District records indicate that Sanitary Maintenance hole #11649 STA 17+36.69 has two asbestos concrete pipe (ACP) connections. One connection is a 6-inch pipe from the south and the other is an 8-inch pipe from the north. Any presence of asbestos pipe shall be removed and disposed of in accordance with the requirements of Oregon Department of Environmental Quality (DEQ) and Occupational Safety and Health Administration (OSHA) requirements when cutting, handling, and disposing of all AC pipe and fittings. See the attached rules for handling ACP materials. No extra payment will be made for cutting, handling, and disposal of ACP and fittings. All removal, management of, and work on asbestos materials shall comply with OAR Chapter 340 Division 248, all other state and national requirements, and the requirements of these specifications. No asbestos-containing materials shall be left behind on the Project.

Costs associated with the requirements of this section are considered incidental to construction and no additional compensation will be due to the Contractor.

S-19 EROSION & SEDIMENT CONTROL

Contractor shall comply with all requirements of District's General Conditions and Standard Specifications Chapter 11; conditions contained in District's Design and Construction Standards (Resolution & Order No. 19-22) December 2019 Edition, Chapter 6, Erosion Prevention and Sediment Control; and the current edition of District's *Technical Guidance Handbook for Erosion Prevention and Sediment Control Plans.* In the event of a discrepancy, the most stringent requirement shall prevail.

This item includes the supply, installation, and removal of best management practices (BMPs) to control erosion and sediment on the Project. This item includes but is not limited to sediment fence, construction access, inlet protection, bio bags, mulch, lining of trucks, dust prevention, street clean up, monitoring, maintenance, stockpiling, and removal of erosion control or any other erosion control measure necessary to meet the permit conditions and the District standards.

Contractor shall provide construction mating for all staging areas and any route needed to access work locations within the park. No construction traffic shall drive on park grass or cross paved park paths unless construction mating is installed to protect the park. Construction mats shall be of sufficient size and strength to ensure that construction vehicle traffic does not drive off mats and that the ground is sufficiently protected from damage and soil compaction. Any damage caused by construction traffic shall be repaired by Contractor to the satisfaction of THPRD at no cost to District or THPRD.

Any ground cover measure used in areas to be restored with grass shall be a fertile mulch to assist with the establishment of grass. No straw mulch shall be used. Trucks must be lined to prevent drippage of soil or other material as necessary. An adequate supply of material is required on site to control erosion and to maintain the BMPs on the Project. Contractor is responsible for removal of all erosion control measures after the restored area has stabilized or as directed by District.

Payment for Erosion & Sediment Control will be made on a lump sum basis under Bid Item 5, (S-19) Erosion & Sediment Control as follows:

1. When the initial erosion control devices are installed, 25% of the Contract amount for the Erosion & Sediment Control bid item will be paid.

2. When 50% of the total original Contract amount is earned from other bid items, 20% of the Contract amount for the Erosion & Sediment Control bid item will be paid.

3. When 75% of the total original Contract amount is earned from other bid items, 25% of the Contract amount for the Erosion & Sediment Control bid item will be paid.

4. At completion of the Contract and all erosion control devices are either removed from the Project site or are fully functioning as permanent BMP, the final 25% of the Contract amount for the Erosion & Sediment Control bid item will be paid.

Payment shall represent full compensation for all labor, material, and equipment necessary for furnishing, operating, maintaining and removing all erosion control measures and facilities and meet the requirements of this section.

Chapter 12 – Trench Excavation and Backfill

S-20 ABANDONMENT OF EXISTING SANITARY MANHOLE

This section shall comply with all requirements of Chapter 12 of the General Conditions and Standard Specifications.

Where identified on the construction plans, existing sanitary sewer manholes shall be abandoned a minimum of 36 inches below grade by removing the frame, lid, ring sections, installing concrete plugs in all pipes, breaking or drilling holes in the bottom and filling the remaining portion of the manhole with 3/8" to 3/16" pea gravel within roadways and native soil in floodplain areas. Concrete pipe plugs shall be a minimum length of 2 times the pipe diameter. Abandoned manholes may be filled with grout as an alternative to backfilling; here grout is used, breaking or drilling holes in the bottom of the manhole is not necessary. Material shall be disposed of in such a manner as to meet all the requirements of the local, state, and federal regulations regarding health, safety, the environment, and public welfare. No materials shall be left on the Project, in embankments, fills or trenches.

Payment for all Work associated with this section shall be paid on a per each basis under Bid Item 6, (S-20) Abandonment of Existing Sanitary Manhole. Payment shall represent full compensation for all labor, equipment, and materials necessary to fill line segments indicated on the construction plans and meet the requirements of this section.

S-21 REMOVAL OF EXISTING SANITARY MANHOLES

This section shall comply with all requirements of Chapter 12 of the General Conditions and Standard Specifications.

Contractor shall remove and dispose of existing sanitary sewer manholes that were identified on the construction plans. Manhole removal shall include the cover, cones, all manhole sections, and the manhole base. Material shall be disposed of in such a manner as to meet all the requirements of the local, state, and federal regulations regarding health, safety, the environment, and public welfare. No materials shall be left on the Project, in embankments, fills or trenches, and voids shall be backfilled in accordance with the plans and specifications.

Payment for removal of sanitary sewer manholes will be made at the per each basis as stated in the Schedule of under Bid Item 7, (S-21) Removal of Existing Sanitary Manholes . Payment shall constitute full compensation for all labor, equipment, excavation, disposal and materials necessary to meet the specification. Backfilling the excavation from the removed manhole will be paid under the new manhole bid item.

Chapter 13 – Manholes and Catch Basins

S-22 INSTALL NEW 48-INCH DIAMETER STANDARD CONCRETE MANHOLES (ALL DEPTHS, ALL CONNECTIONS)

This section shall comply with Chapter 13 of the General Conditions amended as follows:

Add the following to Section 13.1 Scope:

Standard concrete manholes shall 48 inches in diameter, unless otherwise shown on the plans, and conform to District standard drawing Nos. 010, 020, 030, 100, 110, and 130.

Replace Section 13.2.6 in its entirety with the following:

13.2.6 Manhole Gaskets

Preformed flexible gaskets shall be Kent-Seal No.2, Ram-Nek, or approved equal, conforming to Federal Specification SS-5-00210. Rubber gaskets shall conform to the requirements of ASTM C-443.

Contractor shall install Standard Concrete Manholes in accordance with ASTM C-478 and C-443 standards, as directed and shown on the plans and specifications. Refer to General Conditions and Standard Specifications, Chapter 13 for detailed specifications regarding the installation of manholes.

All newly constructed manholes will be wrapped at each joint with an external rubber wrap such as Infi-Shield External Gator Wrap ™ or approved equal.

All new manholes installed will have the Infi-Shield Uni-Band ™ or approved equal installed externally, from the casting frame to cone connection, including covering any grade ridges.

Add the following to Section 13.2.8

Where manholes are installed outside of paved areas and away from vehicular traffic, 4-bolt locking watertight composite lids conforming to District Standard Drawing 130 shall be used.

Add the following to Section 13.2.14 Manhole Pipe Connector

Mainline pipe and side sewer (service lateral) connections to manholes may be made with sanded manhole adapters meeting the standards of mainline or side sewer pipe material per manufacturer's requirements. Sanded manhole adapters shall be set in concrete grout into the structure to form a watertight seal using an approved non-shrink concrete grout.
Manhole steps on new manholes shall be positioned over the largest shelf in the manhole base per District standard drawing No. 10, unless directed otherwise by District.

All service laterals connected to manholes shall be immediately reinstated upon manhole installation. Refer to General Conditions and Standard Specifications Chapter 13 for more information on the installation of service laterals within manholes and stub outs.

Replace the first four sentences of section 13.5.1 Sanitary Manholes with the following:

Sanitary manholes shall be free from visible leaks and tested in accordance with this section. Contractor shall test all sanitary manholes built on the Project.

Payment for standard concrete manholes will be on a per each basis under Bid Item 8, (S-22) Install New 48-Inch Diameter Standard Concrete Manholes (all depths, all connections). Payment shall include all labor, materials, and equipment required to install all appurtenances of the manhole installation for all depths of manholes, excavation and backfill, base aggregate, all frames and cover types, connection of new and existing pipe(s), existing service laterals, removal and haul off of existing manhole, external wraps and all manhole testing.

Payment for surface restoration around manholes will be made under Special Specifications S-20 through S-22.

S-23 CONNECTIONS TO NEW MANHOLE (ALL DEPTHS)

This section shall comply with all applicable requirements of the Design and Construction Standards and Chapter 12 of the General Conditions and Standard Specifications. Contractor shall furnish all labor, equipment, and materials necessary to connect the existing sanitary sewer pipeline, rehabilitated or replaced by pipe bursting, to the new manhole as shown on the Plans.

The existing pipe shall be cut, trimmed, and prepared to provide a clean, uniform connection, and shall be securely joined to the new manhole using an approved flexible watertight connector or resilient boot in conformance with District standards. All connections shall be constructed to prevent infiltration, inflow, and exfiltration, and shall provide a smooth flow transition through the manhole channel. Bypass pumping shall be provided as necessary to maintain continuous service during construction. Any damaged or unsuitable pipe shall be removed and replaced as directed by the Engineer.

Payment for connecting pipe to new manhole will be on a per each basis under Bid Item 9, (S-23) Connections to New Manhole (all depths). Payment shall include all labor, materials, and equipment required to establish the connection for all manholes, removal and haul off any waste material or pipes.

S-24 CONNECT EXISTING ASBESTOS PIPE TO NEW MANHOLE

District records indicate that Sanitary Maintenance hole #11649 STA 17+36.69 has two asbestos concrete pipe (ACP) connections. One connection is a 6-inch pipe from the south and the other is an 8-inch pipe from the north. Existing sanitary sewer mainline constructed of asbestos cement

(AC) and indicated on the plans shall be handled in accordance with the requirements of Oregon Department of Environmental Quality (DEQ) and Occupational Safety and Health Administration (OSHA) requirements when cutting, handling, and disposal of all ACP and fittings. No extra payment will be made for cutting, handling, and disposal of ACP and fittings. All removal, management of, and Work on asbestos materials shall comply with OAR Chapter 340 Division 248, all other state and national requirements, and the requirements of these specifications. No AC materials shall be left behind on the Project.

No separate payment will be made for the removal and disposal of the ACP. Costs associated with this item are considered incidental to Bid Item 9 (S-23) Connections to New Manhole (all depths), and no additional compensation will be due to Contractor. The payment shall include all labor, equipment, materials, and hazardous material disposal fees to complete the Work.

Chapter 15 – Street Restoration

S-25 CURB REMOVAL AND REPLACEMENT

Contractor shall comply with all requirements of District General Conditions & Standard Specifications Chapter 15 and with the requirements of the authority having jurisdiction.

Payment for all work associated with this section shall be made per linear foot in accordance with District General Conditions and Standard Specifications Chapter 15.4 and as stated in the Schedule of Bid Prices under Bid Item 10, (S-25)Curb Removal and Replacement.

S-26 SIDEWALK/DRIVEWAY RAMP REMOVAL AND REPLACEMENT

Existing sidewalk ramps, sidewalk panels and driveway panels that are disturbed by construction must be restored to meet Americans with Disabilities Act (ADA) regulations in accordance with the standards of the authority having jurisdiction. Contractor shall restore sidewalk/ramp to meet ADA requirements when either the ramp itself and/or a sidewalk panel that is adjacent to a curbed intersection has been disturbed by construction.

This section shall comply with all requirements of District General Conditions and Standard Specifications Chapter 15 and with the standards of the jurisdiction having authority.

If a sidewalk or path needs to be closed, as approved by the District and determined by the Contractor, follow requirements of these specifications for Traffic Control.

Payment for sidewalk and driveway apron restoration will be made on a per square foot, and paid under Bid Item 11, (S-26) Sidewalk/Driveway Ramp Removal and Replacement, as required. Payment constitutes full compensation for all labor, materials, and equipment necessary to perform the Work.

Sidewalk ramps will be paid under Bid Item 11, (S-26) Sidewalk/Driveway Ramp Removal and Replacement , for the concrete portion of the Work, and on a per each basis under Bid Item 11a,

(S-26) Extra for Sidewalk Ramps, for additional planning, submittal requirements, forms, labor and truncated domes associated with ramp construction.

Chapter 16 – Landscape Restoration

S-27 CONSTRUCTION ZONE IMPACTS WITHIN PRIVATE AND PUBLIC PROPERTY

Contractor shall protect and restore all private structures, existing public improvements, driveways, walkways, fences, walls, designated trees (within drip line), lawns and planted areas within the limits of the Work and/or within the public right-of-way. This section shall comply with Chapters 15 and 16 of the District General Conditions and Standard Specifications.

Contractor shall provide and maintain temporary fences as directed by District to keep pets out of construction areas and protect them from open excavation areas. Temporary fencing shall be installed before starting trench excavation in any area. All temporary fencing shall be removed by Contractor and existing fences restored to their original condition or better before final acceptance of the Project. Temporary fencing shall be paid under bid item Bid Item 4, (S-17) Tree Protection/Construction Fence."

Trees within the public right-of-way shall be protected per Washington County guidelines. Contractor shall limit tree removal to those trees shown on the plans for removal and marked for removal in the field. Contractor shall obtain District approval prior to removal or disturbance. Contractor shall replace all trees removed from the park/park frontage with an equal number of replacement trees. New trees shall be 2-inch caliper ball and burlap nursery stock. New trees shall be vine maple, red maple, or big leaf maple in a variety approved by THPRD. Location of replacement trees to be determined in the field by THPRD.

Tree pruning to facilitate Contractor's activities shall be done by mechanical means in a manner approved by District staff and in accordance with acceptable arboricultural practices. Under no circumstances shall Contractor intentionally break off limbs with excavation equipment. Contractor shall be required to notify District and impacted private property owners prior to the pruning of any limbs on all significant ornamental or landscape trees 72 hours in advance of disturbance.

Contractor will take pre-construction photographs to document the existing condition of any disturbed areas and submit them to District prior to construction. Contractor will manage access routes and the construction work footprint to minimize impact to existing vegetation.

Restoration of all private structures and/or existing public improvements must be to a condition of equal or better condition as determined by District. Contractor will also mulch and reseed areas disturbed by construction per Chapter 16 Landscape Restoration of the General Conditions and Standard Specifications. All park lawn areas disturbed shall be reseeded with a perennial ryegrass seed mix approved by the THPRD. If irrigation lines are encountered in an excavation area, Contractor shall take appropriate measures to temporarily protect or cap the system as

needed. Upon completion of sewer work and prior to backfill of excavations, Contractor shall coordinate testing of the irrigation system with THPRD. If repairs to the irrigation system are necessary, Contractor shall assist THPRD with exposing the damaged pipe and coordinate access for THPRD to make the necessary repair.

Payment for Bid Item 12, (S-27) Construction Zone Impacts within Private and Public Property, will be made on a Lump Sum basis and shall include, but is not limited to: driveway/walkway subgrade and restoration, potholing unless included as a separate bid item, tree replacement, replacement and reinstatement of irrigation systems, vegetation/lawn restoration,

Chapter 19 – Sewer Rehabilitation

S-28 BYPASS PUMPING

This Project provides maintenance and rehabilitation activities on active sanitary sewers and manholes. Bypass pumping will be necessary to isolate line segments under construction, as described in Section 19.4 Sewer Flow Control of the General Conditions and Standard Specifications. When system conditions or construction methods require flow bypass as determined by District, Contractor must submit a bypass pumping plan to District for approval prior to the start of construction. No construction activities may start prior to approval of the bypass pumping plan.

Bypass pumping plan must contain, at a minimum, the following information:

1. A plan view of the diversion facilities on a site map
2. Pump types, sizes, capacities, and placement, for both primary and standby pumps
3. Diversion pipe size, type, and placement above and below ground
4. Location of road-crossing ramps
5. Design calculations proving the adequacy of the system and selected equipment
6. Power supplies, including standby power source
7. Method of damming the flow
8. Staffing plan including names and telephone numbers of the attendants
9. Requests for overnight pumping including the name and number of the overnight pump tender (“pump watch”)
10. Odor control plan
11. Noise control plan
12. Traffic control plan for bypass piping, including the location of road-crossing ramps
13. List of all private service laterals affected by bypass pumping

Bypass pipe must be watertight continuous fused-joint HDPE pipe, or a District-approved equal. For any perpendicular crossings over waterbodies or streams, continuous fused-joint HDPE pipe must be used such that there are no non-fused joints between the top of banks/ordinary high-water mark. Piping must be hydrostatic tested to twice the maximum operating pressure at any point in the discharge piping or 50 psi, whichever is greater. Contractor must supply a pumping system of appropriate capacity to manage and convey all existing flow

conditions, plus additional flows that may occur either during or following wet-weather events. Pumping system must have a relief valve with watertight piping to convey relief valve effluent to the nearest sanitary sewer manhole, as otherwise approved by District.

Contractor is responsible for providing pumping systems that are sized for actual flow conditions as specified by the District. Contractor will maintain a backup pump(s) of equal capacity and configured such that the backup pump(s) operates automatically in the event of a failure of the primary system and initiates an autodialer call-out to Contractor upon startup. The pump system will include noise attenuation rated at 59 dB at 25 feet while operating at full load. Contractor will set up pumps as far away from residential dwellings as the site conditions allow to minimize disturbance to property owners and to avoid relocation due to property owner complaints.

Contractor will operate bypass pumping during working hours and return the flow to gravity at the end of each workday, unless otherwise approved. If approved by District, Contractor will configure the overnight bypass pumping operations in a manner so that the backup pump operates automatically in the event of a failure of the primary system and initiates an auto-dialer and provide continuous on-site monitoring by a designated pump tender during all pumping operations. The pump tender must have demonstrable ability and knowledge of the pumping system to maintain continuous operation and make repairs and/or pump replacement if required. An emergency spill kit must be on site at all times.

Contractor will immediately contact District on-call emergency personnel at 503-547-8033 and District's Project inspector if Contractor experiences a sewer spill or believes that an unexpected circumstance may lead to a pumping system failure and subsequent spill. Prior to reintroducing bypassed flow to a new manhole, manhole inverts will be grouted and cured. In the event of a sanitary sewer overflow or sewer backup resulting from any construction activity, including but not limited to a failure of the bypass pumping system or damage to an existing sewer, the costs of all fines imposed by the Oregon Department of Environmental Quality (DEQ) or other regulatory agencies, cleanup, repair to damaged public and personal property, inconvenience expenses, and any additional direct or indirect expenses shall be the sole responsibility of Contractor.

All bypass pumping must meet the requirements of this section and General Conditions and Standard Specifications, Chapter 19, Sections 19.4.2 through 19.4.4.

Payment will be made on a lump sum basis and include furnishing equipment, labor, materials, and incidentals necessary to implement and maintain the bypass operation for the duration of work on that pipe segment, manhole, or lateral where work is actively taking place and bypass pumping is required and has been approved. The pumping system must be completely set up with all hoses and pipes connected for payment to be made. No extra payment will be made for standby pumps, replacement hoses, replacement plugs, or additional fuel on-site. Payment will be paid under Bid Item 13, (S-28) Bypass Pumping as follows:

- When 10% of the contract work is performed, 25% of the contract amount for Bypass Pumping will be paid.

- When 50% of the contract work is performed, 25% of the contract amount for Bypass Pumping will be paid.

- When 75% of the contract work is performed, the final 50% of the contract amount for Bypass Pumping will be paid.

S-29 SEWER MAIN VIDEO INSPECTION (PRE- AND POST-CONSTRUCTION)

Contractor shall perform a closed-circuit video inspection of each sewer main identified for rehabilitation or replacement on the Plans prior to the start of construction. Pre-Video Inspection will be completed following sewer cleaning, root removal, and protruding tap removal, all of which will be completed by Contractor. No construction work may proceed until the Contractor has submitted and the District has reviewed and approved the Pre-Video.

Following the completion of construction, Contractor will clean and perform a Post-Video Inspection of each sewer main that was rehabilitated as part of this Project for review and approval from the District.

Contractor will provide the District with an Excel ™ format spreadsheet, or other form of documentation, of all defects found within the mainlines on the Project. The spreadsheet will include, but not be limited to, the following items: upstream and downstream structure numbers, footage of each defect from upstream/downstream manhole, type of defect, severity of defect, proposed method of rehabilitation (if applicable) for each defect, and actual method of rehabilitation at each defect (if applicable). This spreadsheet will be submitted to the District with every pre-construction main inspection.

If pre-construction video shows mains needing point repairs prior to rehabilitation, Contractor will notify District prior to any rehabilitation on the pipe or any point repairs being completed. If Contractor performs rehabilitation of mains or laterals without a point repair being completed and one was needed, Contractor shall perform a point repair and perform the rehabilitation again at no cost to the District.

Contractor will perform the video inspections per the requirements of Chapter 19, Section 5 of the General Conditions, and as specified within this section as follows:

> ***Equipment:*** Contractor will use equipment that meets the following equipment requirements:
>
> *Internal Television Inspection Camera(s):*
>
> 1) Camera(s) will be operative in 100 percent humidity conditions.
> 2) Lighting intensity will be remote-controlled and will be adjusted to minimize reflective glare. Lighting and camera quality must provide a clear, in-focus picture of the entire inside periphery of the sewer.
> 3) Camera(s) will be capable of pan-and-tilt radial viewing that pans plus or minus 275 degrees and rotates 360 degrees.

4) Camera(s) must be equipped with camera height adjustment so that the camera lens is always centered at one-half the inside pipe diameter.
5) Cameras must be capable of a minimum of 1,500 feet of continuous inspection.

Video Recording Medium:

- The video footage will be recorded, stored, and submitted in high quality MPEG format on an appropriate USB storage device or similar. The audio portion of the recording will be sufficiently free from electrical interference and background noise to provide complete intelligibility of the oral report. The videos will be uploaded to a Microsoft OneDrive or other digital storage location provided by District.

TV Inspection Camera Footage Counter:

- A calibrated footage counter device, which measures the distance traveled by the camera in the sewer, will be accurate to plus or minus 2 feet in 1,000 feet.

Execution

Submittal

1. **Pre-Construction:** Contractor will submit appropriately named electronic files of the Pre-video inspection to District **at least two weeks prior to any work being done on the sewer main.**
2. **Post-Construction:** Post-video inspection electronic files will be submitted to District no later than one month before the Project substantial completion date.
3. **Review:** District will review the electronic files and logs to ensure compliance with the requirements listed in this section and the Contract Documents. District will review the video footage to make sure that the required information is provided and the recording is of acceptable quality. If the sewer line is determined not to be adequately cleaned, it will be re-cleaned and video-inspected by Contractor at no additional cost to District. If District determines that the video footage is defective or not of adequate quality, Contractor will conduct video inspection again at no additional cost to District. District will review videos within two weeks of reception.

Notification

- Contractor must notify the District a minimum of 48 hours in advance of any video inspection operation so that the District may observe inspection operations.

Flow control

- Contractor will conduct inspection work to achieve a view of at least 95 percent of the pipe diameter. This may require that Contractor provide flow control or bypassing in accordance with S-28 Bypass Pumping of these specifications.

Internal Video Inspection Methods:

1. **Verbal commentary:** Contractor will record an audio narrative of the location, upstream and downstream control points, date, and time of the inspection.
2. **TV Inspection Report:** Contractor will provide District with an electronic file of each inspection report on the same USB storage drive and digital location as the video inspection.
3. **Access:** District will have access to observe the monitor and all other operations at all times. The system of cabling employed to transport the camera and transmit its signal may not obstruct the camera's view.
4. **Inspection:** Contractor will observe the following requirements when conducting video inspections:

    a. The camera will be pulled through the sewer in either direction, but all inspections at each location must be in the same direction.
    b. Inspections will be from the center of the starting manhole to the center of the ending manhole. Video inspections must begin prior to the camera head entering the pipeline.
    c. Pan and tilt the entire circumference at the pipe-manhole interface, at any change in pipe material, and at other locations to ensure proper documentation of the pipeline's condition.
    d. Maximum rate of travel will be 30 feet per minute when recording.
    e. Portions of the pipeline may be bowed or bellied and as a result the camera may encounter a submerged condition. Where the camera encounters a submerged condition, Contractor will reduce the flow depth to an acceptable level using a high-velocity jet nozzle or other acceptable dewatering device.
    f. Pan and tilt the camera in the invert of each manhole to give a full visual inspection of the starting, intermediate, and ending manholes.
    g. Each pipe segment video recording must have its own electronic file.
    h. Each electronic file will be named using the following naming convention:

        i. Pre-video MH XXXX – MH YYYY.mpg
        ii. Post-video MH XXXX – MH YYYY.mpg

    - Whereas XXXX represents the upstream District manhole number and YYYY represents the downstream District manhole number.
    - Video inspection recordings must be continuous for each pipe segment. Video recording can be paused and then restarted without generating a new file. If Contractor is unable to record a continuous video of the mainline, a video from both directions to the same point will be acceptable with prior District approval.

5. **Image perspective:** The camera image will be down the center axis of the pipe when the camera is in motion. Contractor is required to provide a 360-degree view of the pipe interior. Points of interest will also be videotaped and include, but not be limited to, defects, debris, and sediment. If, in the opinion of District, lighting is insufficient to gather the appropriate data, auxiliary lights will be required at no additional cost to District.
6. **Video Record:** Contractor will maintain an additional copy of all inspection documentation (DVDs, USB storage devices, databases, and logs) for the duration of the work and warranty period.

Payment for this item will be made on a per linear foot basis per length of sewer main inspected as listed under Bid Item 14, (S-29) Sewer Main Video Inspection (Pre and Post-Construction), and will constitute full compensation for all labor, equipment, and materials required to perform the Work.

S-30 PIPE BURST EXISTING 10-INCH SEWER MAIN TO 14-INCH IPS HDPE - (ALL DEPTHS)

Comply with Section *19.9 PIPE BURSTING REPLACEMENT SYSTEM* and the following revisions:

Delete the second paragraph of Section *19.9.5 Excavations* and replace it with the following:

> The use of manholes as bursting pits will only be allowed when the manhole has been identified for replacement within the plans.

Append the following to the first paragraph of Section 19.9.6.2 *Segmented Pipe:*

> All non-fused HDPE to HDPE joints will be left open and safely secured for inspection by District prior to backfilling.

Append the following sentence to the second paragraph of Section *19.9.6.3 Butt-Fusion*:

> Internal projection beads greater than 3/16 of an inch will be removed.

Append the following item to Section *19.13 MEASUREMENT AND PAYMENT:*

> 19.13.19 Pipe Bursting Replacement System
>
> Payment for Pipe Bursting will be based on a unit price per linear foot of pipe installed under the following:
>
> - Bid Item 15, (S-30) Pipe Burst Existing 10-inch Sewer Main to 14-inch DR17 IPS HDPE – (all depths)

Payment includes preparation for the Work, pot-holing, excavation and backfill of access pits, pipe fusion, internal projection bead removal, seals at manholes, and air tests.

At no time during the pipe bursting process can the existing or new manholes bases or barrel sections be damaged due to construction activities. If damage occurs, Contractor will restore all damaged bases or barrel sections to preconstruction conditions or better as determined by the Engineer. No additional compensation will be given for work on manholes due to damage caused by pipe bursting.

S-31 CONTRACTOR CONSTRUCTION DRAWINGS & AS-BUILT SURVEY

Contractor will maintain a current and accurate record of the Work completed during the course of this Contract. This may be in the form of drawings kept by marking a designated set of the contract plans with the specified information as the Work proceeds. The drawings must show the information listed below.

1. Record location of underground laterals and utilities as installed.
2. Record changes in dimensions, location, grade or detail to that shown on the plans.
3. Record changes made by change order.
4. Record details not in the original plans.

Final construction drawings must be submitted prior to final Project payment and retainage payment.

Upon final completion of all Work on the Project and construction has been approved, Contractor will be responsible for conducting an as-built survey by a licensed surveyor. The survey will include geodesic locations of structures in NAD 83 format, elevations in NAVD 88 format, and all pertinent information for all structures, inverts, mainlines, lateral connections, and all work completed on the Project.

Contractor must submit an electronic point file of the as-built survey to District. The point file will be compatible with AutoCAD Civil3D and include the surveyed data specified herein.

Contractor construction drawings and as-built survey are incidental to the Project work and no additional compensation will be due to Contractor.

Special Specifications

S-32 6-FT CHAIN-LINK SECURITY FENCE

Construction staging and construction access areas shall be secured by temporary 6-foot-tall galvanized chain-link security fencing as indicated on the plans. Any stored equipment on private or public property must be secured from residents and the public

using temporary chain-link fence.

Payment for work associated with chain-link security fencing shall be paid based on a per linear foot of installed fence basis. Payment shall be as stated in the Schedule of Bid Prices of the Contract Documents for this Project under "Special Specifications – Bid Item 16, (S-32) 6-ft Chain-Link Security Fence". Payment shall represent full compensation for all labor, equipment, and materials necessary to install and remove fencing indicated on the construction plans and meet the requirements of this section.

S-33 CONSTRUCTION PLASTIC MATTING

Contractor shall provide, install, maintain, and remove an interlocking ground protection construction matting system along all construction access routes, staging areas, and areas of vehicle operation within park, wetland, and vegetated corridor areas. The matting system shall be designed to distribute loads and shall be capable of supporting all construction vehicles and equipment without compacting, rutting, or otherwise damaging underlying soils, grasses, or wetland areas. Matting shall be suitable for use in environmentally sensitive areas and shall provide a stable, continuous working surface under anticipated loading conditions. Acceptable products include Newpark (NPK) Dura-Base 800 series (8 foot × 14 foot × 4 inch), NPK Dura-Base standard Composite Mats, Spartan SYSTEM7 Heavy-Duty Composite Mats, or approved equal, provided the selected system demonstrates equivalent load-bearing capacity, durability, interlocking capability, and environmental protection performance.

Mats shall have a smooth or low-profile underside to minimize disturbance, gouging, or displacement of underlying soils, and a top surface providing adequate traction for safe equipment operation. Installation shall occur prior to mobilizing equipment into protected areas and shall be configured to prevent gaps, movement, or separation during use. Contractor shall maintain the matting system in functional condition and shall be responsible for the repair of any damage to underlying or adjacent areas. Upon completion of Work, mats shall be removed in a manner that minimizes disturbance, and all affected areas shall be restored to pre-construction conditions or better in accordance with Project requirements. Payment for "Special Specifications – Bid Item 17, (S-33) Construction Plastic Matting, will be made on a Lump Sum basis. Payment shall represent full compensation for all labor, equipment, and materials necessary to install and remove plastic matting indicated on the construction plans and meet the requirements of this section.

S-34 PREDETERMINED CONTINGENCY

The Unit Bid Items list of the Contract Documents contains Bid Item 18, (S-34) "Predetermined Contingency" and establishes uniform lump sum line items in the total amount of $20,000, respectively, for all bidders on this Project. This line item must be included in the summation total price for each submitted bid and included in the Contract price for the successful bidder. It is available to provide earned compensation to Contractor resulting from incidental, unforeseen

changes to the Contract Work or additional work as initiated by the District and agreed upon in writing by District and Contractor.

Payment from this fund will be only that amount earned by Contractor and mutually agreed upon in writing by District and Contractor. Contractor will have no claim for payment of the contingency or any portion thereof unless extra work has been performed by Contractor under terms mutually agreed to by District and Contractor. The contingency line item does not eliminate the District change order process for the Project. It simply provides an alternative to the change order process to be used at the discretion of District. If no additional work is performed by Contractor beyond that compensated under other applicable unit bid line items or Project change orders, the contingency amount will not be earned or paid.

PERMITS



Clean Water Services

CWS File Number

Service Provider Letter

25-001614

This form and the attached conditions will serve as your Service Provider Letter in accordance with Clean Water Services Design and Construction Standards (R&O 19-5, as amended by R&O 19-22).

Jurisdiction:	Washington County	**Review Type:**	Allowed Use
Site Address / Location:	SW Butner Rd. & SW Huntington Ave. Portland, OR 97225	**SPL Issue Date:** **SPL Expiration Date:**	July 30, 2025 July 30, 2027

Applicant Information:		**Owner Information:**	
Name	BRIAN COOK	Name	
Company	CLEAN WATER SERVICES	Company	TUALATIN HILLS PARKS AND RECREATION DISTRICT
Address	2550 SW HILLSBORO HWY HILLSBORO OR 97123	Address	5707 SW WALKER RD BEAVERTON OR 97006
Phone/Fax	(503) 681-3673	Phone/Fax	(503) 645-6433
E-mail:	cookb@cleanwaterservices.org	E-mail:	

Tax lot ID	**Development Activity**
1S104AD00201	(#7207) Foothills Sanitary Sewer Upgrade
1S103CB09300 & 9400	at Commonwealth Lake Park
1S104D000800	

Pre-Development Site Conditions:		**Post Development Site Conditions:**	
Sensitive Area Present:	[X] On-Site [X] Off-Site	Sensitive Area Present:	[X] On-Site [X] Off-Site
Vegetated Corridor Width:	50	Vegetated Corridor Width:	50
Vegetated Corridor Condition:	Degraded		

Enhancement of Remaining Vegetated Corridor Required: [ ]

Square Footage to be enhanced: 0

Encroachments into Pre-Development Vegetated Corridor:

Type and location of Encroachment:	Square Footage:
Sanitary sewer mainline upgrade including maintenance holes (Permanent encorachment; Mitigation required)	9,155

Mitigation Requirements:

Type/Location	Sq. Ft./Ratio/Cost
Advanced Mitigation Credits at Cedar Mill Falls WQF (SPL13-001975)	4,195/ 1:1
Advanced Mitigation Credits at Joscelyn WQF (SPL 15-002645)	485/ 1.5:1
Advanced Mitigation Credits at Springville Corridor Enhancement (SPL 12-000944)	2,121/ 1.5:1

[X] Conditions Attached [X] Development Figures Attached (2) [ ] Planting Plan Attached [ ] Geotech Report Required

This Service Provider Letter does NOT eliminate the need to evaluate and protect water quality sensitive areas if they are subsequently discovered on your property.

In order to comply with Clean Water Services water quality protection requirements the project must comply with the following conditions:

1. No structures, development, construction activities, gardens, lawns, application of chemicals, uncontained areas of hazardous materials as defined by Oregon Department of Environmental Quality, pet wastes, dumping of materials of any kind, or other activities shall be permitted within the sensitive area or Vegetated Corridor which may negatively impact water quality, except those allowed in R&O 19-5, Chapter 3, as amended by R&O 19-22.
2. Prior to any site clearing, grading or construction the Vegetated Corridor and water quality sensitive areas shall be surveyed, staked, and temporarily fenced per approved plan. During construction the Vegetated Corridor shall remain fenced and undisturbed except as allowed by R&O 19-5, Section 3.06.1, as amended by R&O 19-22 and per approved plans.
3. If there is any activity within the sensitive area, the applicant shall gain authorization for the project from the Oregon Department of State Lands (DSL) and US Army Corps of Engineers (USACE). The applicant shall provide Clean Water Services or its designee (appropriate city) with copies of all DSL and USACE project authorization permits.
4. An approved Oregon Department of Forestry Notification is required for one or more trees harvested for sale, trade, or barter, on any non-federal lands within the State of Oregon.
5. **Prior to any ground disturbing activities, an erosion control permit is required. Appropriate Best Management Practices (BMP's) for Erosion Control, in accordance with Clean Water Services' Erosion Prevention and Sediment Control Planning and Design Manual, shall be used prior to, during, and following earth disturbing activities.**
6. Prior to construction, a Stormwater Connection Permit from Clean Water Services or its designee is required pursuant to Ordinance 27, Section 4.B.
7. Activities located within the 100-year floodplain shall comply with R&O 19-5, Section 5.10, as amended by R&O 19-22.
8. Removal of native, woody vegetation shall be limited to the greatest extent practicable.
9. **Should final development plans differ significantly from those submitted for review by Clean Water Services, the applicant shall provide updated drawings, and if necessary, obtain a revised Service Provider Letter.**
10. The Vegetated Corridor width for sensitive areas within the project site shall be a minimum of 50 feet wide, as measured horizontally from the delineated boundary of the sensitive area.
11. Final construction plans shall include landscape plans. In the details section of the plans, a description of the methods for removal and control of exotic species, location, distribution, condition and size of plantings, existing plants and trees to be preserved, and installation methods for plant materials is required. Plantings shall be tagged for dormant season identification and shall remain on plant material after planting for monitoring purposes.
12. A Maintenance Plan shall be included on final plans including methods, responsible party contact information, and dates (minimum two times per year, by June 1 and September 30).
13. Final construction plans shall clearly depict the location and dimensions of the sensitive area and the Vegetated Corridor (indicating good, marginal, or degraded condition). Sensitive area boundaries shall be marked in the field.

CWS File Number 25-001614

This Service Provider Letter is not valid unless CWS-approved site plan is attached.

Please call (503) 681-3653 with any questions.



Lindsey Obermiller
Environmental Plan Review

Attachments (5)

CWS FILE NO. 25-001614
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By LD Date 07/07/2025
SPL ATTACHMENT 1 OF 6

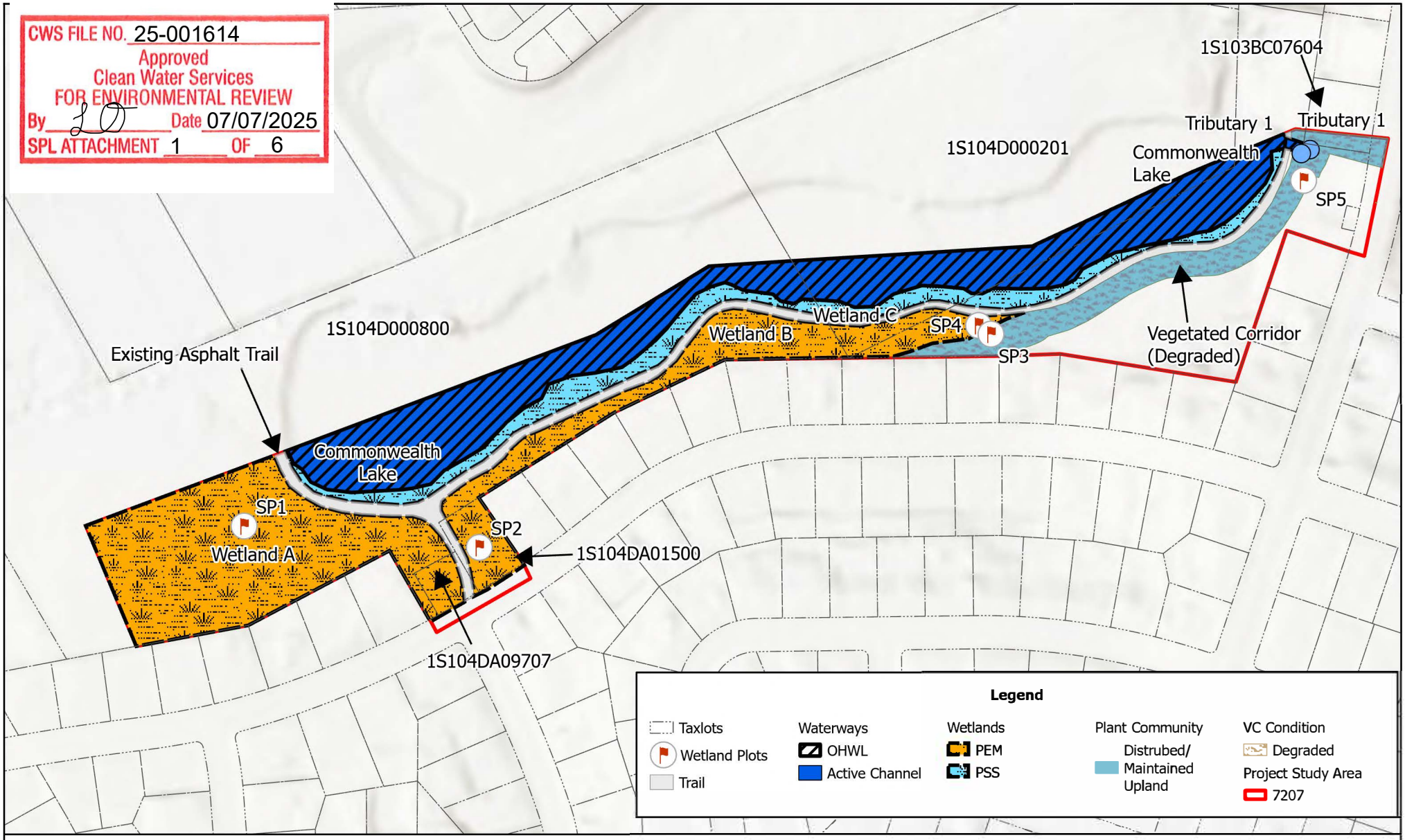


Figure 2. Existing Conditions

1 inch equals 200 Ft
Feet
0 50 100 200

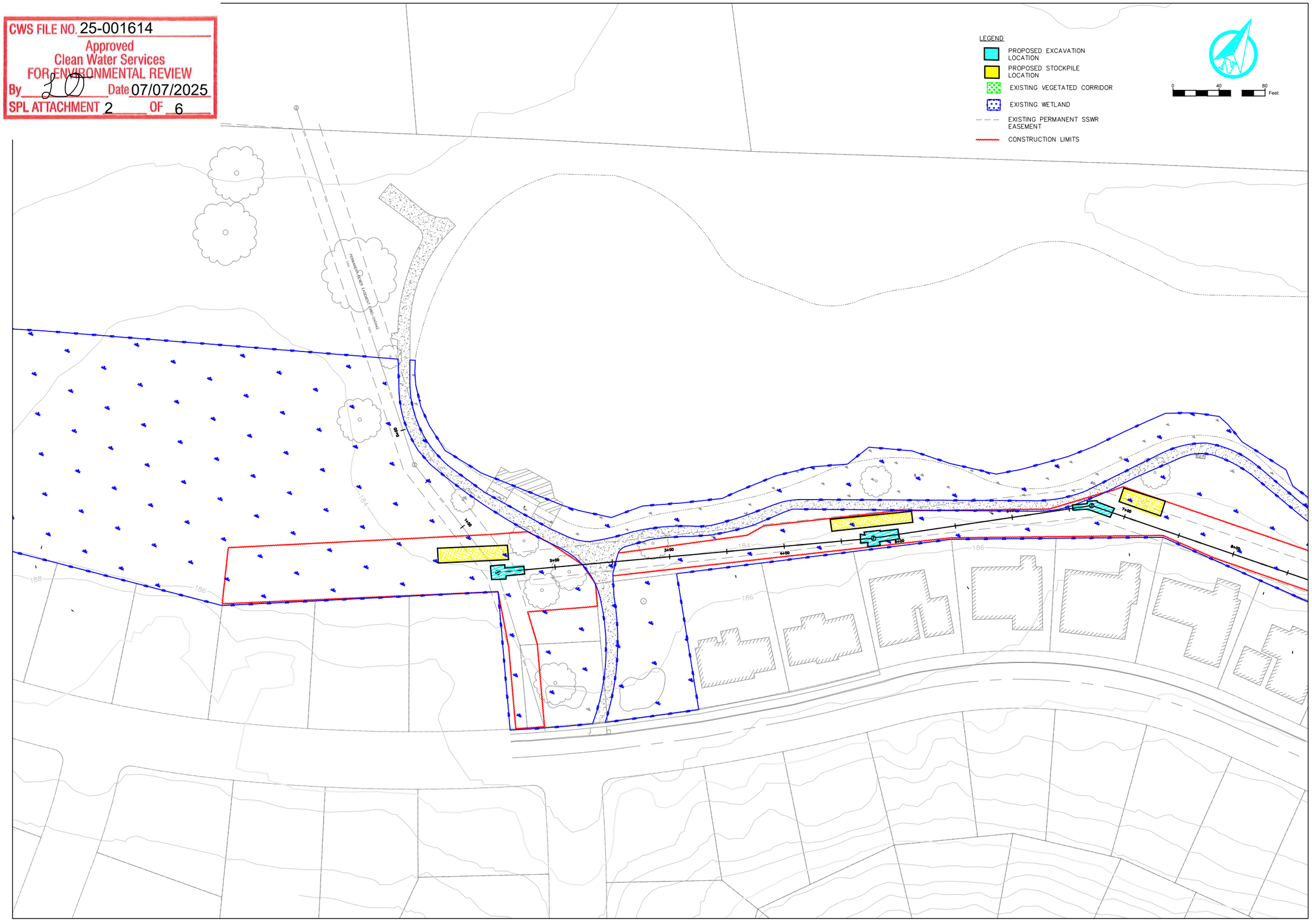
FOOTHILL DRIVE SANITARY SEWER UPGRADE (CWS No. 7207)

Washington County, Oregon

E:\Capital Projects\Projects\7207 Foothill Drive Sanitary Sewer Upgrade\10 - GIS\7207_CP2_SiteAssessment\NRG Site Assessment_7207.aprx 6/4/2025

Clean Water Services

CWS FILE NO. 25-001614
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By LO Date 07/07/2025
SPL ATTACHMENT 2 OF 6



NO.	REVISION	BY	DATE
2			
1			

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Hillsboro, OR 97123
(503) 681-3600
www.cleanwaterservices.org

Proposed Development

FOOTHILL DRIVE SANITARY SEWER UPGRADE

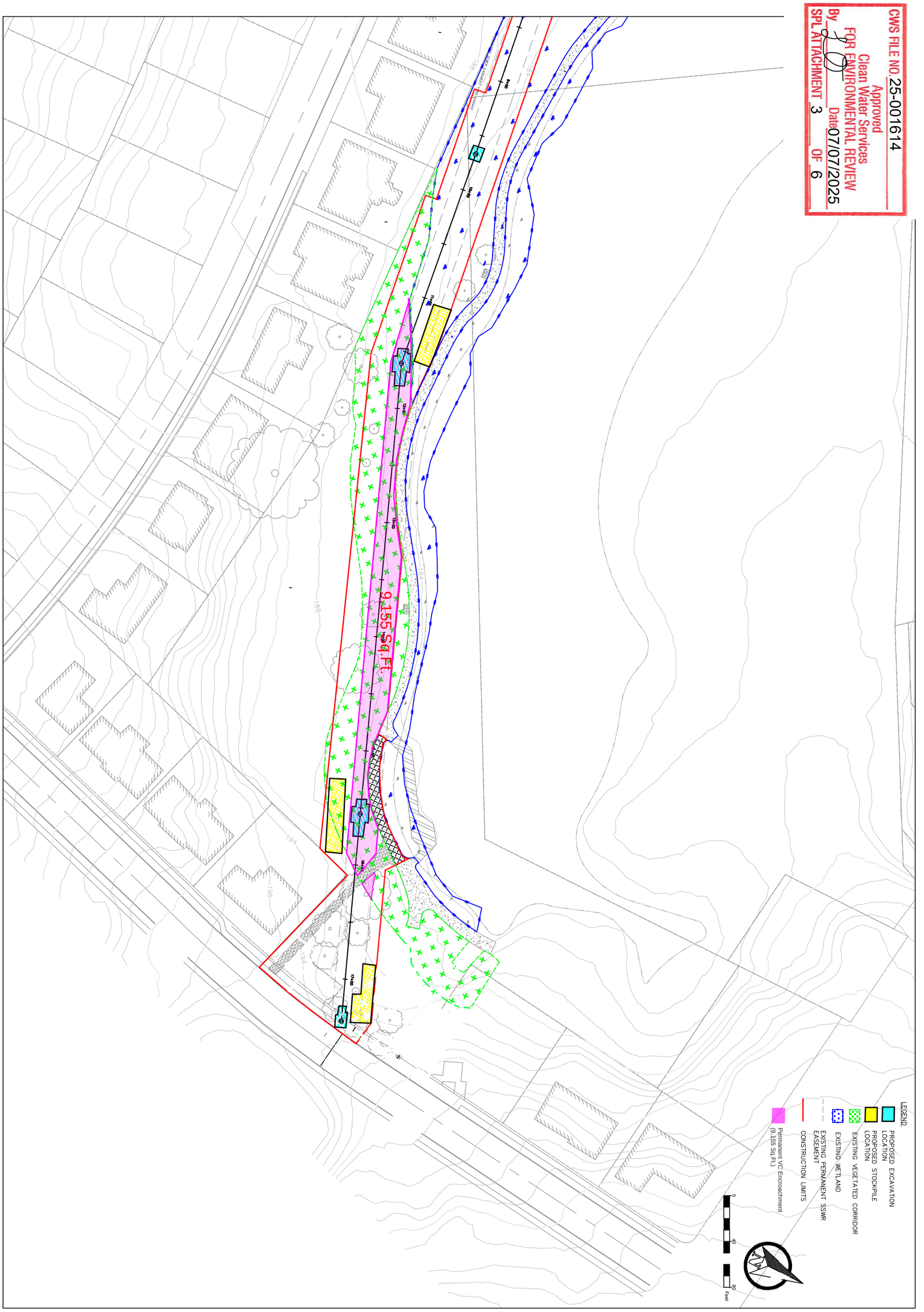
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DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

PROJECT 7207
SHEET 01 OF 02

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File: C:\Users\GautamS\9 - AUTOCAD\7207 Foothill Dr\Production Drawings\60%\7207 - SPL.dwg TAB:SPL-2

CWS FILE NO. 25-001614
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By SG
Date 07/07/2025
SPL ATTACHMENT 3 OF 6



PROJECT 7207
SHEET 02 OF 02

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

FOOTHILL DRIVE SANITARY SEWER UPGRADE

Proposed Development

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NO.	REVISION	BY	DATE
2			
1			

CIP/CWS ENHANCEMENT/MITIGATION CREDIT				
		Cedar Mill Falls WQF (CWS Project #6609)		
BEGINNING CREDIT BALANCE (For File #13-001975)			**34,780**	**6,361**
ACTIVITY	**PROJECT NAME**	**FILE NUMBER**	**ENHANCEMENT FOR MITIGATION CREDIT USED (sf)**	**MITIGATION CREDIT**
NEW PROJECT	Upper Tualatin Interceptor - Phase 2	18-001484	34,780	
NEW PROJECT	114th Exposed Sewer Remediation	20-001639		2,166
NEW PROJECT	Foothill Dr. Sanitary Sewer Upgrade	25-001614		4,195
NEW PROJECT				
NEW PROJECT				
NEW PROJECT				
NEW PROJECT				
AVAILABLE CREDIT (RUNNING TOTAL OF AVAILABLE - USED) for File #13-001975			**0**	**0**

NOTES:

1. Simply fill out the applicable columns for each "New Project" row. The table has already been formulated to do the calculations.
2. Available enhancement credit **cannot** be used to fulfill mitigation requirements unless authorized by Environmental Review staff.

CWS FILE NO. 25-001614
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By JO Date 07/30/2025
SPL ATTACHMENT 4 OF 6

CIP/CWS ENHANCEMENT/MITIGATION CREDIT				
		Joscelyn WQF (CWS Project #6776)		
BEGINNING CREDIT BALANCE (For File #15-002645)			**2,285**	**0**
ACTIVITY	**PROJECT NAME**	**FILE NUMBER**	**ENHANCEMENT FOR MITIGATION CREDIT USED (sf)**	**MITIGATION CREDIT**
NEW PROJECT	SW 209th Ave./TV Hwy Stormwater Improvements		1,800	
NEW PROJECT	Foothill Dr. Sanitary Sewer Upgrade	25-001614	485	
NEW PROJECT				
NEW PROJECT				
NEW PROJECT				
NEW PROJECT				
AVAILABLE CREDIT (RUNNING TOTAL OF AVAILABLE - USED) for File #15-002645			**0**	**0**

NOTES:

1. Simply fill out the applicable columns for each "New Project" row. The table has already been formulated to do the calculations.
2. Available enhancement credit **cannot** be used to fulfill mitigation requirements unless authorized by Environmental Review staff.

CWS FILE NO. 25-001614
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By JO Date 07/30/2025
SPL ATTACHMENT 5 OF 6

CIP/CWS ENHANCEMENT/MITIGATION CREDIT				
		Springville Enhancement (CWS Project #4943)		
BEGINNING CREDIT BALANCE (For File # 12-000944)				**15,394**
ACTIVITY	**PROJECT NAME**	**FILE NUMBER**	**ENHANCEMENT FOR MITIGATION CREDIT USED (sf)**	**MITIGATION CREDIT**
NEW PROJECT	Broad Oak Pump Station Upgrade	12-001352		1,428
NEW PROJECT	Springville Trunk Sewer Upsize	14-002886		723
NEW PROJECT	North Bethany Trunk Sewer	16-001300		2,818
NEW PROJECT	Foothills Dr. Sanitary Sewer Upgrade	25-001614		2,121
NEW PROJECT				
NEW PROJECT				
NEW PROJECT				
AVAILABLE CREDIT (RUNNING TOTAL OF AVAILABLE - USED) for File #12-000944			**0**	**8,304**

NOTES:

1. Simply fill out the applicable columns for each "New Project" row. The table has already been formulated to do the calculations.
2. Available enhancement credit **cannot** be used to fulfill mitigation requirements unless authorized by Environmental Review staff.

CWS FILE NO. 25-001614
Approved
Clean Water Services
FOR ENVIRONMENTAL REVIEW
By [signature] Date 07/30/2025
SPL ATTACHMENT 6 OF 6

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, PORTLAND DISTRICT
P.O. BOX 2946
PORTLAND, OR 97208-2946

December 9, 2025

Regulatory Branch
Corps No. NWP-2025-00444

Brian Cook
Clean Water Services
2550 SW Hillsboro Highway
Hillsboro, Oregon 97123
cookb@cleanwaterservices.org

Dear Brian Cook:

The U.S. Army Corps of Engineers (Corps) received your request for Department of the Army authorization to permanently discharge up to 292 cubic yards of native soil and crushed aggregate fill material into 987 square feet of Wetland A (280 square feet) and Wetland B (707 square feet) in order to replace an existing 10-inch diameter sewer pipe with a 14-diameter pipe, and replace four existing manholes. The project is proposed in Wetlands A and B located at Commonwealth Lake Park in Beaverton, Washington County, Oregon (Latitude/Longitude: 45.551547°, -122.808390°). This letter verifies your project as depicted on the enclosed drawings (Enclosure 1) is authorized by Nationwide Permit (NWP) No. 58, Utility Line Activities for Water and Other Substances (Federal Register, January 13, 2021, Vol. 86, No. 8).

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed Nationwide Permit 58 Terms and Conditions (Enclosure 2).

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined the project complies with the requirements of these laws provided you comply with all of the permit general and special conditions.

The authorized work does not require Section 401 Water Quality Certification from the Oregon Department of Environmental Quality (DEQ). No further coordination with DEQ is required provided the work is performed in accordance with all of the enclosed conditions.

The verification of this NWP is valid until March 14, 2026, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence

this activity before March 14, 2026, you will have until March 14, 2027, to complete the activity under the enclosed terms and conditions of this NWP. If the work cannot be completed by March 14, 2027, you will need to obtain a new NWP verification or authorization by another type of Department of the Army permit.

Our verification of this NWP is based on the project description and construction methods provided in your permit application. If you propose changes to the project, you must submit revised plans to this office and receive our approval of the revisions prior to performing the work. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act. You must also obtain all local, state, and other federal permits that apply to this project.

Upon completing the authorized work, you must fill out and return the enclosed *Certification of Compliance with Department of the Army Permit* form (Enclosure 3). We would like to hear about your experience working with the Portland District, Regulatory Branch. Please complete a customer service survey form available on our website (https://regulatory.ops.usace.army.mil/customer-service-survey/).

If you have any questions regarding this NWP verification, please contact Megan Biljan by telephone at (503) 310-6330 or by email at megan.biljan@usace.army.mil.

FOR THE COMMANDER, LARRY D. CASWELL, JR., PE, PMP, COLONEL, U.S. ARMY, DISTRICT COMMANDER and DISTRICT ENGINEER:

Tyler Krug

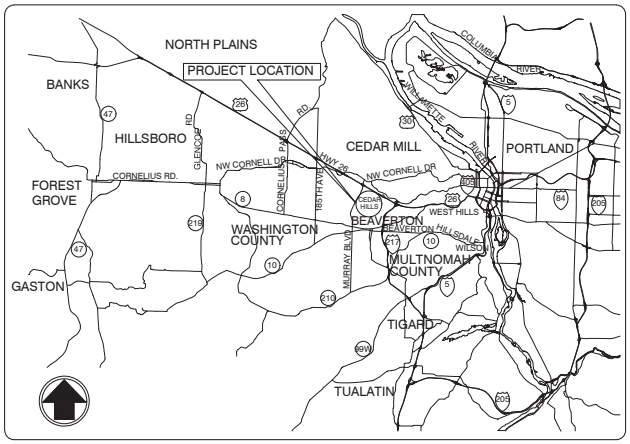
For: William D. Abadie
Chief, Regulatory Branch

Enclosures

cc:
Clean Water Services, Timothy Sautter (sauttert@cleanwaterservices.org)
Oregon Department of State Lands, Morgan Dally (morgan.dally@dsl.oregon.gov)

FOOTHILL DRIVE
SANITARY SEWER UPGRADE

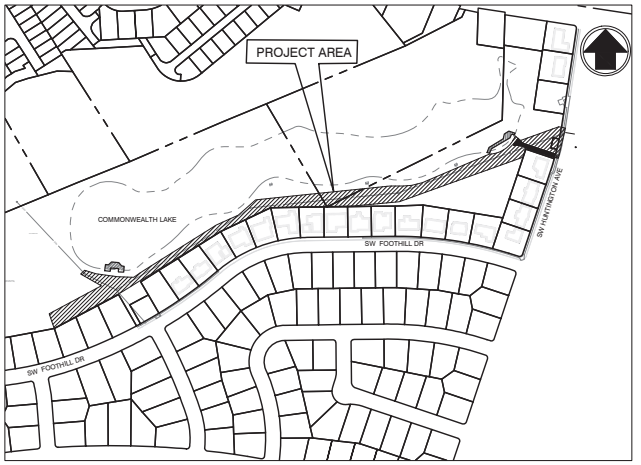
CLEAN WATER SERVICES PROJECT NO. 7207



VICINITY MAP
NTS

SHEET INDEX

1. COVER SHEET
2. GENERAL NOTES AND LEGEND
3. SITE PLAN
4. PLAN AND PROFILE STA 0+00 TO 2+00
5. PLAN AND PROFILE STA 2+00 TO 7+00
6. PLAN AND PROFILE STA 7+00 TO 12+00
7. PLAN AND PROFILE STA 12+00 TO 17+96
8. STANDARD DETAILS
9. EROSION CONTROL AND GRADING PLAN
10. EROSION CONTROL AND GRADING PLAN
11. EROSION CONTROL AND GRADING DETAILS
12. SITE SAFETY PLAN
13. SITE SAFETY PLAN
14. SITE SAFETY PLAN
15. BYPASS PUMPING PLAN



SITE MAP
NTS

UTILITY LOCATES (503) 232-1987

48 BUSINESS HOUR NOTICE PRIOR TO EXCAVATION

OREGON LAW REQUIRES CONTRACTOR TO COMPLY WITH RULES ADOPTED BY OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. COPIES OF RULES MAY BE OBTAINED BY CONTACTING THE UTILITY LOCATE CENTER AT 1-800-332-2344 (or 811).

EMERGENCY UTILITY CONTACTS:

ELECTRIC:	PORTLAND GENERAL ELECTRIC	(800) 544-1795
GAS:	NORTHWEST NATURAL GAS	(800) 882-3377
COMMUNICATIONS:	CENTURYLINK	(800) 244-1111
	COMCAST	(800) 934-6489
	VERIZON	(800) 421-3872
	ZIPLY FIBER	(866) 947-5995
STREETS:	WASHINGTON COUNTY	(503) 846-7037
WATER:	TUALATIN VALLEY WATER DIST.	(503) 848-3000
SANITARY SEWER:	CLEAN WATER SERVICES	(503) 547-8100
STORM SEWER:	CLEAN WATER SERVICES	(503) 547-8100

CLEAN WATER SERVICES

CONTACT INFORMATION-

CONV DIVISION MGR.:	WADE DENNY.	(503) 547-8117
PRINCIPAL ENG.	DOUGLAS GRESHAM	(503) 547-8089
ASSOCIATE ENG.:	SARALA GAUTAM	(503) 615-3561
CONSTRUCTION COORDINATOR:	XXXXXXXXX	(503) XXX-XXXX
INSPECTOR:	XXXXXXXXX	(503) XXX-XXXX

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY CLEAN WATER SERVICES PROJECT MANAGER (503-547-8089) AND INSPECTION DEPARTMENT 48 BUSINESS HOURS PRIOR TO START OF CONSTRUCTION AND COMPLY WITH ALL OTHER REQUIREMENTS
2. CONTRACTOR SHALL PROVIDE 24 HOUR NOTICE OF WORK RESUMPTION AFTER ANY SHUTDOWN EXCEEDING ONE DAY DURATION EXCEPT FOLLOWING WEEKENDS OR HOLIDAYS
3. ALL CONSTRUCTION AND TESTING OF COMPLETED SANITARY SYSTEMS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CLEAN WATER SERVICES GENERAL CONDITIONS AND STANDARD SPECIFICATIONS AS SET FORTH BY RESOLUTION & ORDER (R&O 19-22).
4. ALL EROSION CONTROL INSTALLATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CLEAN WATER SERVICES EROSION PREVENTION & SEDIMENT CONTROL TECHNICAL GUIDANCE HANDBOOK AS SET FORTH BY RESOLUTION & ORDER (R&O19-22).
5. ALL RESTORATIVE PAVING WITHIN STREET RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF WASHINGTON COUNTY UNIFORM STREET DESIGN STANDARDS.
6. ALL TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS MODIFIED BY THE OREGON SUPPLEMENTS. COST ASSOCIATED WITH IMPLEMENTATION OF TRAFFIC CONTROL, SIGNAGE, OR DEVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. CLEAN WATER SERVICES SHALL PROVIDE CONTRACTOR WITH WASHINGTON COUNTY STREET CUT PERMIT. CONTRACTOR SHALL HAVE A COPY OF PERMIT ONSITE AT ALL TIMES AND COMPLY WITH ALL CONDITIONS STIPULATED IN PERMIT.
8. CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL OF TRAFFIC CONTROL PLAN FROM WASHINGTON COUNTY PRIOR TO START OF CONSTRUCTION. FEES ASSOCIATED WITH ANY ROAD CLOSURE REQUEST SHALL BE THE RESPONSIBILITY OF CONTRACTOR.
9. CONTRACTOR SHALL CONFINE CONSTRUCTION OPERATIONS WITHIN PERMANENT EASEMENTS, TEMPORARY CONSTRUCTION EASEMENTS, OR PUBLIC RIGHT-OF-WAY ONLY IF AREAS OR FEATURES OUTSIDE DESIGNATED CONSTRUCTION ZONES SUSTAIN IMPACT FROM CONTRACTORS ACTIVITIES, CONTRACTOR SHALL RESTORE TO PRE-CONSTRUCTION CONDITION AT NO COST TO CLEAN WATER SERVICES.
10. ALL EXISTING UTILITY LOCATIONS AND DESCRIPTIONS SHOWN ON PLANS HAVE BEEN COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEY. CLEAN WATER SERVICES CANNOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS INFORMATION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF LOCATION AND DEPTH (POTHOLE) OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION ZONE PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL PROMPTLY NOTIFY CLEAN WATER SERVICES OF POTENTIAL CONFLICTS. UNDER THESE TERMS CLEAN WATER SERVICES SHALL BE RESPONSIBLE FOR COST OF REQUIRED RELOCATIONS. IF CONTRACTOR FAILS TO LOCATE ANY KNOWN UTILITY WITHIN CONSTRUCTION ZONE THAT CONFLICTS WITH WORK, CONTRACTOR SHALL CORRECT CONFLICT AT OWN COST. ANY COSTS TO THE CONTRACTOR ARISING FROM COORDINATION WITH UTILITY COMPANY TO RELOCATE UTILITIES SHALL BE CONSIDERED INCIDENTAL TO COST OF PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE DUE CONTRACTOR.
11. CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTS AND CONSTRUCTION STAKING. CONTRACTOR SHALL NOTIFY CLEAN WATER SERVICES PRIOR TO DISTURBANCE OR REMOVAL OF ANY PERMANENT MONUMENTS TO ALLOW REFERENCING FOR FUTURE REPLACEMENT.
12. CONTRACTOR SHALL RESTORE ALL STREET FEATURES IMPACTED BY CONSTRUCTION. FEATURES SHALL INCLUDE , BUT NOT BE LIMITED TO, PAVEMENT, CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, STREET STRIPING, SIGNAGE, MAILBOXES, AND UTILITIES.
13. CONTRACTOR SHALL RESTORE ALL PROJECT- RELATED EASEMENT AREAS AS STIPULATED IN EASEMENT AND CONTRACT DOCUMENTS. CLEAN WATER SERVICES SHALL PROVIDE CONTRACTOR WITH REFERENCE COPY OF ALL EASEMENT AGREEMENT CONDITIONS.

WASHINGTON COUNTY REVIEW STAMP

NO.	REVISION	BY	DATE
0	ISSUED FOR BID	XX	XXXX

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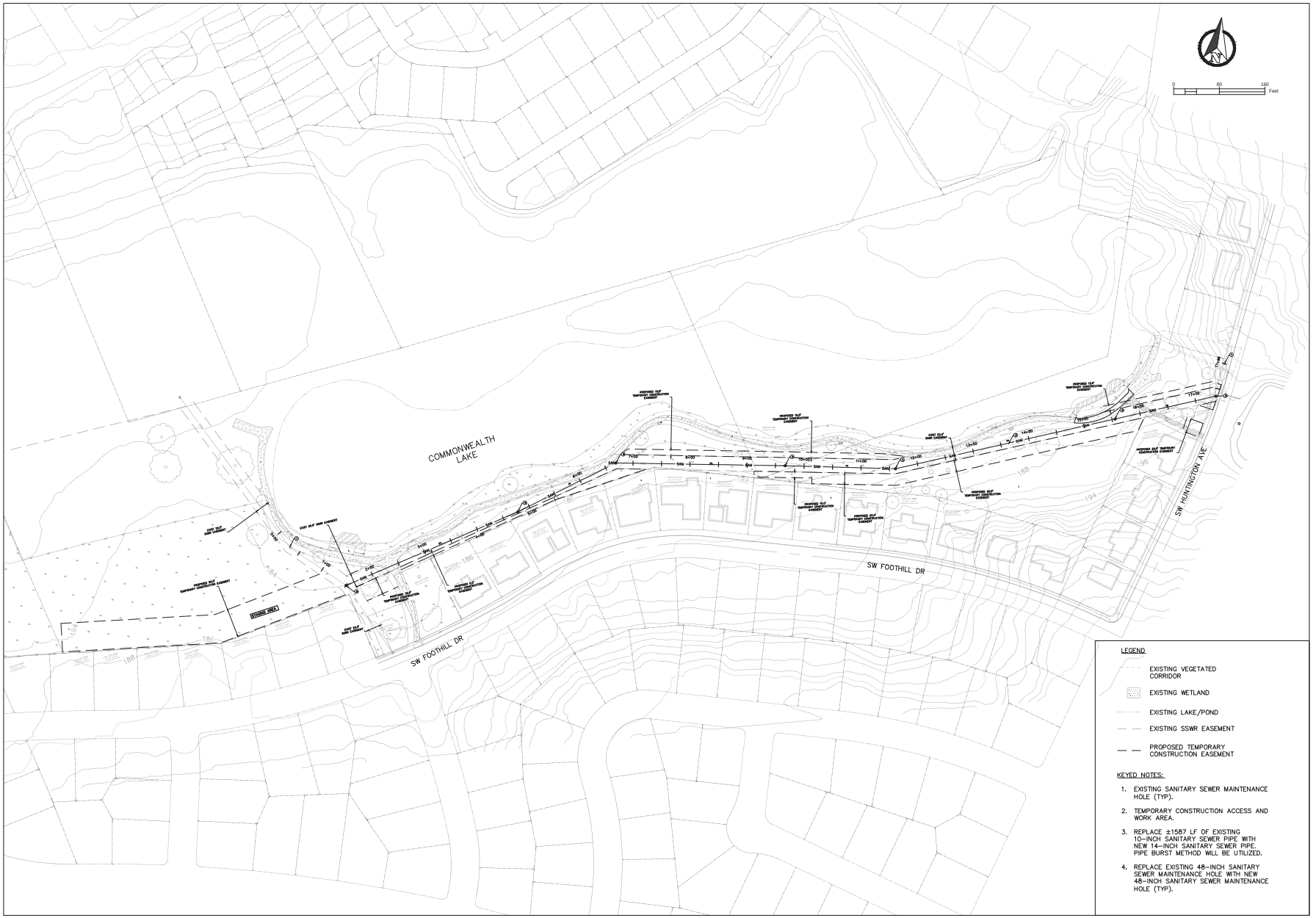
COVER SHEET

FOOTHILL DRIVE
SANITARY SEWER
UPGRADE

T, R, S & 1/4 SECT.
XXXX, XXXX

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

PROJECT 7207
SHEET 01
OF X



NO.	REVISION	BY	DATE

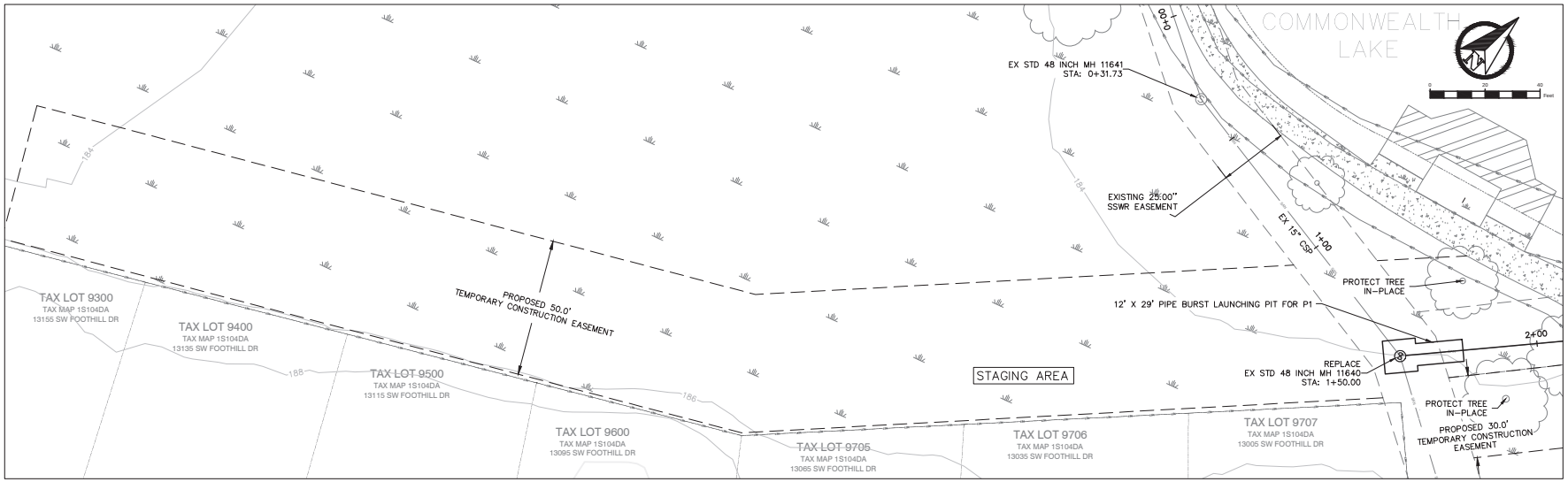
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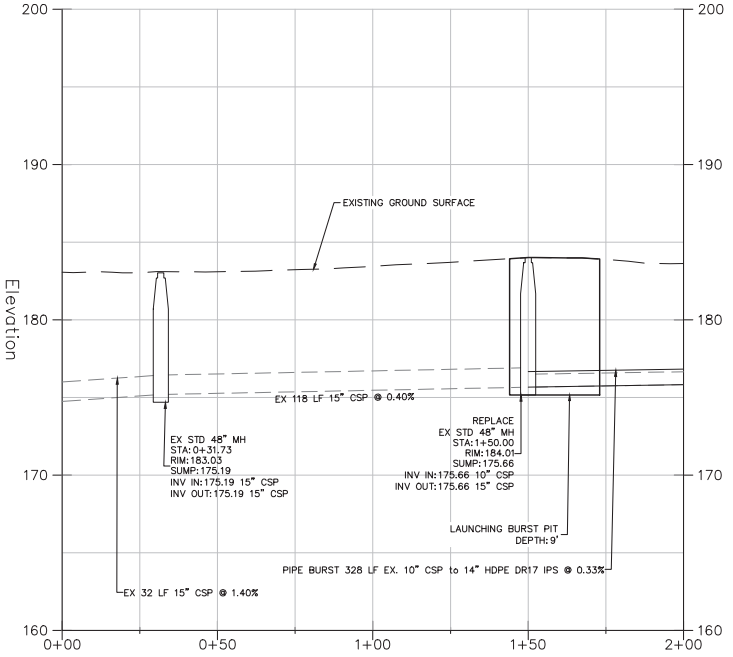
SITE PLAN

7207 FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG	
DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

PROJECT 7207
SHEET 02 OF X





NO.	REVISION	BY	DATE
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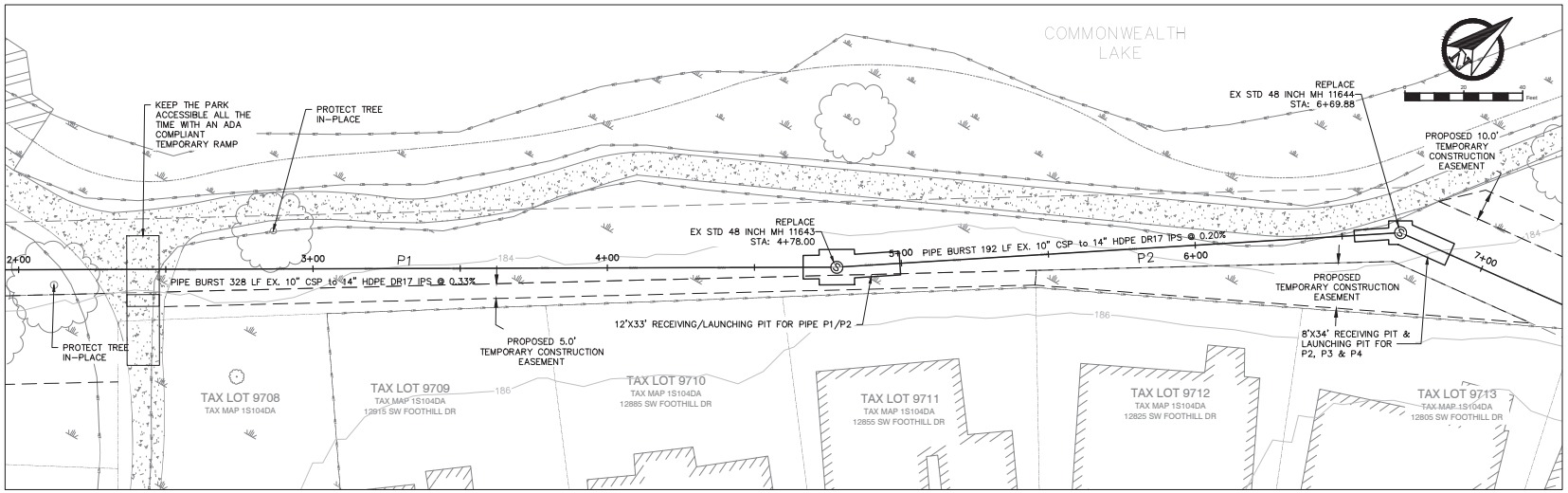
PLAN AND PROFILE STA 0+00 TO STA 2+00

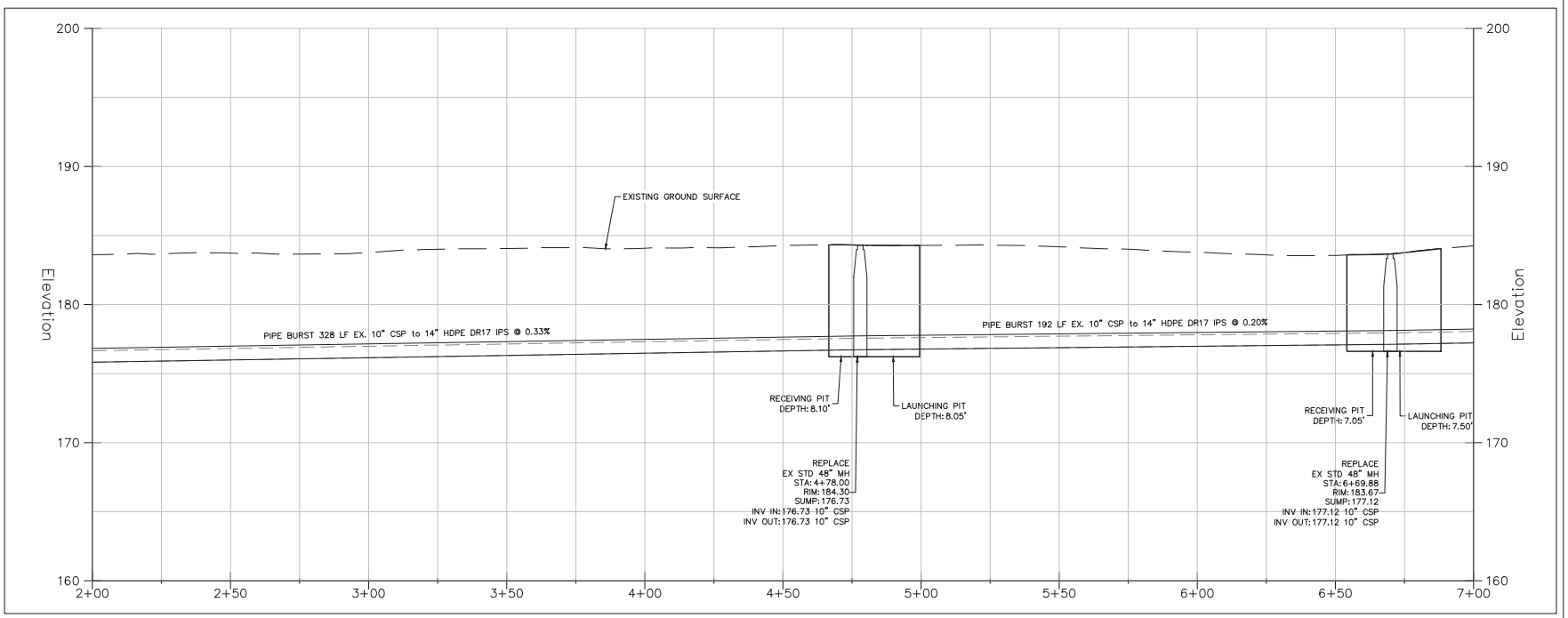
FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

PROJECT 7207
SHEET 04 OF X

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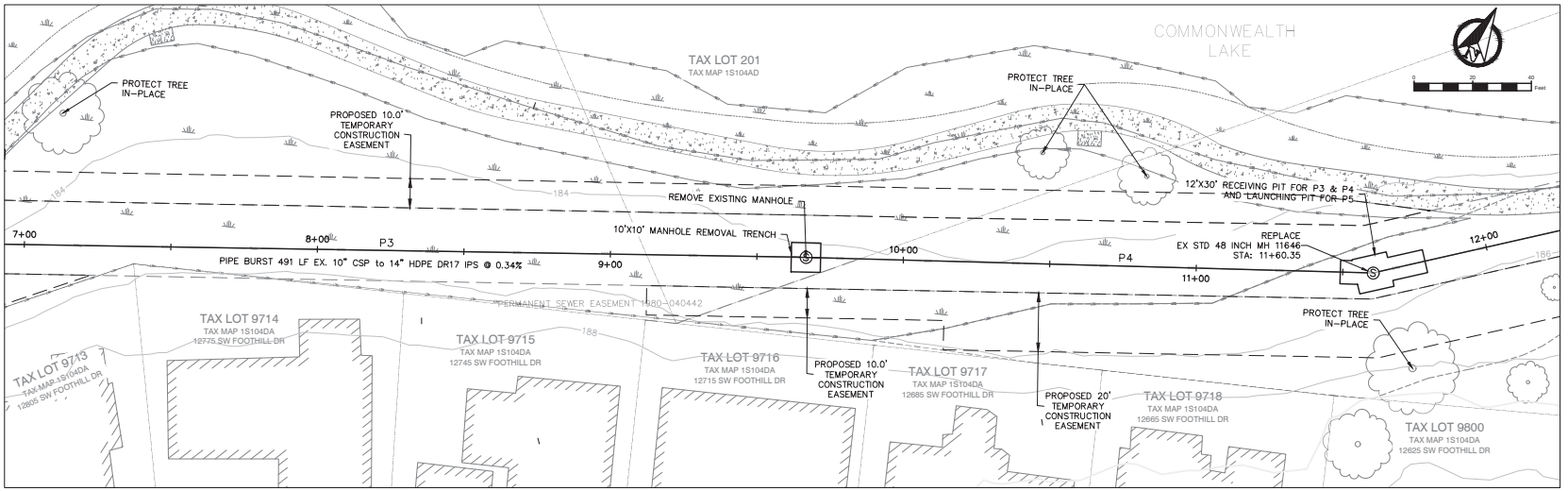
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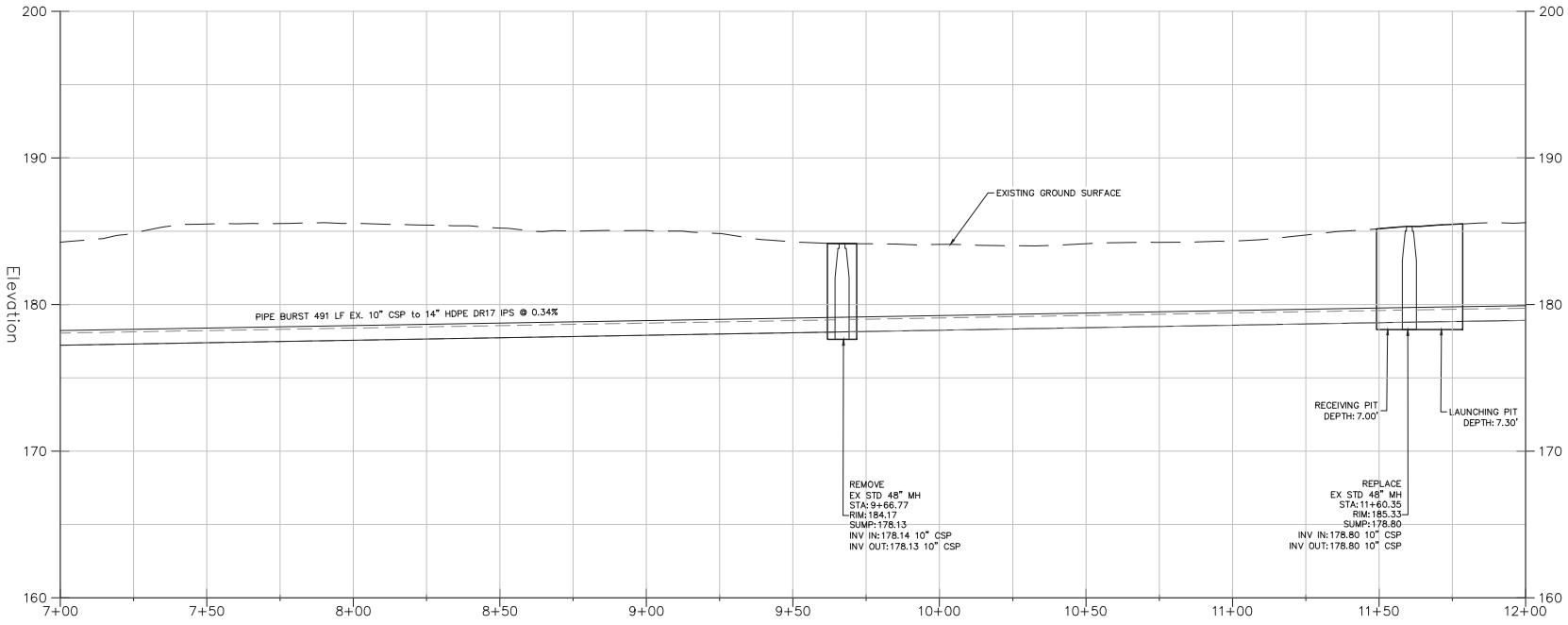
PLAN AND PROFILE STA 2+00 TO STA 7+00

FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG	DESIGNER: SG	CHECKED: DG	APPROVED: DG

PROJECT 7207
SHEET 05 OF X





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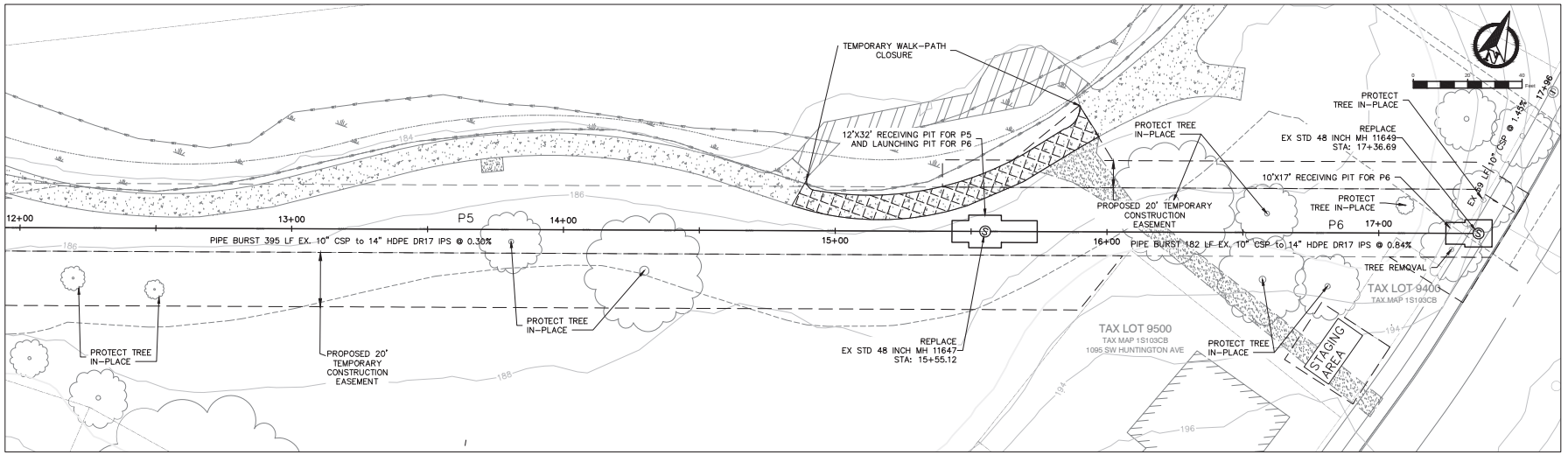
Clean Water Services
Our commitment is clear.
2550 SW Hillsboro Hwy
Hillsboro, OR 97123
503-681-3600
www.cleanwaterservices.org

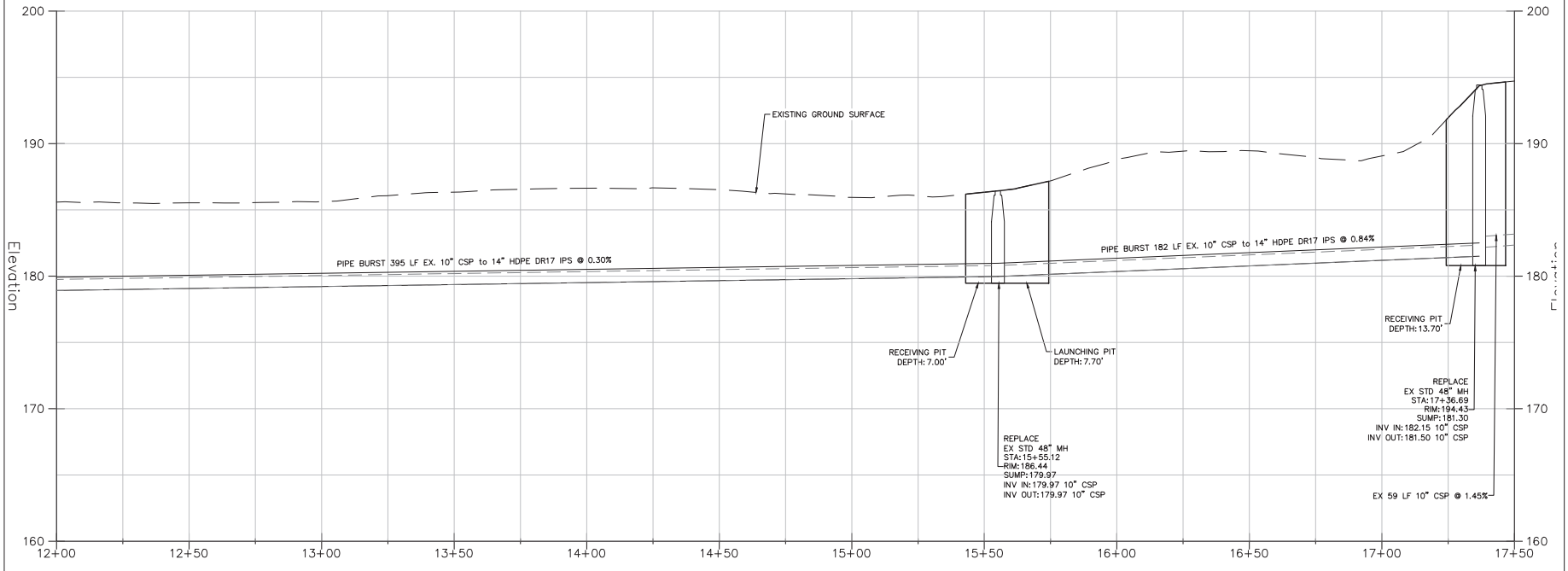
PLAN AND PROFILE STA 7+00 TO STA 12+00

FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

PROJECT 7207
SHEET 06 OF X





NO.	REVISION	BY	DATE
2	LOWERED PIPE 3+50 TO 6+40	JL	10/7/14
1	ISSUED FOR BID	JFL	11/26/14

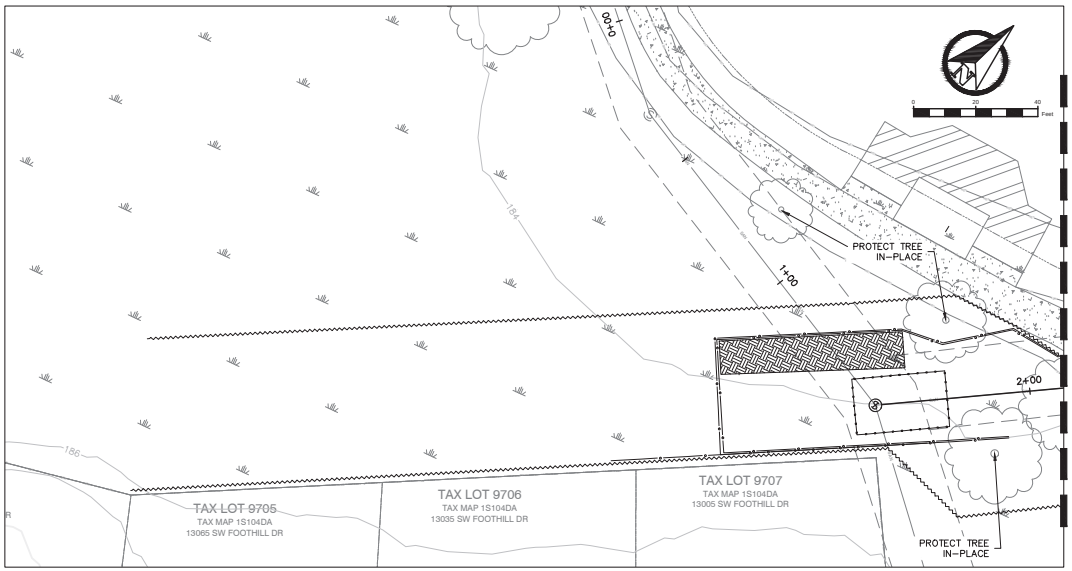
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www.cleanwaterservices.org

PLAN AND PROFILE STA 12+00 TO STA 17+96

FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG	
DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

PROJECT 7207
SHEET 07 OF X

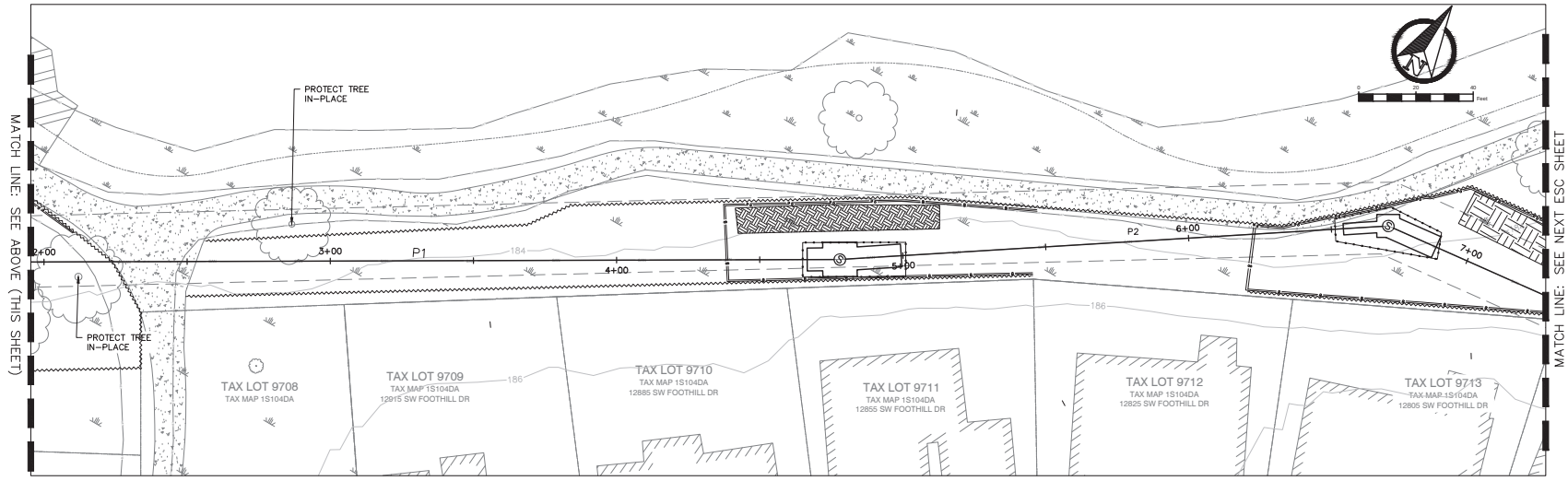


LEGEND

- PROPOSED STOCKPILE LOCATION
- EXISTING WETLAND
- CONSTRUCTION FENCE
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- STRAW WATTLES
- CHAIN LINK FENCE
- DRAINAGE FLOW DIRECTION
- EXISTING SSWR EASEMENT

EROSION CONTROL AND RESTORATION NOTES:

1. INSTALL 4 FT CONSTRUCTION/ SEDIMENT FENCE AT LOCATIONS SHOWN ON THE PLAN WITHOUT INTERRUPTING PARK ACCESS TO PARK USERS.
2. INSTALL DOUBLE LINE OF STRAW WATTLES PER CWS DWG NO. 880, SHEET ESC DETAILS.
3. GROUND SURFACE GRADE SHALL BE RESTORED TO THE EXISTING GRADE.
4. STOCKPILE SOIL SHALL BE PLACED IN STABLE LOCATION AND COVERED WITH PLASTICS SHEETING AS PER CWS DWG NO. 810, SHEET ESC DETAILS.
5. UPON COMPLETION OF SANITARY SEWER REHABILITATION VIA PIPE BURSTING, ALL DISTURBED AREAS INCLUDING STREETS, SIDEWALKS, DRIVEWAYS, LAWNS, AND LANDSCAPING SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER



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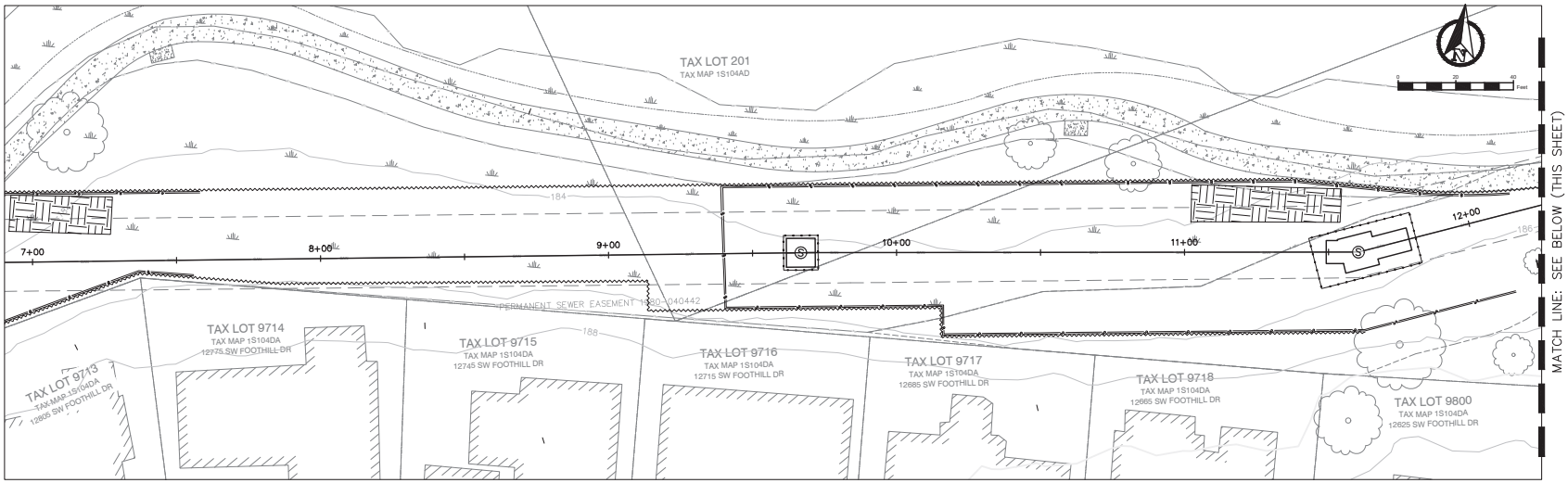
EROSION CONTROL AND GRADING PLAN

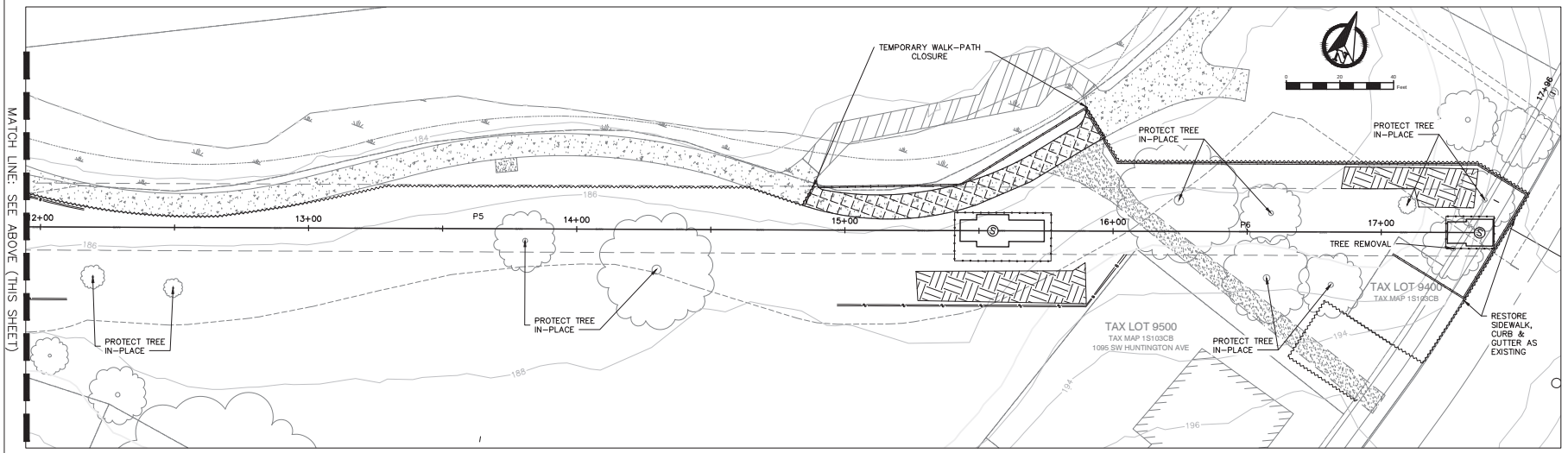
FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

PROJECT 7207
SHEET 09 OF X

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EROSION CONTROL AND GRADING PLAN

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DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

PROJECT 7207
SHEET 10 OF X

US Army Corps of Engineers ®
Portland District

Nationwide Permit 58
Terms and Conditions

Effective Date: March 15, 2021

A. Description of Activities Authorized by Nationwide Permit 58
B. Nationwide Permit General Conditions
C. District Engineer's Decision
D. Further Information
E. Portland District Regional General Conditions
F. Portland District Nationwide Permit Specific Regional Condition

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In addition to any special conditions that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit authorization to be valid in Oregon.

A. Description of Activities Authorized by Nationwide Permit (NWP) 58
58. *Utility Line Activities for Water and Other Substances*. Activities required for the construction, maintenance, repair, and removal of utility lines for water and other substances, excluding oil, natural gas, products derived from oil or natural gas, and electricity. Oil or natural gas pipeline activities or electric utility line and telecommunications activities may be authorized by NWPs 12 or 57, respectively. This NWP also authorizes associated utility line facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2-acre of waters of the United States for each single and complete project.

Utility lines: This NWP authorizes discharges of dredged or fill material into waters of the United States and structures or work in navigable waters for crossings of those waters associated with the construction, maintenance, or repair of utility lines for water and other substances, including outfall and intake structures. There must be no change in pre-construction contours of waters of the United States. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose that is not oil, natural gas, or petrochemicals. Examples of activities authorized by this NWP include utility lines that convey water, sewage, stormwater, wastewater, brine, irrigation water, and industrial products that are not petrochemicals. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in

such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2-acre of waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for above-ground utility lines: This NWP authorizes the construction or maintenance of foundations for above-ground utility lines in all waters of the United States, provided the foundations are the minimum size necessary.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including utility line substations, in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges of dredged or fill material into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (see 33 CFR part 322). Overhead utility lines constructed over Section 10 waters and utility lines that are routed in or under Section 10 waters without a discharge of dredged or fill material require a Section 10 permit.

This NWP authorizes, to the extent that Department of the Army authorization is required, temporary structures, fills, and work necessary for the remediation of inadvertent returns of drilling fluids to waters of the United States through sub-soil fissures or fractures that might occur during horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines. These remediation activities must be done as soon as practicable, to restore the affected waterbody. District engineers may add special conditions to this NWP to require a remediation plan for addressing inadvertent returns of drilling fluids to waters of the United States during

horizontal directional drilling activities conducted for the purpose of installing or replacing utility lines.

This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After construction, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) a Section 10 permit is required; or (2) the discharge will result in the loss of greater than 1/10-acre of waters of the United States. (See general condition 32.) (Authorities: Sections 10 and 404)

Note 1: Where the utility line is constructed, installed, or maintained in navigable waters of the United States (i.e., Section 10 waters) within the coastal United States, the Great Lakes, and United States territories, a copy of the NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: For utility line activities crossing a single waterbody more than one time at separate and distant locations, or multiple waterbodies at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. Utility line activities must comply with 33 CFR 330.6(d).

Note 3: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, in accordance with the requirements for temporary fills.

Note 4: Pipes or pipelines used to transport gaseous, liquid, liquescent, or slurry substances over navigable waters of the United States are considered to be bridges, not utility lines, and may require a permit from the U.S. Coast Guard pursuant to the General Bridge Act of 1946. However, any discharges of dredged or fill material into waters of the United States associated with such pipelines will require a Section 404 permit (see NWP 15).

Note 5: This NWP authorizes utility line maintenance and repair activities that do not qualify for the Clean Water Act Section 404(f) exemption for maintenance of currently serviceable fills or fill structures.

Note 6: For activities that require pre-construction notification, the PCN must include any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings that require Department of the Army authorization but do not require pre-construction notification (see paragraph (b)(4) of general condition 32). The district engineer will evaluate the PCN in accordance with Section D, "District Engineer's Decision." The district engineer may require mitigation to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see general condition 23).

B. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. *Navigation*. (a) No activity may cause more than a minimal adverse effect on navigation.

(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his or her authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. *Aquatic Life Movements*. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be

used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. *Spawning Areas*. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. *Migratory Bird Breeding Areas*. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. *Shellfish Beds*. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. *Suitable Material*. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

7. *Water Supply Intakes*. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. *Adverse Effects from Impoundments*. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. *Management of Water Flows*. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. *Fills Within 100-Year Floodplains*. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. *Equipment*. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. *Soil Erosion and Sediment Controls*. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and

all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. *Removal of Temporary Structures and Fills*. Temporary structures must be removed, to the maximum extent practicable, after their use has been discontinued. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. *Proper Maintenance*. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. *Single and Complete Project*. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. *Wild and Scenic Rivers*. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status.

(b) If a proposed NWP activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. Permittees shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status.

(c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: http://www.rivers.gov/.

17. *Tribal Rights*. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

18. *Endangered Species*. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify designated critical habitat or critical habitat proposed for such designation. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless ESA Section 7 consultation addressing the consequences of the proposed activity on listed species or critical habitat has been completed. See 50 CFR 402.02 for the definition of "effects of the action" for the purposes of ESA Section 7 consultation, as well as 50 CFR 402.17, which provides further explanation under ESA Section 7 regarding "activities that are reasonably certain to occur" and "consequences caused by the proposed action."

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA (see 33 CFR 330.4(f)(1)). If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA Section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under Section 7 of the ESA.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat or critical habitat proposed for such designation, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation), the pre-construction notification must include the name(s) of the endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or that utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. For activities where the non-Federal applicant has identified listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have "no effect" on listed species (or species proposed for listing or designated critical habitat (or critical habitat proposed for such designation), or until ESA Section 7 consultation or conference has been completed. If the non-Federal

applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(d) As a result of formal or informal consultation or conference with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs.

(e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take" means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA Section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA Section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA Section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA Section 7 consultation conducted for the ESA Section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA Section 7 consultation for the ESA Section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA Section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA Section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA Section 7 consultation is required.

(g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at http://www.fws.gov/ or http://www.fws.gov/ipac and http://www.nmfs.noaa.gov/pr/species/esa/ respectively.

19. *Migratory Birds and Bald and Golden Eagles*. The permittee is responsible for ensuring that an action authorized by an NWP complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting the appropriate local office of the U.S. Fish and Wildlife Service to determine what measures, if any, are necessary or appropriate to reduce adverse effects to migratory birds or eagles, including whether "incidental take" permits are necessary and

available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. *Historic Properties*. (a) No activity is authorized under any NWP which may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)(1)). If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under Section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with Section 106.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts commensurate with potential impacts, which may include background research, consultation, oral history interviews, sample field investigation, and/or field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of Section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect.

(d) Where the non-Federal applicant has identified historic properties on which the proposed NWP activity might have the potential to cause effects and has so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA Section 106 consultation has been completed. For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. If NHPA Section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until Section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(e) Prospective permittees should be aware that Section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. *Discovery of Previously Unknown Remains and Artifacts*. Permittees that discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by an NWP, they must immediately notify the district engineer of what they have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. *Designated Critical Resource Waters*. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, 52, 57 and 58 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed by permittees in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after she or he determines that the impacts to the critical resource waters will be no more than minimal.

23. *Mitigation*. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects.

(d) Compensatory mitigation at a minimum one-for-one ratio will be required for all losses of stream bed that exceed 3/100-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. This compensatory mitigation requirement may be satisfied through the restoration or enhancement of riparian areas next to streams in accordance with paragraph (e) of this general condition. For losses of stream bed of 3/100-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream

rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)).

(e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. If restoring riparian areas involves planting vegetation, only native species should be planted. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation.

(2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f).)

(3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation.

(4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan

may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). If permittee-responsible mitigation is the proposed option, and the proposed compensatory mitigation site is located on land in which another federal agency holds an easement, the district engineer will coordinate with that federal agency to determine if proposed compensatory mitigation project is compatible with the terms of the easement.

(5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan needs to address only the baseline conditions at the impact site and the number of credits to be provided (see 33 CFR 332.4(c)(1)(ii)).

(6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs.

(h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may

be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. *Safety of Impoundment Structures*. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state or federal, dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. *Water Quality*. (a) Where the certifying authority (state, authorized tribe, or EPA, as appropriate) has not previously certified compliance of an NWP with CWA Section 401, a CWA Section 401 water quality certification for the proposed discharge must be obtained or waived (see 33 CFR 330.4(c)). If the permittee cannot comply with all of the conditions of a water quality certification previously issued by certifying authority for the issuance of the NWP, then the permittee must obtain a water quality certification or waiver for the proposed discharge in order for the activity to be authorized by an NWP.

(b) If the NWP activity requires pre-construction notification and the certifying authority has not previously certified compliance of an NWP with CWA Section 401, the proposed discharge is not authorized by an NWP until water quality certification is obtained or waived. If the certifying authority issues a water quality certification for the proposed discharge, the permittee must submit a copy of the certification to the district engineer. The discharge is not authorized by an NWP until the district engineer has notified the permittee that the water quality certification requirement has been satisfied by the issuance of a water quality certification or a waiver.

(c) The district engineer or certifying authority may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. *Coastal Zone Management*. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). If the permittee cannot comply with all of the conditions of a coastal zone management consistency concurrence previously issued by the state, then the permittee must obtain an individual coastal zone management consistency concurrence or presumption of concurrence in order for the activity to be authorized by an NWP. The district engineer or a state may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. *Regional and Case-By-Case Conditions*. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe,

or U.S. EPA in its CWA Section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. *Use of Multiple Nationwide Permits*. The use of more than one NWP for a single and complete project is authorized, subject to the following restrictions:

(a) If only one of the NWPs used to authorize the single and complete project has a specified acreage limit, the acreage loss of waters of the United States cannot exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1⁄3-acre.

(b) If one or more of the NWPs used to authorize the single and complete project has specified acreage limits, the acreage loss of waters of the United States authorized by those NWPs cannot exceed their respective specified acreage limits. For example, if a commercial development is constructed under NWP 39, and the single and complete project includes the filling of an upland ditch authorized by NWP 46, the maximum acreage loss of waters of the United States for the commercial development under NWP 39 cannot exceed 1/2-acre, and the total acreage loss of waters of United States due to the NWP 39 and 46 activities cannot exceed 1 acre.

29. *Transfer of Nationwide Permit Verifications*. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

_____
(Transferee)

_____
(Date)

30. *Compliance Certification*. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of

ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

(a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;

(b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and

(c) The signature of the permittee certifying the completion of the activity and mitigation.

The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. *Activities Affecting Structures or Works Built by the United States*. If an NWP activity also requires review by, or permission from, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires Section 408 permission and/or review is not authorized by an NWP until the appropriate Corps office issues the Section 408 permission or completes its review to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. *Pre-Construction Notification*. (a) *Timing*. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) *Contents of Pre-Construction Notification*: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) (i) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures.

(ii) For linear projects where one or more single and complete crossings require pre-construction notification, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters (including those single and complete crossings authorized by an NWP but do not require PCNs). This information will be used by the district engineer to evaluate the cumulative adverse environmental effects of the proposed linear project, and does not change those non-PCN NWP activities into NWP PCNs.

(iii) Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial and intermittent streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45-day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-federal permittees, if any listed species (or species proposed for listing) or designated critical habitat (or critical habitat proposed for such designation) might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat (or critical habitat proposed for such designation), the PCN must include the name(s) of those endangered or threatened species (or species proposed for listing) that might be affected by the proposed activity or utilize the designated critical habitat (or critical habitat proposed for such designation) that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must

state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an NWP activity that requires permission from, or review by, the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for Section 408 permission from, or review by, the Corps office having jurisdiction over that USACE project.

(c) *Form of Pre-Construction Notification*: The nationwide permit pre-construction notification form (Form ENG 6082) should be used for NWP PCNs. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals.

(d) *Agency Coordination*: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity's adverse environmental effects so that they are no more than minimal.

(2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iii) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes.

(3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an

additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure that the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the single and complete crossings of waters of the United States that require PCNs to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings of waters of the United States authorized by an NWP. If an applicant requests a waiver of an applicable limit, as provided for in NWPs 13, 36, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by an NWP and whether those cumulative adverse environmental effects are

no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands or 3/100-acre of stream bed, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or for impacts to other types of waters. The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure that the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer.

4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP

and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. Further Information

1. District engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

E. Portland District Regional Conditions

1. *Notification:* For permittees that received written NWP approval, upon starting the authorized activities, you shall notify the U.S. Army Corps of Engineers, Portland District, Regulatory Branch that the work has started. Notification shall be provided by e-mail to cenwp.notify@usace.army.mil and the email subject line shall include: Corps project number and the project location by county.

2. *Aquatic Resources of Special Concern*: Pre-construction notification to the District Engineer is required for all activities proposed in waters of the U.S. within, or directly affecting, an aquatic resource of special concern. Aquatic resources of special concern are resources that are difficult to replace, unique, and/or have high ecological function. For the purpose of this regional condition, aquatic resources of special concern are native eel grass (Zostera marina) beds, mature forested wetlands, bogs, fens, vernal pools, alkali wetlands, wetlands in dunal systems along the Oregon coast, estuarine wetlands, Willamette Valley wet prairie wetlands, marine gardens, marine reserves, kelp beds, and rocky substrate in tidal waters.

In addition to the content requirements of NWP General Condition (GC) 32, the pre-construction notification must include a statement explaining why the effects of the

proposed activity are no more than minimal. Written approval from the District Engineer must be obtained prior to commencing work.

Note: If the District Engineer determines that the adverse effects of the proposed activity are more than minimal, then the District Engineer will notify the applicant that either:

a. the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit;

b. the activity is authorized under the NWP subject to submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or

c. the activity is authorized under the NWP with specific modifications or conditions.

3. *Cultural Resources and Human Burials-Inadvertent Discovery Plan*: In addition to the requirements in NWP GCs 20 and 21, the permittee shall immediately notify the District Engineer if, at any time during the course of the work authorized, human burials, cultural items, or historic properties, as defined by the National Historic Preservation Act and Native American Graves Protection and Repatriation Act, are discovered. The permittee shall implement the following procedures as outlined on the Inadvertent Discovery Plan posted on the Portland District Regulatory website at *https://www.nwp.usace.army.mil/Missions/Regulatory/Nationwide.aspx*

Notify the Portland District Engineer as soon as possible following discovery but in no case later than 24 hours. Notification shall be sent electronically (cenwp.notify@usace.army.mil) and shall identify the Corps project number and clearly specify the purpose is to report a cultural resource discovery. The permittee shall also notify the Corps representative (by email and telephone) identified in the verification letter.

4. *Essential Fish Habitat:* Activities which may adversely affect essential fish habitat, as defined under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), are not authorized by NWP until essential fish habitat requirements have been met by the applicant and the Corps. Non-federal permittees must submit a pre-construction notification to the District Engineer if essential fish habitat may be affected by, or is in the vicinity of, a proposed activity and shall not begin work until notified by the District Engineer that the requirements of the essential fish habitat provisions of the MSA have been satisfied and the activity is authorized. The notification must identify the type(s) of essential fish habitat (e.g., Pacific coast salmon, Pacific coast groundfish, and/or Coastal-pelagic species) managed by a Fishery Management Plan that may be affected. Information about essential fish habitat is available at NOAA's website: *http://www.westcoast.fisheries.noaa.gov*

5. *Bank Stabilization:* Permittee shall include the use of bioengineering techniques and natural materials in the project design to the maximum extent practicable and shall

minimize the use of rock. Bioengineering bank stabilization techniques are those that increase the strength and structure of soils with a combination of biological and mechanical elements (e.g., vegetation, root wads and woody debris, rock structures). Riparian plantings shall be included in all project designs unless the permittee can demonstrate that such plantings are not practicable.

6. *Work Area Isolation and Dewatering:* Appropriate best management practices shall be implemented to prevent erosion and to prevent sediments from entering waters of the U.S.

a. All in-water work shall be isolated from the active channel or conducted during low seasonal stream flows to the maximum extent practicable.

b. Cofferdams shall be constructed of non-erosive material, such as concrete jersey barriers, sand and gravel bag dams, or water bladders. Constructing a cofferdam by pushing material from the streambed or sloughing material from the streambanks is not authorized.

c. Sand and gravel bag dams shall be lined with a plastic liner or geotextile fabric to reduce permeability and prevent sediments and/or construction materials from entering waters of the U.S.

d. Upstream and downstream flows shall be maintained by routing flows around the construction site.

e. When dewatering is necessary for construction, a sediment basin, or other applicable method, shall be used to settle sediments prior to releasing the water back into the waterbody. Settled water shall be returned to the waterbody in such a manner as to avoid erosion. Sediment basins shall be placed in uplands.

f. Fish and other aquatic species must be salvaged (i.e., safely captured and relocated away from the project or development site) prior to dewatering. Contact ODFW for additional information regarding fish salvage.

7. *Dredging:* For NWP-authorized activities that involve removal of sediment from waters of the U.S., the permittee shall ensure that any necessary sediment characterization regarding size, composition, and potential contaminants is conducted and reviewed prior to dredging. Sediment characterization must be conducted per the Sediment Evaluation Framework for the Pacific Northwest (available at: *http://www.nwp.usace.army.mil/Missions/Environmental-Stewardship/DMM.aspx*).

Note: The return water from a contained disposal area is defined as a discharge of dredged material by 33 CFR part 323.2(d) and requires separate authorization from the District Engineer (*e.g.*, by NWP 16).

8. *Mechanized Equipment:* In addition to the requirements in NWP GC 11, permittee shall

implement the following practices to prevent or minimize impacts to the aquatic environment from mechanized equipment:

a. Operate equipment from the top of a streambank and conduct work outside of the active stream channel, unless specifically authorized by the District Engineer.

b. Spill prevention and containment materials shall be maintained and be readily accessible at vehicle staging areas. The amount of spill response materials (such as straw matting/bales, geotextiles, booms, diapers, and other absorbent materials, shovels, brooms, and containment bags) maintained on-site must be appropriate for the size of the authorized activity.

Note: See Regional Condition 10 regarding timeframes for temporary fills.

9. *Erosion Control:* During construction and until the site is stabilized, the permittee shall ensure all practicable measures are implemented and maintained to prevent erosion and runoff. Temporary stockpiles of excavated or dredged material shall be stabilized to prevent erosion. Once soils or slopes have been stabilized, permittee shall completely remove and properly dispose of or re-use all non-biodegradable components of installed control measures.

10. *Temporary Fills and Impacts:* To ensure no more than minimal adverse environmental effects from temporary fills and impacts to waters of the U.S:

a. Temporary fills and/or impacts to waters of the U.S. shall not exceed six months unless otherwise approved by the District Engineer.

b. No more than one-half (½) acre of waters of the U.S. may be temporarily filled or impacted unless otherwise approved by the District Engineer (temporary fills and impacts do not affect specified limits for loss of waters associated with specific nationwide permits).

c. Native soils and/or sediments removed from waters of the U.S. for project construction shall be stockpiled and used for site restoration to the maximum extent practicable.

d. Site restoration of temporarily filled or impacted areas shall include returning the area to pre-project ground surface contours. The permittee shall appropriately revegetate temporarily filled or impacted areas with native, noninvasive herbs, shrubs, and/or tree species sufficient in number, spacing, and diversity to replace affected aquatic functions.

Note: The Corps will determine compensatory mitigation requirements for temporary fills and impacts on a case-by-case basis depending on the duration and nature of the temporary fill or impact and the type of aquatic resource affected.

11. *Contractor Notification of Permit Requirements:* The permittee must provide a copy of the Nationwide Permit verification letter, conditions, and permit drawings to all

contractors and any other parties performing the authorized work, prior to the commencement of any work in waters of the U.S.

12. Inspection of the Project Site: The permittee shall allow representatives of the District Engineer to inspect the authorized activity to confirm compliance with nationwide permit terms and conditions. A request for access to the site will normally be made sufficiently in advance to allow a property owner or representative the option to be on site during the inspection.

F. Portland District Nationwide Permit 58 Specific Regional Condition

NWP 58: Manholes placed in streams or other waterways require specific approval by the District Engineer.

Washington County
Department of Land Use and Transportation
Planning and Development Services
155 N First Ave, Suite 350
Hillsboro, OR 97124

NOTICE OF DECISION & STAFF REPORT

CASEFILE: L2500214-FP

APPLICANT:
Clean Water Services
2550 SW Hillsboro Highway
Hillsboro, OR 97213

APPLICANT'S REPRESENTATIVE:
AKS Engineering & Forestry, LLC
Attn.: Mr. Glen Southerland, AICP
12965 SW Herman Road, Suite 100
Tualatin, OR 97062

OWNER:
Tualatin Hills Park & Recreation District
15707 SW Walker Road
Beaverton, OR 97006

PROCEDURE TYPE: II
CPO: 1 **COMMUNITY PLAN:**
Cedar Hills-Cedar Mill

LAND USE DISTRICT:
Institutional

PROPERTY DESCRIPTION:
ASSESSOR MAP/LOT: 1S103CB / 09300, 1S104AD / 00201, 1S104D / 00800
SITE SIZE: 0.77 acres (project area)

LOCATION: West of SW Huntington Avenue and north of SW Foothill Drive

PROPOSED DEVELOPMENT ACTION: Review for a Flood Plain Alteration permit to facilitate the upgrade of an existing sanitary sewer line.

DECISION:

Approval ☐ **Approval with Conditions** ☑ **Denial** ☐

Signature Stephen Shane **Date** 12-10-25
Stephen Shane, Principal Planner, Current Planning Section Manager

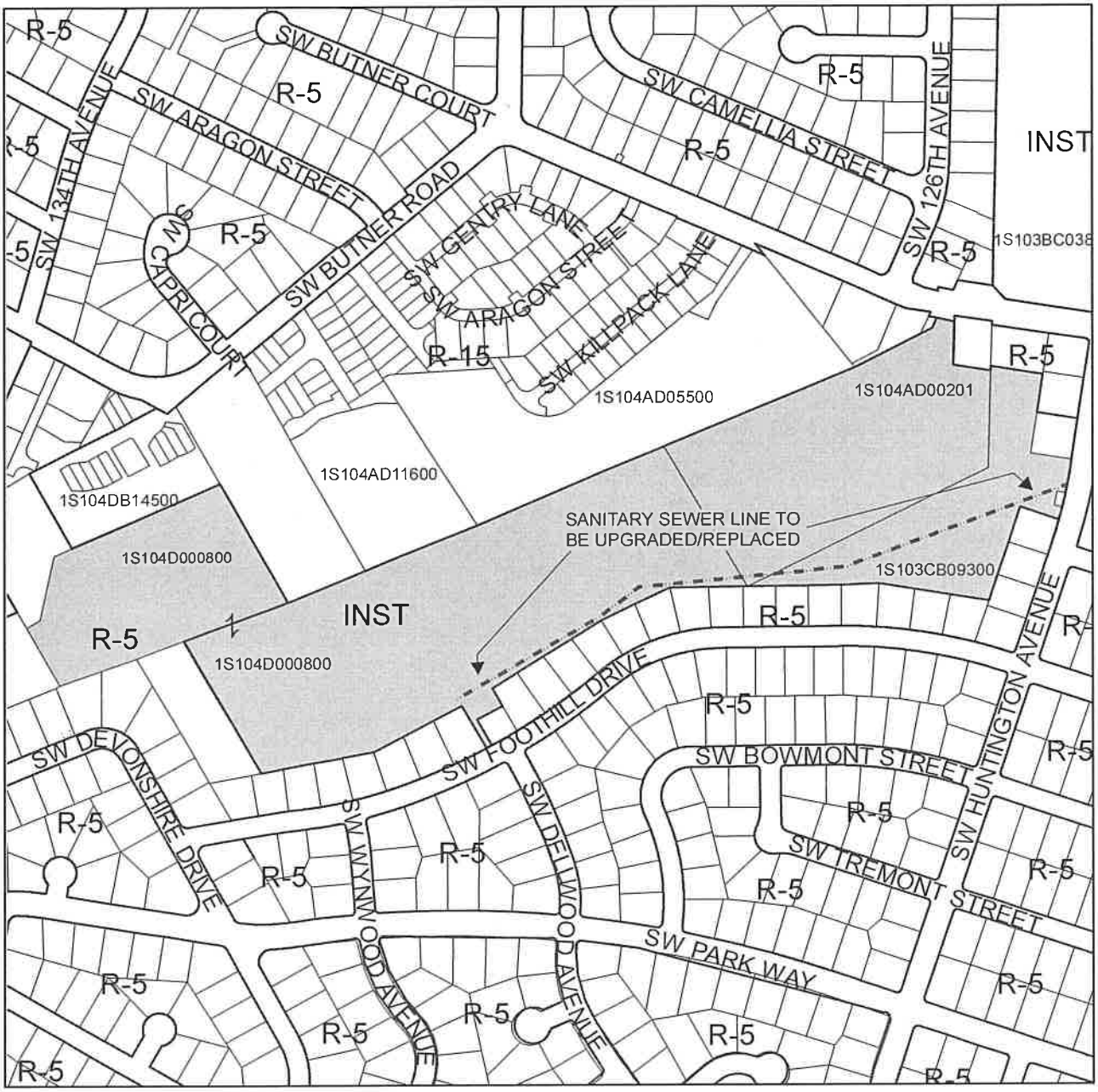
Staff Planner: Paul Schaefer, 503-846-3832

Attachments:
A. - Vicinity Map
B. – Conditions of Approval
C. – Staff Report
D. – Appeal Information

TAX MAP/LOT NO. 1S1 03 CB 09300; 1S1 04 AD 00201; 1S1 04 D0 00800

ATTACHMENT A VICINITY MAP

CASEFILE / PROJECT #: L2500214-FP



↑ NORTH

AREA OF CONSIDERATION

NOT TO SCALE

SITE & SURROUNDING LAND USE DISTRICTS:

Institutional District (INST)

R-5 District (Residential 5 units/acre)

REVIEW STANDARDS FROM CURRENT OR APPLICABLE ORDINANCE OR PLAN

A. Washington County Comprehensive Plan
B. Applicable Community Plan (See Front of Notice)
C. Transportation System Plan
D. Washington County Community Development Code:
   - ARTICLE I, Introduction & General Provisions
   - ARTICLE II, Procedures
   - ARTICLE III, Land Use Districts
   - ARTICLE IV, Development Standards
   - ARTICLE V, Public Facilities and Services
   - ARTICLE VI, Land Divisions & Lot Line Adjustments
   - ARTICLE VII, Public Transportation Facilities
E. R & O 86-95 Traffic Safety Improvements
F. ORD. NO. 738, Road Design and Construction Standards
G. ORD.691-A, 729, 741, 746, 751, 793-A Transp. Development Tax

ATTACHMENT B
CONDITIONS OF APPROVAL

I. THIS APPROVAL SHALL AUTOMATICALLY EXPIRE FOUR YEARS FROM THE DATE OF THIS APPROVAL, UNLESS DEVELOPMENT HAS COMMENCED, AN APPLICATION FOR AN EXTENSION IS FILED, OR THIS APPROVAL IS REVOKED OR INVALIDATED (SECTION 201-4).

II. PRIOR TO COMMENCING ANY ON-SITE IMPROVEMENTS, INCLUDING GRADING, EXCAVATION AND/OR FILL ACTIVITIES THE APPLICANT SHALL:

A. Submit to Building Services (503-846-3470) for review and approval of a Grading Permit:

1. Grading/drainage plans that are consistent with the standards of Section 410 and an application that includes:

   a. A site-specific geotechnical engineering report with recommendations for the development of the site. The report should be stamped and signed (electronic signature accepted) by an Oregon registered engineer.

   b. Structural details for all access and drive areas on the plans per site-specific geotechnical engineering recommendations.

   c. A drainage analysis report stamped by a civil engineer that shows that any additional impervious areas generated by the proposed work will not impact the surrounding properties negatively per **WCC 14.12.310.**

B. Submit to Clean Water Services (CWS) (503-681-3600) for review and approval:

A Clean Water Services (CWS) Site Development Permit must be obtained. Application for CWS Site Development Permit must be in accordance with the requirements of the Design and Construction Standards, Resolution and Order No. 19-5 as amended by R&O 19-22 (CWS Standards), or prior standards as meeting the implementation policy of R&O 18-28, and is to include and/or otherwise demonstrate compliance with the following:

1. Compliance with all provisions of CWS Standards.

2. A detailed grading and erosion control plan. An Erosion Control Permit will be required, and the Area of Disturbance must be clearly identified on the submitted construction plans. If site area and any offsite improvements required for this development exceed one-acre of disturbance; project will require a 1200-CN Erosion Control Permit.

3. Any offsite sanitary or storm sewer improvements identified as part of this development may require additional offsite street improvements/restorations. All transportation-related infrastructure, (including but not limited to roadway surfaces and base material) influenced by sanitary or storm sewer improvements, shall be restored to original or better condition.

4. All existing and proposed easements shall be shown on the plans. Any required storm sewer, sanitary sewer, and water quality related easements must be

granted to Clean Water Services.

5. Applicant shall comply with the conditions as set forth in Service Provider Letter No. 25-001614, dated July 30, 2025. This letter is in the casefile.

IF APPLICABLE, PRIOR TO SEWER CONNECTION PERMIT ISSUANCE

1. The above-noted improvements must be completed to CWS satisfaction.

2. The as-constructed drawings (as-builts), or a bond guaranteeing the as-builts, shall be submitted and accepted by CWS.

C. Submit to Planning and Development Services, Project Planner (Paul Schaefer, 503-846-3832):

1. Copies of all necessary state (e.g., DSL) and federal (e.g., US Army Corps of Engineers) permits or documentation that state and federal agency comment is not applicable.

2. Documentation (e.g., photographs) demonstrating that the trees to be retained are protected from removal by identifying markers clearly denoting trees to be retained. Markers can be paint, ribbons or preferable construction fencing..

III. SPECIAL CONDITIONS:

A. Within thirty (30) days of completion of the project provide the following to Planning and Development Services, Project Planner (Paul Schaefer, 503-846-3832):

1. Written documentation, including site photographs, demonstrating replanting and restoration of all impacted areas.

2. "No Net Rise" certification demonstrating that the completed Flood Plain Alteration complies with Section 421 and that the alteration resulted in no net rise. Said certification shall include the engineer's original signature (wet stamp) and also certify no increase in flood velocities and further that no net fill occurred, and that flood storage capacity was not negatively impacted.

3. Evidence that any trees removed during construction, including the street tree removed on SW Huntington Avenue, have been mitigated through tree replacement.

IV. ADDITIONAL CONDITIONS:

A. This development shall be constructed in accordance with the conditions of this decision, the approved final plans and the standards of the Community Development Code (Section 207-5).

B. All conditions of approval shall be binding upon all heirs, successors and assigns (Section 207-5).

C. Transferability of this Development Permit shall be in accordance with Section 201-8.

D. Applicant and/or contractors is (are) responsible for obtaining applicable local, state, and federal permits for the flood plain alteration project in accordance with Section 422-5.

ATTACHMENT C
STAFF REPORT

I. APPLICABLE STANDARDS

A. Washington County Comprehensive Plan
B. Cedar Hills-Cedar Mill Community Plan
C. Washington County Community Development Code:
   1. Article II, Procedures:
      - Section 202-2 Type II Procedure
      - Section 207-5 Conditions of Approval
   2. Article III, Land Use Districts:
      - Section 330 Institutional District
   3. Article IV, Development Standards:
      - Section 404 Master Planning
      - Section 410 Grading and Drainage
      - Section 416 Utility Design
      - Section 421 Flood Plain and Drainage Hazard Area Development
      - Section 422 Significant Natural Resources
      - Section 426 Erosion Control
      - Section 430-105 Public Utilities

II. AFFECTED JURISDICTIONS

Roads:	Washington County
Water Quality and Quantity:	Clean Water Services
Erosion Control:	Clean Water Services
Parks:	Tualatin Hills Park & Recreation District

III. FINDINGS

Background Information:

1. The applicant requests land use approval for a Flood Plain Alteration in order to upgrade an existing buried sanitary sewer line located in Commonwealth Lake Park. The project involves upsizing (replacing) approximately 1,500 linear feet of the undersized sanitary sewer line. The existing 10-inch diameter corrugated steel sanitary sewer pipe will be replaced with 14-inch diameter high density polyethylene (HDPE) pipe. Replacement of existing maintenance manholes within an existing 25-foot-wide sanitary sewer easement will also occur as part of the sanitary sewer line upgrade. All disturbed areas around the new manholes will be restored to preexisting grades and replanted with vegetation.

2. The preliminary plans note that the park is anticipated to be generally fully accessible during the sanitary sewer upgrade. In the eastern part of the project area near SW Huntington Avenue an approximate 120-foot section of the walking path will be closed along with a temporary closure of the southern park access from the sidewalk on SW Huntington Avenue. However, access along the lake at the first temporary pathway closure will be provided by the existing lakefront boardwalk pier that essentially runs parallel to the pathway. Access to the park from SW Huntington Avenue will continue from an existing access located approximately 175 feet north of the southern access that will be closed during the duration of the sanitary sewer upgrade. Consequently, some sections of existing pathways will be temporarily closed

but access will remain in areas generally close to the two pathways that will be temporally closed.

3. Replacement of the manholes will require small, isolated areas of site excavation, while the new sanitary sewer line upgrade will be constructed using the trenchless method, which involves 'bursting' the existing underground pipe with the new pipe of greater capacity. Pipe bursting is an accepted trenchless construction technique without any disturbance to the surface area above the pipe corridor. The proposed construction method will have very low impact on the natural resources, including Commonwealth Lake and associated riparian resources.

4. The buried sanitary sewer line is located on three of the lots containing Commonwealth Lake Park. The construction area is mapped as Goal 5 Resource area (Riparian Wildlife Habitat) and will be within a mapped flood plain. The sanitary sewer line upgrade, pursuant to CDC Section 201-2.12.K, is not subject to a development permit. Underground pipelines are also exempt from the Public Utility Special Use Standards pursuant to Section 430-105.6 A. However, construction activities within a flood plain requires approval of a Type II Flood Plain Alteration pursuant to Section 421-5.11. *See Sections 421, 422 and 430 of the Staff Report.*

5. The parcels subject to this development application are designated Institutional and generally located west of SW Huntington Avenue and north of SW Foothill Drive. The project area extends approximately 1,500 feet west of SW Huntington Avenue. Clean Water Services (CWS) was granted authority by Tualatin Hills Park & Recreation to construct the original sanitary sewer line and to perpetually maintain the sanitary sewer under/through/along the easement that was recorded in 1980 (Document No. 80040442). The proposed sanitary sewer upgrade constitutes maintenance and CWS is authorized to access the sanitary sewer line to conduct said maintenance.

6. A Type II public notice was mailed to all property owners within 500 feet of the subject property. Two e-mails were received. One e-mail respondent questioned what changes to the flood plain would result: temporary or permanent. The respondent also corrected a location reference notation on the notice. The location notation referenced "SW Huntington Drive", and the correct location reference is "SW Huntington Avenue". The second e-mail respondent requested that access to Commonwealth Lake Park from SW Huntington Avenue be provided at all times during construction.

   Staff: The trenchless construction method places the new line in the same location as the existing sanitary sewer line that is being replaced, which is several feet below ground level and is not expected to cause any damage to any of the trees or infrastructure, including the pathway that circumvents Commonwealth Lake. The only minor soil excavation will occur when the existing manholes are replaced. All disturbed areas will be regraded to match existing contours and replanted. The application included a No Net Rise certification with the application, demonstrating that the proposed construction will not result in a rise in the Base Flood Elevation or floodplain in the Special Flood Hazard Area (SFHA) designated as Zone A and Zone AE on the FEMA Flood Insurance Rate Maps.

   Keeping the park accessible at all times during construction is a goal of the project team. This includes the use of an ADA-compliant temporary ramp at the west end of the project area (See Sheet 05). A short section of the existing pathway near the east end of the project will be temporarily closed. However, access around the lake will be provided by the wood deck pier (See Sheet 07). Additionally, as stated previously, access to the park from SW

Huntington Avenue will continue from an existing access located approximately 175 feet north of the southern access that will be closed during the duration of the sanitary sewer upgrade. Consequently, access to and around the lake is expected to remain during the duration of the construction.

A. Washington County Comprehensive Framework Plan:

There are no specific Plan policies or goals, which affect this request that are not implemented by the Code or the Community Plan. The Framework Plan requires development applications to be in compliance with the Community Development Code and the applicable Community Plan. By demonstrating in this report that the request complies with the standards of the Code and the Community Plan, this Plan requirement will be satisfied.

B. Cedar Hills-Cedar Mill Community Plan

- The parcels involved are designated Institutional (INST).
- The project area is designated as a Significant Natural Resource (Riparian Wildlife Habitat). The resource is largely associated with Johnson Creek that flows through the corridor, generally from east to west on the north side of Commonwealth Lake. *See Section 422 of the Staff Report.*
- The proposed sanitary sewer upgrade site is located within the flood plain (100-year flood plain/1% chance of flooding) associated with Johnson Creek and Commonwealth Lake. Upon completion of the project, the areas near the access points (i.e., new manhole locations) will be restored to natural grade and replanted. *See Sections 421 and 422 of the Staff Report.*

1. *In the design of new development, flood plains, drainage hazard areas, streams and their tributaries, riparian and wooded areas, steep slopes, scenic features, and powerline easements and rights-of-way shall be:*

    a. *Used to accent, define, or separate areas of differing residential densities and differing planned land uses;*

    b. *Preserved and protected to enhance the economic, social, wildlife, open space, scenic, recreation qualities of the community; and*

    c. *Where appropriate, interconnected as part of a park and open space system.*

STAFF: Per the applicant's submitted narrative, any disturbance area is expected to be minimal and will be restored to pre-existing condition completion of the project.

6. *Trees located within a Significant Natural Resource area shall not be removed without a development permit for tree removal having first been obtained, as provided for within the Community Development Code. A permit shall not, however, be required for tree removal from powerline rights-of-way, public parks and playgrounds, or mineral and aggregate sites.*

STAFF: Tree removal is not anticipated to occur as part of this proposal to upgrade the sanitary sewer line. The applicant's narrative noted that trenchless construction would not result in any tree

removal within the significant natural resources area. The trenchless construction method to be utilized places the new larger diameter pipe in exactly the same location (below ground) as the existing sanitary sewer line. Access to the easternmost manhole, according to the site plans, is also not anticipated to require removal of any trees, with the exception of the removal of a street tree along SW Huntington Avenue. Removal of the street tree is not subject to review under Section 422.

B. Washington County Community Development Code:

1. Article II, Procedures:

Section 202-2 Type II Procedures

STAFF: This application is being reviewed through a Type II Procedure in accordance with Section 421-5, which reads as follows:

421-5 Uses and Activities Allowed Through a Type II Procedure

Unless specifically prohibited in the applicable Community Plan, the Rural/Natural Resource Plan Element, Section 422, or the Clean Water Service's "Design and Construction Standards for Regional water line and Surface Water Management" or its successor, a development permit may be approved in a flood area through a Type II procedure for the following:

***

*421-5.11 Construction or major improvement or alteration of underground pipes and conduits, including **sewer**, water and gas lines, transmission and distribution lines for geothermal resources, gas and oil, underground electrical, telephone and television transmission and distribution lines, including necessary accessory structures and drainage systems.*

STAFF: The proposed Flood Plain Alteration involves Commonwealth Lake and Johnson Creek and is permitted through the Type II Procedure pursuant to Section 421-5.11.

A public notice advertising the request was mailed to all property owners within 500 feet of the project area (Section 204-3). Two letters of comment were received in response to the public notice concerning the proposed land use action and were addressed above.

Section 207-5 Conditions of Approval:

207-5.1 The Review Authority may impose conditions on any Type II or III development approval. Such conditions shall be designed to protect the public from potential adverse impacts of the proposed use or development or to fulfill an identified need for public services within the impact area of the proposed development. Conditions shall not restrict densities to less than that authorized by the development standards of this Code.

STAFF: Conditions of approval are imposed to ensure compliance with the standards of the Code and other County regulations and to mitigate any adverse impacts the Flood Plain Alteration may have on the surrounding area.

2. Article III, Land Use Districts:

Section 330 Institutional District

330-1 Intent and Purpose

The Institutional District is intended to implement the policies of the Comprehensive Plan by providing standards and procedures for reviewing proposed institutional facilities necessary for support of community development. The purpose of the District is to provide for identification of existing and proposed institutional facilities on the Community Plan maps. The District is intended to allow the public service providers and government agencies the assurance that future sites identified through long range and capital improvement planning will be available for the uses specifically identified when they are needed.

***

330-5 Uses Which May Be Permitted Through a Type III Procedure

The following uses may be permitted subject to the specific standards for the use set forth below and in applicable Special Use Sections of Section 430, as well as the general standards for the District, the Development Standards of Article IV and all other applicable standards of the Code. Approval may be further conditioned by the Review Authority pursuant to Section 207-5.

330-5.14 Public Utility - Section 430-105

STAFF: Public utilities are listed as Type III uses in the Institutional District. As explained in Section 430-105, underground pipelines proposed within the Urban Growth Boundary are exempt from the Special Use Standards of Section 430-105. The proper procedure for the proposed sanitary sewer line upgrade is as a Type II Flood Plain Alteration. See Section 421 of the staff report.

330-6 Prohibited Uses

***

STAFF: No prohibited uses are associated with the proposed sanitary sewer line upgrade.

3. Article IV, Development Standards:

Section 404 Master Planning

STAFF: The applicant has submitted site plan information required by this Section. The proposed development is an upgrade of an existing buried sanitary sewer line. Further, the proposal does not involve above-ground buildings or associated off-street parking areas. Applicable sections of Article IV are addressed in the project narrative included in the application. This information is in the Casefile. Therefore, this standard is met.

Section 410 Grading and Drainage

STAFF: The applicant stated that the sanitary sewer line upgrade will be constructed using the trenchless method, which involves 'bursting' the existing underground pipe with a new pipe of greater capacity, without any disturbance to the surface area above the pipe. Minimal site disturbance will occur with the construction sites of the manhole replacements and the temporary staging areas. All disturbed surface areas will be returned to pre-construction grade and replanted after the new pipe and manholes are installed. Staff finds that the proposed grading is limited to the extent necessary to complete the project within the project area given any impacted areas will be restored to the original condition.

Staff believes that the underground nature of the work and the expected restoration of the site to pre-existing conditions (grades) virtually assures that the project will not result in a loss of flood plain capacity or in increase in flood plain velocities. Notwithstanding, the applicant shall provide a signed statement from their civil engineer noting, upon project completion (including any restoration), that the completed project has resulted in a 'No Net Rise' application to the flood plain and that flood water velocities will not be increased as a result of the development.

Building Services staff has reviewed the preliminary site plans and recommend certain conditions of approval designed to ensure that the proposed development complies with the applicable grading permit criteria, as required and set forth in CDC Section 410-3 (Criteria for Approval - see Condition of Approval I.A.).

Section 416 Utility Design

STAFF: As stated previously, CWS was granted easement rights by the park district to construct the original sanitary sewer line as well as to perpetually maintain the sanitary sewer under/through/along the easement. The proposed sanitary sewer upgrade constitutes maintenance and CWS is authorized to access the sanitary sewer line to conduct said maintenance.

Section 421 Flood Plain and Drainage Hazard Area Development

The county administers and enforces the State of Oregon Specialty Codes pursuant to the requirement established in ORS 455. The Oregon Specialty Codes contain certain provisions that apply to the design and construction of buildings and structures located in Special Flood Hazard Areas. Therefore, this Section is intended to be administered and enforced in conjunction with the Oregon Specialty Codes.

421-1 Lands Subject to Flood Plain and Drainage Hazard Area Standards

421-1.1 Flood Plain:

The following data sources shall be referenced for purposes of determining lands subject to flood plain standards. In any event, the most restrictive flood boundary information shall be utilized. The maps referenced herein are on file at the offices of the Washington County Department of Land Use & Transportation.

A. The following maps are adopted by reference:

(1) "Flood Insurance Rate Map, Washington County, Oregon," effective date October 19, 2018 with amendments; and

(2) "Flood Insurance Study for Washington County, Oregon and Incorporated Areas," dated October 19, 2018 with amendments.

B. Where base flood elevation data has not been provided (approximate A Zone):

(1) "Flood Plain Series, Washington County, Oregon, revision 5/01/1974, 1/03/1978, 1/1981, 5/25/1983 and 12/12/1983" based upon data from the U.S. Army Corps of Engineers.

(2) In addition, the Director shall obtain, review and reasonably utilize any base flood elevation data available from a federal or state source, or hydrologic and hydraulic analysis performed in accordance with standard engineering practice by a licensed professional engineer, in order to administer this Section.

C. In addition to the information sources identified in A. and B. above, the Director may also utilize any other available authoritative flood data, including but not limited to high water marks, photographs of past flooding or historical flood data.

STAFF: The entire length of the existing sanitary sewer line is located within the Flood Plain (1% chance of a flood event). Specifically, the project area is located within a Special Flood Hazard Area (SFHA) designated as Zone AE on FEMA FIRM maps. The flood plain has been shown on the plans (Exhibit A). The standards of Section 421 apply.

421-1.3 Persons seeking to develop within a flood plain or drainage hazard area must do so with the understanding that they and their successors assume the risks and that the risks cannot be eliminated, even with strict compliance with the standards adopted herein. This Section does not imply that lands outside of flood plain or drainage hazard areas, or development permitted within, will be free from flooding or flood damage.

STAFF: The proposed sanitary sewer line upgrade is not development in the sense that structures/buildings or roads will be constructed. The new larger diameter sanitary sewer line will be a buried public utility, as is the current sanitary sewer line. Furthermore, the applicant understands and accepts the risk of installing the new sanitary sewer line underneath the flood plain. It is important to note that the contours of any impacted area will be restored to pre-existing elevations, further minimizing the potential for adverse impacts from the flood plain alteration. All disturbed areas will be restored to pre-construction condition and revegetated as necessary.

***

421-3 Submittal Requirements

In addition to the requirements of Sections 203-4 and 410, an application for a flood plain or drainage hazard area alteration shall contain the following information for the area proposed to be disturbed. This

information shall be prepared by a licensed professional engineer and may be submitted with or be made part of a site plan or grading plan for the proposed development.

421-3.1 Recognizing that the scale may be such that the true and accurate flood plain or drainage hazard area boundaries cannot be determined from the maps referenced in Section 421-1.1 and 1.2 alone, all persons seeking a development permit for lands within said areas and within 250 feet of the map boundary of a flood plain or drainage hazard area identified in Section 421-1.1 and 1.2, except as noted below for land divisions and property line adjustments, shall submit with the development permit application:

A. A delineation of the flood plain and the floodway boundaries, established by a registered engineer or a registered surveyor from the surface elevations for the flood plain based upon maps or other data sources referenced in Section 421-1.1; and

B. A delineation of the drainage hazard area and the drainageway, established by a registered engineer or a registered surveyor from surface elevations for the drainage hazard area based upon maps or other data sources referenced in Section 421-1.2. Such delineation shall be based on mean sea level datum and be field located from recognized landmarks.

C. Land divisions and property line adjustments outside the UGB may provide only generalized flood plain information, such as contour maps and aerial photos, which need not be prepared by an engineer. Notwithstanding this provision, for the purpose of implementing the requirements of Section 421-14.7, applicants may be required to submit detailed delineations as specified in 421-3.1 A. and B above.

D. For each of the above, submitted plans shall be accurately drawn and at an appropriate scale that will enable ready identification and understanding of the submitted information. The plans shall include the locations of any existing or proposed property lines, buildings, structures, parking areas, streets, accessways, or other relevant information on the subject property, and within 50 feet of the delineation.

STAFF: The applicant has addressed the applicable sections. According to the applicant, the proposed construction will have temporary impacts. The final contours will be graded to match pre-existing elevations with all disturbed areas revegetated. This information is in the Casefile. See also Section 422 of the Staff Report.

421-3.2 Existing and proposed topography within the boundaries of the flood area using the following contour intervals:

A. For slopes of five percent or less, contour intervals not more than one foot;

B. For slopes greater than five percent and up to and including 10 percent, contour intervals not more than two feet; and

C. For slopes greater than 10 percent, contour intervals not more than five feet.

STAFF: The applicant has addressed the applicable sections. The application stated that site topography maintains a range of 184 to 194 feet. The applicant also stated that all disturbed areas will be returned to their pre-existing conditions. This includes restoring all areas associated with providing construction access to the manholes along the entire 1,500 foot corridor. Restoring the impacted ground level to preexisting grades will ensure no loss of flood plain capacity. This information is in the Casefile.

421-3.3 For applications for Type II and III flood plain or drainage hazard area alterations, documentation which demonstrates compliance with the applicable review standards of Sections 421-7 through 421-14.

STAFF: The applicant has addressed the applicable sections. As stated previously, according to the applicant, the project is not anticipated to result in any increase in the base flood elevation or otherwise result in a loss of flood plain capacity. Notwithstanding, upon completion of the project, the applicant will be required to document this with the submittal of a No Net Rise statement signed by a registered engineer, complete with an original wet stamp. This requirement is included as a Condition of Approval in Attachment B of this approval. This information is in the Casefile.

***

421-5 Uses and Activities Allowed Through a Type II Procedure

Unless specifically prohibited in the applicable Community Plan, the Rural/Natural Resource Plan Element, Section 422, or the Clean Water Services' "Design and Construction Standards for Regional water line and Surface Water Management" or its successor, a development permit may be approved in a flood area through a Type II procedure for the following:

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*421-5.11 Construction or major improvement or alteration of **underground pipes** and conduits, including sewer, water and gas lines, transmission and distribution lines for geothermal resources, gas and oil, underground electrical, telephone and television transmission and distribution lines, including necessary accessory structures and drainage systems.*

STAFF: The proposed sanitary sewer line upgrade is permitted pursuant to Section 421-5.11.

***

421-7 Development Standards for all Type II and Type III Flood Plain and Drainage Hazard Area Uses or Activities

The applicant for a proposed flood plain or drainage hazard area development shall demonstrate compliance with the following applicable standards as required by Section 421-3 above:

421-7.1 Development proposed to encroach into a regulatory floodway adopted and designated pursuant to FEMA regulations shall:

A. Demonstrate through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice by a licensed professional engineer, that the cumulative effect of the proposal, when combined with all other existing and anticipated development within the basin based upon full development of the basin as envisioned in the applicable Community Plan or the Rural/Natural Resource Plan, will not result in any increase in flood levels during the occurrence of the base flood discharge; and

B. Comply with all applicable flood hazard reduction provisions of Section 421.

STAFF: The applicant stated that the proposed sanitary sewer line upgrade is within the delineated flood plain but will not encroach into the regulatory floodway. These standards do not apply.

421-7.2 Notwithstanding Section 421-7.1, development that would result in an increase in flood levels may be approved if the County, at the sole expense of the applicant, first obtains FEMA approval in accordance with 44 CFR Ch. 1, Part 65 (October 1, 1990 edition, or its successor).

STAFF: Pursuant to Section 421-5.11, the proposed sanitary sewer line upgrade will not impact the base flood plain elevation according to the project engineer and as stated within the submitted report, given that the trenchless construction method will not result in any above-ground disturbance that might increase flood levels post-construction. The application included a No Net Rise analysis (Exhibit D). A No Net Rise analysis prepared by a licensed engineer is also required to be submitted upon completion of the project. No structures are proposed with this application that might impact floodwater flow and velocity.

421-7.3 Development proposed on a flood plain site where the development does not encroach into an adopted FEMA regulatory floodway shall demonstrate through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice by a licensed professional engineer, that the cumulative effect of the proposal, when combined with all other existing and anticipated development within the basin based upon full development of the basin as envisioned in the applicable Community Plan or the Rural/Natural Resource Plan, will not increase flood levels during the occurrence of the base flood discharge more than one foot.

STAFF: The proposed sanitary sewer line upgrade, as stated previously, will not encroach into a FEMA regulatory floodway. The trenchless construction will result in no changes to the existing contours, with the negligible exception of excavation utilized to replace the existing

manholes. The contours around each replaced man hole will be restored to pre-existing condition. A No Net Rise declaration prepared by a licensed engineer will be required to be submitted upon completion of the project. The engineer shall also certify that no increase in flood velocities will result from the proposed development.

421-7.4 In areas where a regulatory floodway has not been designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within flood areas on the Flood Insurance Rate Map (FIRM), unless it is demonstrated through hydrologic and hydraulic analysis, performed in accordance with standard engineering practice by a licensed professional engineer, that the cumulative effect of the proposal, when combined with all other existing and anticipated development within the basin based upon full development of the basin as envisioned in the applicable Community Plan or the Rural/Natural Resource Plan, will not increase flood levels during the occurrence of the base flood discharge more than one foot.

STAFF: The proposed sanitary sewer line upgrade does not constitute development in the same way as a residential subdivision or commercial shopping center in that there is no above-ground development and there are no generated trips or necessary transportation improvements. The applicant has submitted information to the casefile by a licensed professional engineer and in accordance with standard engineering practice which demonstrating that the project will not result in an increase in base flood elevations or discharge during the occurrence of a base flood event.

421-7.5 Notwithstanding Sections 421-7.3 and 421-7.4, an increase in flood levels in excess of one foot may be approved if the County, at the sole expense of the applicant, first obtains FEMA approval in accordance with 44 CFR Ch. 1, Part 65 (October 1, 1990 edition, or its successor).

STAFF: A No Net Rise Analysis is provided as Exhibit D. The analysis was performed by a licensed professional engineer and in accordance with standard engineering practice demonstrating that the project will not result in an increase in base flood elevations or discharge during the occurrence of a base flood event. No permanent adverse changes to the grading of the flood area or changes to the existing flood flows are anticipated and grades of the construction will be restored to pre-existing contours.

***

421-7.9 All cut and fill shall be structurally sound and designed to minimize erosion. All fill below the flood surface elevation shall be accompanied by an equal amount of cut or storage within the boundary of the development site unless:

***

STAFF: According to the applicant and as indicated previously, all disturbed areas, including all areas around the manhole replacements, will be restored to pre-existing topography and not involve off-site cut and fill within the mapped Goal 5 Resource areas (the trenchless method will not cause any grading impacts to the mapped Goal 5 Resource). As it pertains to the construction as a whole, two temporary construction access points to the existing maintenance holes will be necessary to complete this project.

***

421-7.11 That the environmental impact of the disturbance or alteration of riparian wildlife and vegetation has been minimized to the extent practicable as required by Section 422. Enhancement of riparian habitats through planting or other such improvements may be required to mitigate adverse effects. Significant features such as natural ponds, large trees and endangered vegetation within the flood area shall be protected when practicable.

STAFF: According to the applicant and as indicated previously, the project's environmental impact on riparian wildlife and vegetation has been minimized to the extent practicable. The project involves upsizing the existing sanitary sewer pipe to a larger diameter pipe through the use of pipe bursting. This trenchless construction method eliminates any permanent disturbance to riparian wildlife and vegetation. Temporary construction access to the existing manholes will be installed to match the existing grade and any impact from the work will be restored in place and provide better hydrologic conditions. See Section 422 of the Staff Report.

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421-11 Criteria for Utilities and Tanks

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421-11.2 New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into, or discharge from, the system. The applicant shall obtain all applicable local, state and federal permits.

STAFF: The sanitary sewer line upgrade will be installed underground and therefore will not be impacted by the floodwaters. In addition, the pipe material is designed to minimize, if not eliminate, flood water infiltration into the pipe or discharge from the pipe. All applicable federal, state and local permits will be obtained prior to any development.

***

421-11.6 Construction of utilities shall be done in a way which minimizes the impact on the flood area. The site shall be restored, as far as practicable, to its original state.

STAFF: As stated previously, according to the application, all disturbed areas will be restored to pre-existing condition (and grades/topography), including revegetated. The proposed project is not expected to adversely impact the flood area.

421-14 General Requirements and Prohibitions

421-14.1 Property owners shall maintain the flood area in such a manner as to prevent reduction of the natural carrying capacity. Maintenance outside of the public right-of-way shall be done by means of hand implements unless a development permit for an alteration is first obtained (lawn mowers are considered hand implements).

STAFF: Construction of the temporary access to the existing manholes will be installed to match the existing grade and impact from the work will be restored in place upon completion of the project. The applicant stated that due to the nature of the improvements, no other maintenance is anticipated. Consequently, the applicant stated, and staff concurs, that the

construction area will be maintained in such a manner as to prevent a reduction of the natural carrying capacity. Therefore, this standard is met.

***

421-14.4 Section 421 is in addition to any and all Federal, State or special district laws and regulations in force at the time of approval of the development permit. Any permits required from a local, state or federal agency shall be obtained prior to any development within the flood area.

STAFF: According to the applicant, all applicable local, state, and federal permits have been and/or are being obtained. All applicable local, state, and federal permits will be received prior to any construction. This standard is met.

421-14.5 The standards and criteria of this Section are cumulative and in addition to any other requirements of this Code. Any more stringent provisions of an applicable Community Plan or the Rural/Natural Resource Plan Element shall control.

STAFF: The applicant recognizes that the standards and criteria of this Section are in addition to other requirements of the Code. Community Plan Design Guidelines and relevant Urban Plan Policies are less stringent that Section 421 requirements. All applicable standards will be met.

421-14.6 The Review Authority may condition any Type II or III development permit to the extent necessary to avoid any specifically identified deleterious impacts on the natural integrity of the flood area or to wildlife and vegetation within the flood area.

STAFF: The applicant understands that the County may impose conditions of development approval per Section 421-14.6. See attachment B.

421-14.7 In the case of the partitioning or subdivision of land for the location of structures for human occupancy, such site shall provide a building site, which includes the ground under the structure plus a ten (10) foot setback around all sides of the structure, with a ground elevation at least one (1) foot above the flood surface elevation. No partition or subdivision shall create a lot whose dimensions do not meet this standard.

STAFF: The proposed development does not involve land divisions or the construction of habitable structures. Therefore, this standard is not applicable.

421-14.8 There shall be no dumping of fill in a flood area without a flood plain or drainage hazard area alteration permit.

STAFF: Placement of fill into the flood plain area is not planned as part of this project. Temporary stockpile locations will be maintained along the construction corridor. No permanent fill will be placed into the flood area and all disturbed areas will be restored to pre-existing grades. The application included a No Net Rise Analysis (Exhibit D). Therefore, this standard will be met through implementation of the approved development application and verified with the submittal of a final No Net Rise Analysis upon completion of the construction and restoration of all impacted areas.

421-14.9 The applicant shall submit to the Floodplain Administrator technical data as set forth in Section 421-14.10 prior to any watercourse alteration that will result in the expansion, relocation or elimination of the special flood hazard area.

421-14.10 Within six (6) months of project completion, an applicant who obtains a CLOMR from FEMA, or whose development alters a watercourse, modifies floodplain boundaries, or Base Flood Elevations shall obtain from FEMA a Letter of Map Revision (LOMR) reflecting the as-built changes to the Flood Insurance Study (FIS) and/or Flood Insurance Rate Map (FIRM).

STAFF: The proposed development will not require a CLOMR or LOMR to FEMA and these standards are not applicable. No expansion, relocation or elimination of a flood hazard area (or Floodway) is proposed.

Section 422 Significant Natural Resources

422-6 Submittal Requirements for Properties with Significant Habitat within the UGB

At a minimum, an application for development on a site with Significant Habitat shall be processed as a Type II, except as specified in Section 422-6.3.B.3. or 422-7. Type II or III applications shall contain the following information:

422-6.1 For all sites with Significant Habitat, both a site plan prepared in accordance with Section 203-4.2.E and an aerial photo at the same scale showing the following:

A. The extent of proposed development and the location of the verified Significant Habitat boundary on the site.

B. The verified Riparian Wildlife Habitat boundary if applicable.

422-6.2 For proposed development within the Riparian Wildlife Habitat, materials demonstrating compliance with:

A. The boundary verification requirements for the Riparian Wildlife Habitat. The boundary shown on the SNR Maps provides the general location of the Riparian Wildlife Habitat. If Riparian Wildlife Habitat is identified on the site, applicant must verify the location of the habitat boundary as provided in Section 422-8.1.

B. The applicable standards in Sections 422-8.2 and 422-8.3 if development is proposed within the verified Riparian Wildlife Habitat.

STAFF: The applicant has submitted site plan information required by this Section, including a significant natural resource assessment. The project area is designated Riparian Wildlife Habitat. This information is in the Casefile.

422-8 Development Standards Applicable to Riparian Wildlife Habitat within the UGB

Applicants proposing development on a site with mapped Riparian Wildlife Habitat shall comply with the following standards. Land within the Riparian Wildlife Habitat boundary shown on the SNR Maps, but outside a verified Riparian Wildlife Habitat boundary, is not subject to the standards in this section, but is subject to the standards applicable to Upland Wildlife Habitat in Section 422-9.

422-8.1 Verifying the Riparian Wildlife Habitat Boundary

The Riparian Wildlife Habitat boundaries shown on the SNR Maps provide the general location of Riparian Wildlife Habitat. Applicants shall verify the location of the boundary on their site using one of the following methodologies except as provided in Section 422-8.1.C for certain sites outside CWS:

*A. **Methodology 1:** Submit a Service Provider Letter from CWS demonstrating the CWS vegetated corridor and sensitive area standards are met or met with conditions. The outer boundary of the CWS Vegetated Corridor shall be the outer boundary of the Riparian Wildlife Habitat.*

422-8.2 No new or expanded alteration of the vegetation or terrain shall be allowed within Riparian Habitat except for the following uses and activities.

A. Construction, maintenance and repair of public transportation facilities and associated improvements.

B. Installation, maintenance or construction of the following utilities: sanitary and storm sewer and water lines, electric, communication and signal lines; and gas distribution and transmission lines.

STAFF: The applicant verified the Riparian Wildlife Boundary utilizing Methodology 1 and included the Service Provider Letter from CWS in the application. Additionally, the proposed sanitary sewer line upgrade is allowed in accord with Section 422-8.2 B. This information is in the Casefile.

According to the Section 422 Significant Natural Resources Memorandum (Exhibit G to the application) the proposed project will not seriously interfere with the preservation of the designated (mapped) Significant Natural Resource Areas. The environmental consultant's evaluation of the proposed construction concluded that the proposed construction activities (e.g., trenchless pipe installation) were designed to minimize impacts to sensitive areas to greatest extent possible by "minimizing the [site] disturbance footprint and aligning equipment access and staging to avoid disturbance to existing woody vegetation [e.g., trees]."

As listed in the assessment, the following development actions will be required to complete the sanitary sewer pipeline upgrade:

1. *Temporary excavation and stockpiling for construction of pipe launching and receiving pits.*
2. *Excavation and temporary stockpiling for replacement of existing maintenance holes.*
3. *Restoring vegetation to pre-construction conditions in all disturbed areas.*

All disturbed grades will be restored to pre-existing grades and all disturbed areas will be replanted to restore the vegetation to pre-existing conditions. All appropriate erosion control and revegetation measures required by Clean Water Services will be implemented to minimize erosion during and following construction and successful restored vegetation. For these reasons, staff finds that the project as proposed and as described in the application satisfies Section 422.

Section 426 Erosion Control

STAFF: Section 426 requires erosion control measures in the Tualatin River and Oswego Lake sub-basins during construction to control and limit soil erosion. Section 426-5.2 allows the erosion control plan submission and review to be deferred until the time of any on-site work or construction. A grading permit (see Section 410) would likely include an erosion control permit.

Section 430 Special Uses

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430-105 Public Utility

Any corporation, including municipal or semi-municipal corporation, service district, company, individual, or association that owns or operates any plant or equipment for the conveyance of telegraph or telephone messages, with or without wires; for the transportation of water, gas, or petroleum products by pipeline; for the production, transmission, delivery or furnishing of heat, light, water, or electricity; for the trans-mission and delivery of television pictures and sound by cables; for the transportation of persons or property by street, railroads or other street transportation or common carriers; for the disposal of sewage; or for the disposal of storm water runoff.

***

430-105.6 Exemptions from the Requirements of Section 430-105:

Exempted from these regulations are:

A. ***Underground pipes and conduits*** *[emphasis added] except where such pipes or conduits would introduce an urban service outside the Urban Growth Boundary.*

For all sewer lines, there shall be no connections to the line unless approved pursuant to Section 430-105.7.

Individual hookups to community, private or public water systems;

STAFF: As stated previously, the project consists of upgrading a buried sanitary sewer line. No structures (e.g., pump station buildings, etc.) are proposed at this time. The applicant stated that the project is not anticipated to introduce encroachments nor cause any increases in the base flood elevation. This is confirmed in the application's No Net Rise Analysis (Exhibit D to the application).

The proposed sewer line upgrade construction qualifies as exempt from the requirements of Section 430-105 pursuant to this section. The project is subject to the Type II Procedure pursuant to Section 421-5.11 given the Type II Flood Plain Alteration requirement. As indicated above, the applicant's engineer concluded that any changes would be consistent with Section 421 relative to base flood elevation, flood velocities, and floodplain storage capacity. *See Section 421 of the Staff Report.*

IV. SUMMARY AND CONCLUSION:

The required findings can be made for all of the applicable Code sections. When constructed in accordance with the conditions of approval the project will be in compliance with the Community Development Code and the Community Plan. Therefore, the Flood Plain alteration to facilitate the upgrade of an existing buried sanitary sewer line is approved, subject to the Conditions of Approval set forth in Attachment B.

WASHINGTON COUNTY
Dept. of Land Use & Transportation
155 N. 1st Avenue, #350-13
Hillsboro, OR 97124
Ph. (503) 846-8761 Fax (503) 846-2908
www.co.washington.or.us

ATTACHMENT "D"
TYPE II

CASEFILE # L2500214-FP

APPEAL INFORMATION

Attached is a copy of the Land Use and Transportation Department's Review Authority decision on this request for a Development Action.

Any person who is adversely affected or aggrieved, or who is entitled to written notice pursuant to ORS 215.416(11) may appeal the decision by filing a written appeal.

Failure to file a petition for review with the Department of Land Use and Transportation by 4:00 p.m. on the due date, with the fee specified in the Notice of Decision, shall be a jurisdictional defect.

The decision, including conditions of approval, may be appealed and a public hearing held by filing a signed petition for review (appeal) within twelve (12) calendar days of date written notice is provided (date mailed).

APPEAL PERIOD: 12/10/2025 (Date Mailed) to 4:00 p.m. on 12/22/2025 (Appeal Due Date)

This decision will be final if an appeal is not filed by the due date.

The complete file is available at the County Department of Land Use and Transportation for review.

A petition for review (appeal) must contain the following: L2500214-FP

1. The name and signature of each petitioner filing the petition for review (appeal). If a group consisting of more than one person is filing a single petition for review, one individual shall be designated as the group's representative for all contact with the Department. All Department communications regarding the petition, including correspondence, shall be with this representative;
2. A statement of the interest of each petitioner;
3. The date the Notice of Decision was sent as specified in the notice (date mailed);
4. The nature of the decision and the specific ground for appeal. For applications with multiple requests, specify the particular request(s) and/or specific conditions of approval being appealed;
5. A statement listing the number of pages of the petition and that all pages are present;
6. A statement setting forth the appeal fee as specified in the Notice of Decision; and
7. The appropriate appeal fee of **$250.00**

For further appeal information, contact the Appeal Secretary at the Washington County Department of Land Use and Transportation. Phone 503-846-3849 or cpadmin@washingtoncountyor.gov.

OREGON PREVAILING WAGE RATES

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Prevailing Wage Rates

Unless otherwise exempt, prevailing wage rates must be paid by the bidder and any subcontractor on the Project in accordance with ORS 279C.838 and ORS 279C.840. By submitting a bid and signing the Bid Form, the bidder represents that it will comply with the applicable prevailing wage rate requirements.

Contractor and any subcontractor will pay workers in each trade or occupation required for the Work not less than the applicable minimum Oregon prevailing rate of wage in accordance with ORS 279C.838 and 279C.840. The applicable Oregon minimum prevailing wage rates for such workers in the Prevailing Wage Rates for Public Works Contracts dated January 5, 2026 including the Amendments to Oregon Determination 2026-01 (dated February 18, 2026) and Amendments to Oregon Determination 2026-02 (dated April 5, 2026) (see links to the prevailing wage rate books titled "January 5, 2026 Prevailing Wage Rate Book," "February 18, 2026 Prevailing Wage Rates Amendment" and "April 5, 2026 Prevailing Wage Rate Amendment" at https://www.oregon.gov/boli/employers/pages/prevailing-wage.aspx) available on www.oregon.gov/boli, and are incorporated herein as though fully set forth. Contractor will also include in every subcontract a provision requiring the subcontractor to comply with this provision.

GENERAL CONDITIONS



GENERAL CONDITIONS
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Chapter 1

GENERAL PROVISIONS

1.1 PROJECT DESCRIPTION

A brief description of the Work to be done is contained in the Advertisement for Bids. Further details of the Project scope may be determined from review of the Bid Book, General Conditions and Standard Specifications.

1.2 DEFINITIONS

Unless otherwise defined or specified in the Contract Documents, the following terms shall have the meanings indicated:

Addenda - Written or graphic instruments issued prior to the execution of the Contract which modify or interpret the Contract Documents, drawings, and specifications, by additions, deletions, clarifications, or corrections. All addenda become a part of the Contract Documents and all bids submitted shall include the cost of all Work included in any addenda.

District or Owner – Clean Water Services and its authorized representatives, but only to the extent so authorized.

Bonds – Bid, Performance, Payment and Public Works Bonds and other instruments of security, furnished by Contractor and Contractor's surety in accordance with the Contract Documents.

Change Order - A written order to Contractor authorizing an addition, deletion, or revision in the work within the general scope of the Contract Documents, and/or authorizing an adjustment in the contract price or contract time.

Contract Documents or Contract or Bidding Documents - The Advertisement for Bids, Instructions to Bidders, Bid Form, including Cover Page, Resident/Nonresident Bidder Status Form, and Signature Page, Noncollusion Affidavit, First-Tier Subcontractor Disclosure Form, Bid Bond, Construction Contract, Performance and Payment Bond, copy of Public Works Bonds, Oregon Prevailing Wage Rates, as updated, General Conditions, Standard and Special Specifications, Standard and Special Drawings, Plans and any modifications of any of the foregoing in the form of Addenda, Change Orders or Force Account Work.

Contract Price - The total dollar amount payable to Contractor under the terms and conditions of the Contract Documents.

Contract Time - The number of calendar days or completion date stated in the Contract Documents for the completion of the Work.

Contractor - The person, firm, corporation, partnership, or association duly licensed or approved by the State of Oregon which has entered into this Contract with District and which is responsible for the complete performance of all terms of and all the Work contemplated by the Contract Documents.

Day - Calendar day unless otherwise indicated.

Direct Costs – the sum of all costs necessarily incurred and paid by Contractor in the proper performance of the Work, which shall consist of only the following items:

A. The wages of supervisors, equipment operators and skilled, semiskilled and common laborers assigned to the Work, at the actual payroll rate of wages per hour and actual fringe benefits and payroll taxes paid, for each hour that the workers are actually engaged in the performance of the Work. Reimbursement for hourly wage rates and benefits shall not exceed prevailing wage rates and benefits for the class or classes of work performed.

B. The actual cost of materials used, including applicable tax and transportation charges, as shown on materials invoices.

C. The rental value of all equipment owned or rented. The hourly rental rate shall be determined using the monthly rental rates, as adjusted for geographic area, contained in the current edition of the *Rental Rate Blue Book for Construction Equipment* and dividing by 176. The daily rental rate shall be determined by dividing the monthly rental rate by 22. For equipment that is not in the *Rental Rate Blue Book*, the monthly rental rate shall be computed on the basis of six (6) percent of the manufacturer's list price for the sale of new equipment, the daily rental rate shall be determined by dividing the monthly rental rate by 22. The hourly rental rate shall be determined by dividing the monthly rental rate by 176.

Equal or Approved Equal - Indicates that the material or product to be supplied or installed must be Equal to or better than that named in function, performance, reliability, quality and general configuration and that the substitute must be approved in writing by District prior to incorporation into the Project.

Engineer - District employee or representative authorized to act for District to the extent indicated in the Contract Documents.

Inclement Weather - Meteorological conditions, abnormal to the Washington County area for the time of year in question, which cannot be reasonably anticipated and which have a significantly adverse effect on Contractor's construction schedule.

Inspector - The person designated by District to inspect the work to the extent indicated in these Contract Documents.

Lump Sum - All costs and expenses of whatever nature, including overhead and profit, associated with the work in question.

Miscellaneous Phrases - The following miscellaneous phrases shall be interpreted as indicated:

Wherever the words "as directed," "as instructed," "as required," "as permitted," or words of like effect are used, it shall be understood that the direction, requirement, or permission of District is intended and required.

The words "sufficient," "necessary," "proper," and the like shall mean sufficient, necessary or proper in the judgment of District.

The words "approved," "acceptable," "satisfactory," or words of like import, shall mean approved by, or acceptable to, or satisfactory to, District. District approval shall be in writing and prior to the act or item needing approval.

Notice of Conditional Award - Written communication issued by District to Contractor notifying Contractor that if Contractor meets all conditions for the award of the Contract, District will recommend to its Board of Directors and/or its General Manager that the Contract be awarded to Contractor.

Normal Working Hours - Those hours between 8 a.m. and 5 p.m., Monday through Friday excluding District-recognized holidays.

Notice to Proceed - Written communication issued by District to Contractor authorizing Contractor to proceed with the work and establishing the date of commencement of the Work.

Overhead Costs – All costs, other than direct costs. District's payment of Contractor's Overhead costs, whenever called for in the Contract Documents, shall include payment for Contractor's profit and shall consist of a 15% markup on direct costs for work performed by Contractor; if the work is performed by one or more subcontractors, the payment shall consist of a 20% markup of direct costs.

Project - The undertaking to be performed by Contractor as provided in the Contract Documents.

Shop Drawings - All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by Contractor, or Contractor's manufacturer, supplier, or distributor, which illustrate how specific portions of the work shall be fabricated or installed. Contractor is fully responsible for all shop drawings whether prepared by Contractor, or a manufacturer, supplier or distributor.

Substantial Completion - The stage in the progress of the Work when, the sewerage facilities are operational and approved by District project manager.

Time of Completion - The date upon which all Work called for under the Contract, whether expressed or implied, must be finally completed. If expressly provided in the Special Specifications, the phrase "time of completion" shall be deemed to mean "time of substantial completion."

Unit Prices - The costs for specific units of work as defined in the bid documents and elsewhere in the Contract Documents and including all costs of whatever nature associated with the work in question.

Work - The construction and services required by the Contract Documents, whether completed or partially completed. The Work includes all labor, materials, equipment and services provided or to be provided by Contractor to fulfill Contractor's obligations under the Contract Documents. The Work may constitute all or a portion of the Project as the context requires.

1.3 ABBREVIATIONS

The following definitions shall have the indicated meanings:

AASHTO - American Association of State Highway and Transportation Officials

ANSI - American National Standard Institute

ASTM - American Society of Testing and Materials

The numbers and letters following the abbreviations denote the serial designation for the specification or standard to which reference is made.

1.4 INTENT AND INTERPRETATION OF CONTRACT DOCUMENTS

1.4.1 Intent Generally

The intent of the Contract Documents is that Contractor shall furnish all labor, materials, tools, equipment, and transportation necessary for the proper execution of the Work in accordance with the Contract Documents and all incidental work necessary to complete the Project in an acceptable manner, ready for use and operation by District. By executing the Construction Contract, Contractor agrees to do so.

While it is believed that much of the information pertaining to conditions which may affect the cost of the Work is shown on the plans or indicated in the specifications, District does not warrant the completeness or accuracy of such information. It is Contractor's responsibility to ascertain the existence of any conditions affecting the cost of the Work, which would have been disclosed by reasonable examination of the site.

All Work shall be done in compliance with District ordinances and resolution and orders where such Work is not covered by specifications or drawings in the Contract Document. All such ordinances and resolutions and orders are by this reference expressly incorporated herein.

1.4.2 Precedence of Contract Documents

All determinations of the precedence of or discrepancy in the Contract Documents shall be made by District but in general, precedence will be in accordance with the following list with the highest precedence at the top:

1. Permits from other agencies as may be required by law
2. Special Specifications

3. Special Drawings
4. Plans
5. Standard Drawings
6. Standard Specifications
7. Other Contract Documents

Within each of the above documents detailed information takes precedence over general information and words over numbers unless obviously incorrect. Addenda and Change Orders take the same order of precedence as the specific documents, which they are amending.

1.4.3 Discrepancies, Errors and Omissions

The intent of the Contract Documents is for Contractor to perform and provide every item necessary for completion of the Project. Contractor shall comply with the Contract Documents' intent and meaning, taken as a whole, and shall not avail it of any discrepancies, errors or omissions in the Contract Documents. Should any error, omission, discrepancy, or ambiguity be found in the Contract Documents, Contractor shall immediately report the same to District in writing. If Contractor proceeds with such questioned Work without receiving a clarification from District, Contractor shall be responsible for all resulting damage and defects. Contractor shall perform any Work necessary to comply with District's clarifications at no cost to District.

1.4.4 Mandatory Nature of Contract Documents Language

The Contract Documents require Contractor to furnish and install (i.e., provide) materials of quality or according to qualifications noted, to perform each operation called for, and to provide all necessary labor, equipment and incidentals. The determination of the type of operations and methods to be utilized in the performance of the Work shall be the responsibility of Contractor unless the Contract Documents prescribe a specific type of operation or method. Contractor shall then comply with the prescribed operation or method. Sentences in the imperative tense or command format in these Contract Documents shall be deemed directed to Contractor and to require Contractor to perform the services and/or provide the materials described.

1.4.5 Standards to Apply where Detailed Specifications Are Not Furnished

Wherever in the Contract Documents or in directions given by District, it is stated that Contractor shall furnish materials or shall do Work for which no detailed specifications are set forth, the materials or Work shall conform to the usual standards for first-class materials or work of the kind required.

Any specifications, rules, requirements, standards or the like of any federal, state, local authority, private institution or establishment which are referenced in these Contract Documents shall be fully complied with by Contractor and are by such reference expressly incorporated into the Contract Documents.

1.5 DISTRICT APPROVAL

Any item or Work which expressly or implicitly requires District approval shall be interpreted to require such approval in writing and prior to the item or Work in question being provided or performed.

1.6 ASSIGNMENT OF ANTITRUST RIGHTS

By entering into this Contract, Contractor irrevocably assigns to District any claim or cause of action which Contractor now has or which may accrue in the future, including at District's option, the right to control any such litigation, by reason of any violation of 15 USC Section 1-15 or ORS 646.725 or ORS 646.730, in connection with any goods or services provided to Contractor by any person which are used, in whole or in part, for the purpose of carrying out Contractor's obligations under this Contract.

Contractor shall require any subcontractor to irrevocably assign to District, as a third party beneficiary, all right, title or interest that has accrued or may accrue to the subcontractor by reason of any violation of 15 USC Section 1-15, ORS 646.725 or ORS 646.730, including, at District's option, the right to control any litigation arising thereunder, in connection with any goods or services provided to the subcontractor by any person, in whole or in part, for the purpose of carrying out the subcontractor's obligations as agreed to by Contractor in pursuance of the completion of this Contract.

In connection with this assignment, it is an express obligation of Contractor that it will take no action that in any way diminishes the value of the rights conveyed or assigned thereunder to District. It is an express obligation of Contractor to advise District legal counsel:

1. In advance of its intention to commence any action on its own behalf regarding such claims or causes of action;
2. Immediately, upon becoming aware of the fact that an action has been commenced on its own behalf by some other person or persons, or the pendency of such action; and
3. The date on which it notified the obligor(s) of any such claims for relief or causes of action of the fact of its assignments to District.

Furthermore, it is understood or agreed that in the event that any payment under any such claim is made to Contractor, it shall promptly pay over to District its proportionate share thereof, if any, assigned to District hereunder.

1.7 SEVERABILITY CLAUSE

Should any provision of the Contract at any time be in conflict with any law, regulation or ruling, or be legally unenforceable for any reason, then such provision shall continue in effect only to the extent that it remains valid. In the event that any provision of this Contract shall become legally unenforceable, in whole or in part, the remaining provisions of the Contract shall nevertheless remain in full force and effect.

Chapter 2

ADMINISTRATION OF THE CONTRACT

2.1 AUTHORIZED REPRESENTATIVES

2.1.1 Contractor's Authorized Representatives

Before commencing any Work under this Contract, Contractor shall submit in writing to District, a list of Contractor's authorized representatives. Such list shall include the name and title of each representative along with the extent to which each representative is authorized to represent, bind and act for Contractor. This list shall include the phone number where each representative can be reached during work days and off-hours for emergencies.

2.1.2 District's Authorized Representatives

District shall submit in writing to Contractor, the name and title of each representative authorized to represent District. No such representative shall, however, have authority to approve Change Orders, or in any way vary or modify the terms of this Contract without the written approval of District's General Manager, the General Manager's designee, or the Board of Directors, whichever applies.

Except as specifically provided in this section, no individual acting or purporting to act as an officer, agent, representative, consultant or employee of District shall have any authority to make representations, statements or decisions of whatever nature, binding District regarding any aspect of this Contract. Except as specifically provided in this section, Contractor shall have no right to and shall not rely on, any such representation, statement or decision.

2.2 SUSPENSION OF WORK

District may suspend the Work and give written notice to Contractor when 1) Contractor is using material that does not conform to the requirements of the Contract Documents, 2) Contractor is improperly performing the Work and neglects or refuses to replace or reconstruct such Work, 3) when any condition of the Work causes a threat to public health or safety or is causing or threatens to cause a public nuisance, or 4) Contractor is, in any way, performing the Work in a manner inconsistent with the Contract Documents. The suspension shall remain in effect until Contractor makes the appropriate corrections or District, in its sole discretion, terminates the Contract.

2.3 CONTRACTOR CLAIMS

2.3.1 Generally

No claims of any kind by Contractor shall be considered or allowed under this Contract except as specifically provided and prescribed in this section. Failure to make a claim as specifically prescribed in this section or failure to perform disputed Work as directed by District, shall bar Contractor from any recovery or extension of time resulting from the facts surrounding the claim. Contractor's full and complete compliance with this section shall be a condition precedent to any right of Contractor to further prosecute any claim against District arising out of or related to Work described in the Contract Documents. Every decision and action of District shall be considered final, unless Contractor makes a claim concerning such decision or action pursuant to this section.

Whenever Contractor makes a claim for an increase in the Contract Time or Contract Price, Contractor shall, within 10 Days of request, deliver to District all supporting documents and records of whatever nature as District may require to determine the validity of the claim.

2.3.2 Claims Procedure

If Contractor's claim concerns an increase in the Contract Price, Contractor shall notify District in writing of Contractor's intention to make a claim not later than seven Days after discovering the facts that give rise to the claim and before commencing the Work (including all Work clarified by District and upon which the claim is based).

In the event of an emergency that endangers people or property, Contractor shall act in a reasonable and prudent manner and need not notify District of the claim before taking action.

If Contractor's claim concerns an increase in the Contract Time, Contractor shall, within 48 hours of discovering the circumstances that give rise to the claim, inform District in writing of said circumstances and provide District with an estimate of the time extension needed. Within seven Days after said circumstances have been remedied or have ceased to exist, Contractor shall notify District in writing of Contractor's intention to make a claim.

Contractor's written notification of the intention to make a claim for either an increase in the Contract Price or an increase in the Contract Time, shall include a description of the following:

A. The factual occurrences upon which Contractor bases the claim,

B. The specific increase in the Contract Price or the Contract Time requested by Contractor, and

C. The provisions of the Contract upon which the claim is based.

Contractor shall attach to the notification such documentation as is necessary to substantiate Contractor's claim.

Upon receipt of notice under this section, District shall within 10 Days, if the Work that is the subject of the claim has not been commenced, or 30 Days, if such Work has been completed, advise Contractor of District's decision to accept or reject the claim in whole or in part.

The procedure contained in this section shall not apply to claims based on changed or unanticipated site conditions. Those claims are addressed in Section 2.3.5.

2.3.3 Claims for Increase in Contract Time

Contractor may submit a claim for an increase in the Contract Time only if one of the following has occurred:

A. District has, by action or neglect, but not by action otherwise allowed under the Contract Documents, caused a delay in the progress of the Work, or

B. Contractor has been delayed in the progress of the Work by unavoidable and unforeseen events, such as strikes, lockouts, fire or Inclement Weather.

District shall not grant an increase in the Contract Time to Contractor for delays that 1) have no measurable impact on the completion of the total Work under this Contract, 2) are within the control of Contractor or any third party for which Contractor is responsible, or 3) could have been reasonably anticipated or avoided by Contractor.

District shall not grant an increase in the Contract Time for weather conditions that are normal to the area in which the Work is being performed.

District shall not grant an increase in the Contract Time for delays in the delivery of equipment (including District-selected equipment) or materials purchased by Contractor or Contractor's subcontractors or suppliers of any tier. Contractor shall be fully responsible for the timely ordering, scheduling, expediting, delivery and installation of all equipment and materials.

2.3.4 Limitation on Damages for Delay

An increase in the Contract Time shall be Contractor's sole remedy for any delay in completing the Work arising out of justifiable delays under the Contract. Contractor shall not be entitled to collect or recover any damages, loss or expense of whatever nature incurred by reason of such delay. The foregoing notwithstanding, if any unreasonable delay is caused by the actions or omissions of District or persons acting for District other than acts that are allowed under the Contract, Contractor shall retain Contractor's rights available by law. The preceding sentence, however, shall not be interpreted to release Contractor from Contractor's obligations to provide all notices and follow all procedures required by the Contract.

2.3.5 Changed and Unanticipated Site Conditions

If conditions are encountered at the site that are 1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents, or 2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the observing party shall be given to the other party promptly and before the conditions are disturbed, and in no event later than seven days after first observance of the conditions. District shall promptly investigate such conditions and, if the conditions either differ materially from the conditions indicated in the Contract Documents or differ materially from the conditions ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, shall recommend an equitable adjustment in the Contract Price or the Contract Time, or both. If District determines that the conditions at the site are not materially different from those indicated in the Contract Documents and are not materially different from those ordinarily found to exist and generally recognized as inherent in the construction activities of the character provided for in the Contract Documents, District shall so notify Contractor in writing.

2.3.6 Change in Quantity

If the quantity of a unit-priced item is an estimated quantity and the actual quantity of the unit-priced item varies more than 20 percent above or below the estimated quantity, an equitable adjustment in the unit price shall be made upon the demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 120 percent or below 80 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, Contractor may request an extension of the Contract Time as specified in the Contract Documents.

2.4 DISPUTE RESOLUTION

2.4.1 Executive Negotiation

Within 10 days of the delivery of notice of appeal of District's written decision regarding a claim, dispute, or other matter, senior representatives of at least District and Contractor, having authority to settle the dispute, shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to exchange relevant information and to attempt to resolve the dispute.

If a mutually acceptable decision cannot be reached through executive negotiation within 20 Days of the appealing party's notice or within a mutually agreeable longer period, or if the party receiving such notice will not meet within 10 Days, District or Contractor may make a written declaration, delivered to the other party and Engineer, that the executive negotiation is deemed unsuccessful and may initiate further dispute resolution measures in accordance with this section.

2.4.2 Mediation, Followed by Binding Arbitration

All appealed or unsettled claims, disputes, or other matters between District and Contractor arising out of or relating to the Contract Documents or the breach thereof (except for claims which have been waived by the making or acceptance of final payment) shall first be submitted to mediation under the Construction Industry Mediation Rules of the American Arbitration Association then obtaining, prior to either party's initiating demand for arbitration against the other.

Should the mediation be unsuccessful, such claim, dispute, or other matter (except for claims which have been waived by the making or acceptance of final payment) shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association then obtaining, subject to the limitations of this section. The mediator of any claim, dispute, or other matter submitted to mediation under this Contract shall not serve as arbitrator of such claim, dispute, or other matter unless otherwise mutually agreed by the parties.

This agreement so to mediate or arbitrate, and any other agreement or consent to mediate or arbitrate entered into in accordance with these Contract Documents, will be specifically enforceable under the prevailing law of any court having jurisdiction thereof.

No demand for mediation or arbitration of any appealed or unsettled claim, dispute, or other matter that is required to be referred to District for decision will be made later than 10 Days after the date the executive negotiation has been declared unsuccessful by District or Contractor, and the failure to demand mediation or arbitration within the 10-Day period will result in District's decision being final and binding upon Contractor. Time deadlines specified above apply to both mediation (after the executive negotiation has been declared unsuccessful by District or Contractor) and arbitration (after the mediation process has been declared unsuccessful by District or Contractor).

Notice of the demand for mediation or arbitration will be filed in writing with the other party to the Contract and with the American Arbitration Association. The demand for mediation or arbitration will be made within the 10-Day periods specified above, as applicable, and in all other cases within a reasonable time after the unsettled claim, dispute, or other matter has arisen, and in no event shall any such demand be made after the date when institution of legal or equitable proceedings based on such unsettled claim, dispute, or other matter would be barred by the applicable statute of limitations.

Except as provided below, no arbitration arising out of or relating to the Contract Documents shall include, by consolidation, by joinder, or in any other manner, any other person or entity (including Engineer, Engineer's consultant, and the officers, directors, employees, agents, or consultants of any of them) who is not a party to the Contract, unless:

1. The inclusion of such other person or entity is necessary if complete relief is to be afforded among those who are already parties to the arbitration,

2. Such other person or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration and which will arise in such proceedings, and

3. The written consent of the other person or entity sought to be included and of District and Contractor has been obtained for such inclusion, which consent shall make specific reference to this section; however, no such consent shall constitute consent to arbitration of any appealed or unsettled claim, dispute, or other matter not specifically described in such consent or to arbitration with any party not specifically identified in such consent.

Notwithstanding the above, if an appealed or unsettled claim, dispute, or other matter between District and Contractor involves the Work of a subcontractor, either District or Contractor may join such subcontractor as a party to the mediation or arbitration between District and Contractor hereunder. Contractor shall include in all subcontracts a specific provision whereby the subcontractor consents to being joined in mediation or arbitration between District and Contractor involving the Work of such subcontractor. Nothing in this section nor in the provision of such subcontract consenting to joinder shall create any claim, right or cause of action in favor of subcontractor and against District, Engineer, or Engineer's consultants that does not otherwise exist.

The results of successful mediation will be implemented by a Change Order. The award rendered by the arbitrators will be final, judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal.

2.4.3 Attorneys' Fees

At the conclusion of the dispute resolution procedures specified herein, Contractor will, as a condition of taking any further action with respect to any claim, be required to certify that the amount of the claim is its best good-faith estimate of the amount due ("Certified Claim"). District will certify its final offer of settlement ("Final Offer"). If Contractor pursues the claim, Contractor will be entitled, in addition to whatever recovery it has on the claim, to be reimbursed its reasonable attorneys' fees incurred, in the proportion in which it was successful, based on the difference between its Certified Claim and District's Final Offer. Conversely, District will be entitled to be reimbursed its reasonable attorneys' fees incurred, in the proportion in which Contractor was unsuccessful, based on the difference between Contractor's Certified Claim and

District's Final Offer. For example, if Contractor recovers 40 percent of the difference between its Certified Claim and the amount of District's Final Offer, Contractor would be entitled to recover 40 percent of its reasonable attorneys' fees incurred in the prosecuting the claim, District would be entitled to recover 60 percent of its reasonable attorneys' fees incurred in defending the claim. On the other hand, if the Contractor recovers 60 percent of the difference between its Certified Claim and the amount of District's Final Offer, Contractor would be entitled to recover 60 percent of its reasonable attorneys' fees in prosecuting the claim, and District would be entitled to recover 40 percent of its reasonable attorneys' fees incurred in defending the claim. The Certified Claim and the Final Offer will be admissible in any dispute resolution proceeding.

Chapter 3

PROSECUTION AND PROGRESS OF THE WORK

3.1 GENERALLY

Contractor is authorized to commence Work upon receipt of the Notice to Proceed or as otherwise directed in the notice, and shall diligently prosecute the Work to its final completion within the Contract Time.

3.2 SCHEDULING

Contractor shall plan the construction Work and execute the Work operations with a minimum of interference to the operation of the existing facilities. Before commencing construction, at District's discretion, Contractor shall meet with District in a preconstruction conference. At the preconstruction conference, Contractor shall submit to District for approval, a construction schedule that will permit the existing facilities to function as normally as practical during construction. The scheduling of the Work shall be subject to District's approval at all times.

If it is necessary to perform certain parts of the construction Work outside Normal Working Hours to complete the work within the Contract Time, Contractor shall perform such Work at no additional cost to District. Such Work outside Normal Working Hours does not relieve Contractor from making the Work available to inspection. Contractor shall obtain all necessary permits required for work outside normal working hours, including but not limited to, noise variance permits.

If Contractor halts Work on the Project for a period of time exceeding five Days, Contractor shall submit to District for approval, a revised construction schedule outlining the reason for halting Work, and the schedule for completing the Project within the original Time of Completion.

3.3 LIQUIDATED DAMAGES

Time is of the essence of the Contract. If Contractor fails to complete the Work within the Contract Time, the actual damage to District for the delay will be substantial, but will be difficult or impractical to determine. It is therefore agreed, that Contractor will pay to District, not as a penalty, but as liquidated damages, the amount set forth in the Special Specifications for each and every Day that the date of final completion extends beyond the Contract Time.

Permitting Contractor to continue and finish the Work after the Contract Time has expired shall in no way operate as a waiver on the part of District of any of its rights under this section or the balance of the Contract Documents.

Payment of liquidated damages shall not release Contractor from its obligations in respect to the complete performance of the Work, nor shall the payment of liquidated damages constitute a waiver of District's right to collect any additional damages that it may sustain by failure of Contractor to fully perform the Work, it being the intent of the parties that the liquidated damages are a full and complete payment only for failure of Contractor to complete the Work on time. District expressly reserves the right to make claims for any and all other damages that District may incur due to Contractor's failure to perform in strict accordance with this Contract.

Chapter 4

CONTROL AND QUALITY OF WORK AND MATERIAL

4.1 INSPECTIONS/OBSERVATIONS

4.1.1 Access to Construction Site

Authorized representatives of District and other governmental agencies having jurisdiction over the Work shall at all times have access to the Work where it is in preparation or progress. Proper facilities for such access and for inspection shall be provided by Contractor.

4.1.2 Observation by District

A District representative may observe the Project at his or her discretion and may check materials, equipment and the construction of the Project to determine generally whether the Work is proceeding in accordance with the Contract Documents. The purpose of these observations is to monitor compliance with District construction standards and the Contract, and the observations are solely for the benefit of District and can in no way be relied upon by Contractor. District's role in making observations is not supervisory and District has no responsibility, by virtue of such inspections, for any construction means, methods, techniques or compliance with safety requirements, all of which remain the sole responsibility of Contractor. Material rejected by the District representative shall be removed from the job site by Contractor immediately after its rejection and shall not be used on the Project. Interpretations of District construction standards and this Contract by the District representative shall be respected by Contractor or its representative. The District representative does not have the power to waive the obligations of Contractor or its representatives to furnish high-quality equipment, supplies and materials or perform high-quality Work. Nothing contained in this paragraph or elsewhere in this Contract shall relieve Contractor or its agents, representatives or employees of their duties and responsibilities under this Contract, including, but not limited to, their responsibility to keep the premises, Project and Work safe, workmanlike and in compliance with the Contract Documents. Nothing contained in this Contract shall require that District act in any situation.

4.2 UNSATISFACTORY MATERIALS AND WORKMANSHIP

4.2.1 Generally

Materials, Work or workmanship that, in the opinion of District, does not conform to the Contract Documents or is in any way unsatisfactory or unsuited to the purpose for which it is intended will be rejected. Contractor shall bear the cost of correcting all nonconforming materials, Work or workmanship. Contractor shall make a close inspection of all materials as delivered and shall promptly replace all defective materials with conforming materials without waiting for their rejection by District.

4.2.2 Removal of Rejected or Nonconforming Work or Materials

All rejected materials or Work, and all defective or nonconforming Work or materials, shall be removed from the site without delay. If Contractor fails to do so within 48 hours after having been so directed by District, the rejected material may be removed by District and the cost of removal charged against Contractor and deducted from retainage held by District or offset against payments due Contractor, if any.

Failure or neglect on the part of District or any of its authorized representatives to condemn or reject improper, defective or inferior Work shall not be construed to imply a final acceptance of such Work or materials and shall not be construed as relieving Contractor of its duties under this Contract.

If in the judgment of District it is undesirable or impracticable to replace any defective or nonconforming Work or materials, the compensation to be paid to Contractor shall be reduced by Change Order by such amount as, in the judgment of District, shall be equitable.

4.2.3 Termination for Convenience

District, without cause and without prior notice, may, in its sole discretion, terminate the Contract for District's convenience. Upon such termination, Contractor shall cease operations, take actions as necessary or directed to protect and preserve the Work and terminate all existing subcontracts and purchase orders and refrain from entering into further subcontracts and purchase orders. Following District's termination for convenience, District shall pay Contractor the following:

A. The unit price as indicated in the Contract of the Work performed before the date of termination and

B. The actual and reasonable Direct Costs, plus the amount due for Contractor's overhead and profit for that portion of the Work that was performed before the date of termination and that is not the subject of unit prices indicated in the Contract.

For unit-price Work, District shall pay Contractor only for the units completed. Contractor shall not be entitled to payment for units that are partially completed as of the termination date. Except as provided in this section, Contractor shall not be entitled to compensation, damages or relief of any kind, including, but not limited to, lost profits on uncompleted Work as a result of District's termination for convenience.

4.2.4 Termination for Cause/Default by Contractor

If Contractor fails to commence the Work within the specified time, or to prosecute the Work continuously with sufficient workers and equipment to ensure its completion within the time herein specified for completion, or to perform the Work according to the provisions of the Contract Documents, or if Contractor shall be dissolved, have entered against it an order for relief in an involuntary case under the federal bankruptcy laws or commence a voluntary case thereunder, make an assignment for benefit of creditors or petition to take advantage of any state or federal insolvency statute or fail to pay its obligations as they become due, or shall by any other act or omission give District reasonable cause to doubt Contractor's ability to timely, fully and properly execute its obligations hereunder, or if for any other cause or reason whatsoever Contractor shall fail to fully perform its obligations hereunder, such act or omission shall constitute a default hereunder justifying termination of Contractor for cause.

District may give notice in writing of such default, specifying such default, and if Contractor, within a period of three Days after such notice, shall not remedy such default, then District shall have full power and authority, subject to any rights of a trustee in bankruptcy under the Federal Bankruptcy Act, without process of law and without terminating or violating this contract, to take the prosecution of all or any portion of the Work out of the hands of Contractor and complete it with its own forces or otherwise, or use such other measures as in District's opinion are necessary for its completion. In taking over the Work, District may take over the plant, property and equipment of Contractor to complete the performance thereof, or may supplement Contractor's work forces and equipment with those of District's own or others, all at the expense of Contractor. Neither by the taking over of the Work, or any portion of the Work,

nor by the completion of the Work in accordance with the terms of this provision, shall District forfeit its right to recover damages from Contractor or from Contractor's surety for failure to complete or for delay in such completion. Should the expense and damages incurred by District in taking over and completing the Work, or any portion of the Work, be less than the sum that would have become payable under this Contract if the Work had been completed by Contractor, then Contractor shall be entitled to the difference, with no interest. Should such expense and damages exceed the sum to be paid Contractor, Contractor and Contractor's surety shall be liable to District for the amount of such excess. Upon the taking over of the Work by District as herein provided, no further payment will be made to Contractor until the Work is completed, and any moneys due or that may become due to Contractor under this Contract will be withheld and may be applied by District to payments for labor, materials, supplies and equipment used in the prosecution of the Work, and/or for the payment of rental charges on equipment used therein, or to the payment of any excess cost to District of completing the Work. District's decision to take over the Work shall not constitute District's sole remedy or an election of remedies; rather, District reserves all other remedies available at law or in equity.

4.2.5 Assignment

Contractor hereby assigns to District its rights in any subcontracts, labor, materials or supply purchase agreements of any tier that Contractor enters into in connection with its Work hereunder; provided, such assignment shall be operative only in the event of a default hereunder by Contractor and its failure to promptly remedy such default after notice from District as herein provided and only if District, in its sole discretion, elects in writing to exercise such right to the assignment after such default. Contractor agrees it will incorporate this provision for take-over of the Work and assignment in any agreements it executes in connection with its performance under this Contract, but District's rights hereunder shall not be impaired by Contractor's failure to do so.

4.2.6 Warranty of Contractor

Contractor shall furnish high-quality equipment, supplies, materials and workmanship and shall perform the Work in accordance with the Contract Documents. Materials and equipment shall be new unless otherwise permitted under the Contract Documents. Any failure or omission of any District Inspector to condemn any defective equipment, supplies, materials or Work shall not be construed as an acceptance thereof nor release Contractor from its obligations.

Contractor shall guarantee all materials and equipment furnished and Work (Collectively, "the system") performed for a minimum period of one year from the date of final acceptance by District. Contractor further warrants and guarantees for a minimum period of one year from the date of final acceptance of the system that the completed system is free from all defects due to faulty materials or workmanship, or materials and workmanship that in any way do not conform to and meet the intent of the Contract. Contractor shall promptly make corrections to any defects that are discovered, including the repairs of any damage to other parts of the system resulting from such defects. The performance bond shall remain in full force and effect through the guarantee period. If Contractor, after notice, fails within 10 Days to proceed to comply with the terms of the guaranty, District may have the defects corrected, and Contractor and Contractor's surety shall be liable for all expenses and damages incurred. In case of an emergency where, in the opinion of the Engineer, delay would cause serious loss or damage, repairs may be made without prior notice being given to Contractor and Contractor shall pay the cost thereof.

4.2.7 District Review of Shop Drawings and Submittals

Review of submittals is only for general conformance with the design concept of the Project and general compliance with the information given in the Contract Documents. The review does not affect Contractor's responsibility to perform all Contract requirements with no change in the Contract Price or the Contract Time. Contractor is responsible for confirming and correlating dimensions at the site, for information that pertains to the fabrication process, for the means, methods, techniques, procedures, sequence and quantities necessary to complete the Construction Contract and for coordination of the Work of all trades and satisfactory performance of its Work. The review by District is undertaken solely for District's benefit, cannot be relied upon by Contractor and shall not give rise to any claim or defense (affirmative or otherwise) by Contractor or other parties against District.

Chapter 5

CHANGES IN THE WORK

5.1 CHANGES IN THE WORK GENERALLY

District may at any time order changes within the scope of the Work without invalidating the Contract. When District determines that an emergency exists, District may order Contractor to immediately perform the additional Work, or cease to perform the deleted Work, and Contractor shall comply with such order, notwithstanding the procedures normally followed as described in this chapter.

If, in District's opinion, such changes increase or decrease the amount due under the Contract Documents, and such changes are not covered in the bid or in the time required for performance of the Work, an equitable adjustment shall be authorized by Change Order.

5.2 CHANGES IN THE CONTRACT PRICE

The Contract Price may be changed only by a written Change Order signed by District or by the Force Account Work Procedure if the Contractor has prior approval of the District. The value of any increase or decrease in the Contract Price shall be determined by one or more of the following methods in the order of preference listed below:

1. Unit Prices as specified in the Contract,
2. Unit Prices or Lump Sum prices as negotiated by the parties,
3. Time and materials with a guaranteed maximum price as negotiated by the parties and
4. Prices determined by the Force Account Work Procedure.

5.3 CHANGE ORDER PROCEDURE

When the Work to be added or deleted by District is not covered by existing prices, District shall request from Contractor the Unit Price or Lump Sum cost to complete the proposed change in the Contract. Upon receipt of the proposed Unit Price changes, District shall (1) accept the proposal or (2) negotiate further with Contractor. Upon agreement between District and Contractor, a Change Order shall be prepared for Contractor's signature and approval by District. Contractor shall not proceed with the Work in question unless a Unit Price, Lump Sum price or a Time and materials with a guaranteed maximum price agreement is approved by District. District may order Contractor to proceed with the Work before agreeing upon a price.

5.4 FORCE ACCOUNT WORK PROCEDURE

Force Account Work shall be performed only upon the written approval of District. Force Account Work shall start upon agreement between the parties on the Direct Cost rates. Contractor shall be limited to its actual and reasonable Direct Costs plus Contractor's overhead and profit.

5.4.1 Daily Reports for Force Account Work

Contractor shall furnish to the Engineer daily reports in duplicate of the extra Work costs claimed on a Force Account basis. The actual and reasonable Direct costs incurred to complete the Work shall be documented.

The reports shall itemize the materials used and shall set forth the direct cost of labor and the charges for equipment rental whether furnished by Contractor or subcontractor. The reports shall provide names or identifications and classifications of workers and the hourly rate of pay and hours worked, together with the size, type and identification number of equipment and hours of equipment operation.

Material charges shall be documented by the submission of vendor invoices. Such invoices shall be submitted with the reports or, if not available, they shall be submitted with subsequent reports. In the event the vendor's invoices are not submitted within 15 Days after acceptance of the Work in question, District reserves the right to establish the cost of such materials at the lowest current price at which such materials are available in the appropriate quantities delivered to the location of the Work.

Contractor shall maintain records in such a manner as to provide a clear distinction between the direct cost of Change Order Work paid for on the Force Account basis and the costs of all other Work. All reports shall be signed by Contractor or a representative authorized to sign such reports.

5.4.2 Monthly Summaries

All invoices for extra Work done in any month on a Force Account basis shall be filed in writing by Contractor with District before the fifth of the following month, and such invoices shall show the name and number of each worker employed thereon, the date and the number of hours so employed, the character of Work and the wages paid or to be paid. The invoice shall also show the materials delivered for the force account work, the quantity and character of such materials, from whom purchased and the net amount paid or to be paid therefor.

District will compare the invoices with the reports furnished by Contractor, make any necessary adjustments and then compile the costs of Work paid for on a Force Account basis. These actual and reasonable costs plus the amount due for contractor's overhead and profit shall be paid to Contractor.

5.5 IMPACT OF AUTHORIZED CHANGES ON CONTRACT

Changes in the Work and extensions of the Contract Time allowed by District due to such changes shall not in any way release any warranty or promises given by Contractor pursuant to the provisions of the Contract Documents, nor shall such changes in the Work relieve or release the sureties of Bonds executed pursuant to said provisions. The sureties, in executing such Bonds, expressly agreed, without notice, to any such change in the Work and to any extension of Contract Time made by reason thereof and agree to be bound by such changes.

No order for any alteration, modification or additional Work that shall increase or decrease the contract amount or change the Contract Time shall become part of the Contract unless the resulting Change Order shall have been agreed upon in writing and the Change Order signed by Contractor and District, unless the Work is force account work, in which case District's approval of the Work shall be obtained before the Work is performed.

Chapter 6

SAFETY

6.1 GENERALLY

Contractor shall be solely and completely responsible for the safety of the Work and the construction site, including, but not limited to, the safety of all persons and property involved in the Work or present at the site at any time until final completion and acceptance of the Work by District.

All Work shall be performed in full accordance with all applicable safety codes, laws, ordinances and requirements. Where any of these are in conflict, the more stringent requirement shall be followed. Contractor's failure to thoroughly familiarize itself with the aforementioned safety provisions shall not relieve it from any requirements in the Contract Documents to comply with such safety provisions or from any penalties for failure to comply.

Contractor shall inspect the Work and the site daily and immediately correct any unsafe conditions. All job personnel shall be knowledgeable of and comply with the above safety requirements.

6.2 CONTRACTOR'S SAFETY MANAGER

Contractor shall designate an individual as the Safety Manager for the Project. The Safety Manager shall be trained and knowledgeable in all safety requirements and shall be responsible for the Work's compliance with all applicable safety requirements.

If District's Inspector observes a violation of safety practices, District's Inspector will inform Contractor of his or her observation. Contractor shall then immediately correct the violation. If Contractor does not do so, District may notify the appropriate District having jurisdiction over safety practices. If, in the opinion of District's Inspector, the safety violation is of a nature to present imminent danger to property, Contractor's workers or the general public, District's Inspector may cause the construction Work to stop until the safety violation is corrected. No delays resulting from District's stoppage of the construction Work shall be grounds for an increase in the Contract Time or the Contract Price.

District's Inspector's role is not one of supervision or safety management but is one of oversight only. Nothing contained in this section or elsewhere in the Contract shall be interpreted to obligate District to act in any situation nor to shift Contractor's responsibility for safety compliance to District. No responsibility for the safety, the Work or for the construction means, methods, techniques, sequences or procedures shall attach to District by virtue of its action or inaction under this section.

6.3 CONFINED SPACE ENTRY

This Project may require entering and working in confined spaces. Contractor shall have a confined space entry permit program meeting the requirements of 29 CFR 1910.146. Contractor may review the District's confined space entry program policy document upon request.

Chapter 7

INDEMNIFICATION AND INSURANCE

7.1 INDEMNIFICATION

Contractor shall assume all responsibility for the Work and shall bear all losses and damages to or arising out of the Work until Substantial Completion.

As to any claim for death or bodily injury to persons or damages to property, Contractor agrees to defend and indemnify District and the Engineer and their agents and employees from all such claims to the extent that such claim is based upon the negligence of Contractor or any of its subcontractors or suppliers of any tier or any other person or entity for whose acts or omissions Contractor is liable.

As to all claims of any kind or nature (other than death or bodily injury to persons or damages to property), Contractor agrees to defend and indemnify District and the Engineer and their agents and employees from all such claims to the extent they are based in whole or in part on the negligence or breach of this Agreement by Contractor or any of its subcontractors or suppliers of any tier or any other person or entity for whose acts or omissions Contractor is liable.

Contractor agrees that for the purpose of the Oregon Tort Claims Act, Contractor and its subcontractors and suppliers of all tiers and their officers, agents and employees are not agents of District. Contractor for itself and it subcontractors and suppliers of any tier and their officers, agents and employees will make no claim whatsoever against District for indemnification and Contractor agrees to defend and indemnify District and its agents and employees from any such claims. In the event of an emergency that endangers people or property, Contractor shall act in a reasonable and prudent manner and need not notify District of the claim before taking action.

7.2 BONDS AND INSURANCE

7.2.1 Payment and Performance Bonds

Upon written request by District before Contractor's commencement of the Work, Contractor shall furnish separate Bonds covering the faithful performance of the Contract and payment of obligations arising thereunder. The cost thereof shall not be included in the Contract Price. The amount of each Bond shall be equal to 100 percent of the Contract Price. The form

of the Bonds and the identity of the surety shall be acceptable to District in its sole discretion. Contractor shall pay the premium for such Bonds directly to Contractor's surety and such premium shall be included in the Contract Price.

7.2.2 Public Works Bond

7.2.2.1 Before starting any Work on the Project, Contractor shall have a public works bond filed with the Construction Contractors Board, unless exempt under ORS 279C.836(4), 279C.836(7), 279C.836(8) or 279C.836(9).

7.2.2.2 Contractor shall include in every subcontract a provision requiring the subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the Project, unless exempt under ORS 279C.836(4), 279C.836(7), 279C.836(8), or 279C.836(9).

7.2.3 Insurance Generally

Contractor shall provide the insurance coverage designated hereinafter and pay all costs therefor. Contractor shall use the enclosed certificate of insurance included in the bidding documents, or a certificate that is substantially similar, in District's opinion, to certify that all insurance coverage, in the form(s) and limits required, are in full force and effect. Insurance is to be placed with insurers acceptable to District with a minimum Best's rating of A:XII.

Before commencing work under this Contract, Contractor shall furnish District with certificates of insurance specified herein showing the type, amount, class of operations covered, effective dates and date of expiration of policies and containing substantially the following statement:

> "The insurance covered by this certificate will not be canceled or materially altered, except after 30 days' written notice has been received by District."

In case of the breach of any provision of this article, District, at its option, may take out and maintain, at the expense of Contractor, such insurance as District may deem proper and may deduct the cost of such insurance from retainage, if any, or from any monies that may be due or become due Contractor under this Contract.

7.2.4 Contractor and Subcontractor Insurance

Contractor shall not commence work under this Contract until Contractor has obtained all the insurance required hereunder and submitted the requisite certificate of insurance and such

insurance has been reviewed by District, nor shall Contractor allow any subcontractor to commence work on any subcontract until the insurance specified below has been obtained. Review of the insurance by District shall not relieve or decrease the liability of Contractor hereunder.

7.2.5 Workers' Compensation

Contractor shall maintain during the life of this Contract workers' compensation insurance required by Oregon law and employer's liability coverage with minimum limits of $500,000 for all of Contractor's employees to be engaged in Work pursuant to this Contract. The insurer shall agree to waive all rights of subrogation against District and its officers, employees, agents and volunteers for losses arising from Work performed by Contractor for District. In case any such work is sublet, Contractor shall require all subcontractors to provide the same workers' compensation and employer's liability insurance for all of the subcontractor's employees to be engaged in such Work. Where such Work under this Contract includes any water or navigational exposure, coverage shall be included to cover the Federal Longshoremen's and Harborworker's Act and the Federal Jones Act.

7.2.6 Liability Insurance

District and its officers, employees, agents and volunteers shall be included as additional insured on all Contractor's insurance policies as respects liability arising out of activities performed by or on behalf of Contractor; products and completed operations of Contractor; premises owned, leased or used by Contractor; or automobiles owned, leased, hired or borrowed by Contractor. The coverage shall contain no special limitations on the scope of protection afforded to District and its officers, employees, agents or volunteers. The "other insurance" clause in the required insurance shall not apply to the insurance policies of District.

7.2.6.1 Commercial and Automobile Liability

Contractor shall maintain during the life of this Contract coverage that is at least as broad as paragraphs A and B of this section, and with the limits required below:

A. Commercial General Liability Insurance - "Occurrence" Form including XCU, with a $ (see schedule) combined single limit per occurrence and a $ (see schedule) Products and Completed Operations and General Annual Aggregate limit. The policy shall be endorsed to provide full Products and Completed Operations and General Annual Aggregate limits for the Project independent of

any other project of Contractor. (Note: "Claims Made" coverage may be considered subject to additional conditions on a case-by-case basis.)

Schedule for Commercial General Liability Limits

Contract Bid	Per Occurrence Limit	Product & Completed Operations & General Annual Aggregate Limit
Less than $ 100,000	$ 500,000	$1,000,000
$100,000 - $1,000,000	$1,500,000	$2,000,000
Greater than $ 1,000,000	$4,000,000	$5,000,000

B. Automobile Liability Insurance - Code 1 ("any auto") and Uninsured Motorist Endorsement with a $ (see schedule) combined single limit per occurrence.

Contract Bid	Per Occurrence Limit
$0 - $1,000,000	$ 500,000
Greater than $ 1,000,000	$1,000,000

7.2.6.2 Excess/Umbrella Liability

If Contractor's primary-coverage commercial general liability and automobile coverage's do not meet the minimum limits required, Contractor shall maintain during the life of this Contract excess or umbrella liability over the primary policies sufficient to meet the total aggregate limits required by this Contract.

7.2.7 Other Insurance Provisions

7.2.7.1 Commercial and Automobile

Contractor shall show evidence that the required commercial and automobile liability is in effect for the entire term of this Contract. District shall be named as an "Additional Insured" on all liability policies in effect under this Contract.

Contractor's coverage shall be primary insurance for District and its officers, employees, agents and volunteers. Any insurance or self-insurance maintained by District and its officers, employees, agents or volunteers shall be in excess of Contractor's insurance and shall not contribute with it.

Any failure to comply with reporting provisions of the policies shall not affect coverage provided to District and its officers, employees, agents or volunteers.

Coverage shall state that Contractor's insurance shall apply separately to each insured

against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

7.2.7.2 All Coverages

Any accidents or incidents causing injury or property damage shall be reported by Contractor to District and Contractor's insurer.

Any deductible or self-insured retentions in excess of 1 percent of the Contract amount must be declared to and approved by District. At the option of District, the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects District and its officers, employees, agents and volunteers, or Contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses.

In the event any work under this Contract is performed by a subcontractor, Contractor shall be responsible for any liability directly or indirectly arising out of the work performed under this Contract by a subcontractor, which liability is not covered by the subcontractor's insurance.

7.2.8 Insurance Coverage for Special Conditions

When the construction is to be accomplished within a public or private right-of-way requiring special insurance coverage, Contractor shall conform to the particular requirements of the authority having jurisdiction and provide the required insurance. Contractor shall include in its liability policy all endorsements that may be required for the protection of the owner and its officers, agents and employees. Insurance coverage for special conditions, when required shall be provided as set forth in the Special Specifications.

7.2.9 No Personal Liability of Public Officials

In carrying out any of the provisions hereof in exercising any authority granted by the Contract, there will be no personal liability upon any public official.

7.2.10 Additional Insurance

In addition to the specific insurance requirements set forth above, Contractor also provide all insurance and/or certificates required by federal, state, county or municipal bodies, as well as railroads and public utilities.

Chapter 8

PAYMENT AND COMPLETION OF THE CONTRACT

8.1 PAYMENT

8.1.1 Scope of Payment

Payment to Contractor of the Contract Price for performing all Work required under the Contract, as adjusted for any approved Change Orders, shall be full compensation for furnishing all labor, materials, equipment, tools, and incidentals necessary to complete the Work in accordance with the Contract Documents. The quantities stated in the bid are approximate and given as a basis of calculation upon which the award of the Contract was made. District does not warrant that the actual individual items, amount of work, or quantities will correspond to those shown in the Bid Schedule. Payment will be made for the work actually performed as described in the Specifications. Quantities of work to be performed and materials to be furnished may either be increased, decreased, or omitted entirely.

8.1.2 Measurement

Materials and items of Work that are to be paid for on the basis of measurement shall be measured in accordance with the methods stipulated in the particular sections herein covering materials or types of Work.

8.1.3 Payment Procedure

Each calendar month during the Contract, Contractor shall submit to District a partial payment estimate covering the Work performed during the previous calendar month, signed by Contractor and supported by such data as District may reasonably require. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored, the partial payment estimate shall also be accompanied by such supporting data. Within either 30 Days of receiving Contractor's partial payment estimate or 15 Days of the Engineer approving Contractor's partial payment estimate, whichever is earlier, District shall pay Contractor a progress payment on the basis of the approved partial payment estimate, minus any retainage or offset amounts allowed by District under this Contract. The partial payment estimate is not deemed approved by District until District makes payment. In the event District rejects a partial payment estimate, Contractor shall make all necessary corrections and resubmit the partial payment estimate. As a condition precedent to each progress payment, Contractor shall deliver to

District, along with the other supporting documentation required in this Contract, executed waiver and release forms covering any and all claims (by Contractor and all subcontractors and suppliers of all tiers), including, but not limited to, Bond claims for Work performed to date and covered by the partial payment estimate; provided, however, that the waiver and release will not apply to retainage or outstanding previously presented claims. The waiver and release forms shall be as shown in the Contract Documents.

8.1.4 Payment Options

District shall have the right to make payments to Contractor by multiple-payee checks made payable to Contractor and its subcontractors and suppliers of all tiers. Upon a reasonable basis for concern regarding the adequacy or timeliness of Contractor's payment of subcontractors or suppliers, District shall (in addition to and not in lieu of other remedies) have the right to make payment directly to subcontractors and suppliers of all tiers. Upon District's request, Contractor shall furnish to District all information required to facilitate the payments referenced in this paragraph, including, but not limited to, the names and addresses of subcontractors and suppliers of all tiers and the amounts owed to such parties.

8.1.5 Retainage

8.1.5.1 Selection of Retainage Option

District reserves the right in its sole discretion to not withhold retainage from progress payments or to begin withholding retainage at any time. If District elects to withhold retainage, it will notify Contractor of such and Contractor will complete and submit to District the Selection of Retainage Option Form attached to the Contract within 15 days of District's request (Deadline), and upon District's receipt of the completed form, will automatically become a part of this Contract. If District decides to withhold retainage, it will deduct and retain from all payments thereafter five percent of the amount earned for Work completed or materials delivered to the job site. Retainage shall be retained in one of the forms specified herein as selected by Contractor in the Selection of Retainage Option Form and agreed to by District. If Contractor does not return the Selection of Retainage Option Form by the specified Deadline, District will retain all retainage withheld in accordance with 8.1.5.2. Any additional costs that District may incur due to Contractor's exercise of its retainage options in 8.1.5.3 or 8.1.5.4 will be recovered by District by deducting the amount from the final Contract payment.

8.1.5.2 Cash Retainage – Escrow Account

All funds retained by District under this section shall be retained in an interest-bearing escrow account and paid in accordance with ORS 279C.570 unless Contractor selected in its Selection of Retainage Option Form to deposit the cash retainage withheld in an interest-bearing account pursuant to 8.1.5.3 or deposit bonds or securities that were acceptable to District in accordance with 8.1.5.4 and as authorized by the director of the Oregon Department of General Services.

8.1.5.3 Contractor-Selected Interest-Bearing Account

Pursuant to ORS 279C.560(5), Contractor may elect on its Selection of Retainage Option Form to require District to deposit the accumulated retainage in an interest-bearing account in a bank, savings bank, trust company or savings association for the benefit of District. Interest on such an account shall accrue to Contractor.

8.1.5.4 Acceptable Bonds and Securities

Pursuant to ORS 279C.560(4), Contractor may elect on its Selection of Retainage Option Form to deposit bonds or securities of the type described below with District or in any bank or trust company to be held in lieu of the cash retainage described above and for the benefit of District. In such event, District shall reduce the retainage in an amount equal to the value of the bonds and securities and shall pay the amount of the reduction to Contractor in accordance with ORS 279C.570. Interest on such bonds or securities shall accrue to Contractor.

Bonds and securities deposited or acquired as described above shall be of a character approved by the director of the Oregon Department of Administrative Services, including, but not limited to:

a. Bills, certificates, notes or bonds of the United States;
b. Other obligations of the United States or its agencies;
c. Obligations of any corporation wholly owned by the federal government; and
d. Indebtedness of the Federal National Mortgage Association.

8.1.6 Payment Does Not Imply Acceptance of Work

The granting of any progress payment, or the receipt thereof by Contractor, shall not constitute acceptance of the Work or any portion thereof and shall in no way affect the liability of

Contractor to replace unsatisfactory Work or material, though the unsatisfactory character of such Work or material may or may not have been apparent or detected at the time such payment was made.

8.1.7 Offset of Sums Due District from Contractor

In addition to any retention rights allowed District under this Contract, it is mutually understood and agreed that District may, upon prior written notice to Contractor, offset from any payment otherwise due Contractor as much as may be necessary to protect District from and compensate District for any costs or expenses it may incur due to any breach of the Contract by Contractor, including applicable liquidated damages, or for any amounts of any kind that are owed by Contractor to District. Any sums so offset shall become the property of District.

8.1.8 Payroll and Certified Statement Filing Requirements and Additional Retainage

Contractor or Contractor's surety, and every subcontractor or subcontractor's surety, shall file with District written payroll and certified statements (Certified Payrolls) that accurately and completely contain the payroll records for each week during which the Contractor or subcontractor employs a worker on a public works project. The Certified Payrolls shall contain the information required and conform to the requirements set forth in ORS 279C.845 and OAR 839-025-0010. Contractor shall file the Certified Payrolls with District once a month by the fifth business day of the following month.

Contractor must file its last Certified Payroll before the final inspection of the Work by District. District shall retain 25 percent of any amount earned by Contractor, in addition to other retainage, on the Work until Contractor has filed with District the required Certified Payrolls. District shall pay Contractor the amount retained under this section within 14 days after Contractor files the Certified Payrolls required by this section regardless of whether a subcontractor has failed to file Certified Payrolls. District is not required to verify the truth of the contents of the Certified Payrolls filed by Contractor.

Contractor shall retain 25 percent of any amount earned by a first-tier subcontractor on the Work until the subcontractor has filed with District the required Certified Payrolls. Contractor shall verify that the first-tier subcontractor has filed the Certified Payrolls before Contractor may pay the subcontractor any amount retained under this section. Contractor shall pay the first-tier subcontractor the amount retained under this section within 14 days after the

subcontractor files the Certified Payrolls required by this section. Neither District nor Contractor is required to verify the truth of the contents of the Certified Payrolls filed by the first-tier subcontractor.

8.1.9 Other Conditions Precedent to Payment

It is a condition precedent to Contractor's rights to any payments under this Contract that all bills for labor and materials and other amounts owed shall have been paid in full. If requested by District, Contractor shall submit receipted invoices and/or lien waivers as evidence of payment in full of all such accounts.

Payment to Contractor is also conditioned upon Contractor's full compliance with each and every provision of this Contract.

8.2 COMPLETION OF THE PROJECT

8.2.1 Final Payment

Upon completion of all Work under this Contract, Contractor shall notify District and District and Contractor shall conduct a final inspection. If District determines that the Work is incomplete or defective in any respect, Contractor shall take immediate steps to remedy the deficiencies. When Contractor has corrected the defects, it shall again notify District in writing and the process shall continue until the work is deemed complete by District and District accepts the Project.

When District accepts the Project, Contractor shall prepare the final payment estimate. Any payment, final or otherwise, shall not release Contractor or its sureties from any obligations under the Contract Documents or the performance and payment Bonds.

8.2.2 Submission of Certificate

Before District accepts the Project or pays Contractor its final payment for the Work, Contractor shall sign and deliver to District a Certificate of Compliance and Release sworn to under oath and duly notarized. The contents of such certificate shall be as follows:

"The undersigned Contractor hereby certifies that all Work has been performed and materials supplied in accordance with the Contract Documents and that:

"1. The provisions regarding prevailing wage rates have been complied with;

"2. All monies due the State Industrial Accident Fund, the State

Unemployment Compensation Trust Fund, the State Department of Revenue, hospital associations and/or others have been paid;

"3. All claims and indebtedness of every nature connected with the Work have been paid in full, including, but not limited to, payrolls, amounts due to all subcontractors or suppliers, accounts for labor performed and materials furnished, taxes of every nature, incidental services, liens and judgments;

"4. Contractor releases and discharges District from all liabilities, claims, obligations and actions arising under the Contract; and

"5. Contractor and the surety for this Contract shall indemnify, hold harmless, reimburse and defend District, from and against any liability or expense arising out of any claim on any Bond or any other claim related to the Contract or the Work."

8.2.3 Effect of Final Payment and Acceptance by District

Acceptance of final payment by Contractor shall constitute a waiver of all claims of whatever nature that Contractor may have or allege to have against District arising out of or related to Work described in the Contract Documents.

Neither the inspection by District, nor any order for the payment of money, nor any payment for, nor acceptance of the whole or any part of the Work by District, nor any extension of time, nor any position taken by District shall operate as a waiver of any provision of this Contract or any power herein reserved by District or any right to damages herein provided. All of District's remedies provided in this Contract shall be taken and construed as cumulative, that is, in addition to each and every other remedy herein provided.

Chapter 9

MISCELLANEOUS STATUTORY RESPONSIBILITIES OF CONTRACTOR

9.1 GENERALLY

The following paragraphs include, without limitation, the standard contract clauses that are required in every public contract in accordance with the Oregon Revised Statutes. This Contract shall include by reference any other standard contract clauses required by federal, state, and local laws, ordinances, and regulations.

9.2 PROMPT PAYMENT

Contractor shall promptly pay as due all of its obligations arising out of or in connection with the Work, including, but not limited to, payments (1) to all persons supplying to Contractor labor, equipment, services, or materials for the performance of the Work; (2) of all contributions or amounts due the Industrial Accident Fund from Contractor or any subcontractor incurred in the performance of the Work; and (3) to the Department of Revenue of all sums withheld from employees under ORS 316.167.

9.3 PROMPT PAYMENT POLICY

It is the policy of the State of Oregon that all payments due on a public improvement contract and owed by a contracting agency shall be paid promptly. No public contracting agency is exempt from the provisions of ORS 279C.570.

9.4 CONTRACTOR'S FAILURE TO MAKE PROMPT PAYMENT

If, upon reasonable concern by District that Contractor has failed, neglected, or refused to make prompt payment of any claim for labor, equipment, services, or materials furnished to Contractor or a subcontractor by any person in connection with the Contract as such claim becomes due, District may pay such claim to the person furnishing the labor, equipment, services, or materials and charge the amount of the payment against funds due or to become due Contractor under the Contract. District reserves the right to make payments directly or by multiple-payee check, and Contractor hereby consents to such direct and multiple-payee check

payments. Upon District's request, Contractor shall furnish to District the information required to facilitate such payments with each application for payment, including (1) names, addresses, and telephone numbers of persons making any such claim for labor, equipment, services, or material; and (2) a complete listing of outstanding amounts owed to all such persons.

9.5 CONTRACTOR'S AND FIRST-TIER SUBCONTRACTOR'S FAILURE TO MAKE PAYMENT AFTER PAYMENT FROM DISTRICT; INTEREST PENALTY

If, within 30 days after receipt of payment from District or Contractor, Contractor or a first-tier subcontractor fails, neglects, or refuses to pay a person furnishing labor, equipment, services, or materials in connection with the Contract, Contractor or the first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-Day period within which payment is due under ORS 279C.580(4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to Contractor or the first-tier subcontractor on the amount due is nine percent per annum. The amount of interest may not be waived.

9.6 CONSTRUCTION CONTRACTORS BOARD COMPLAINT

If Contractor or a subcontractor fails, neglects, or refuses to pay a person furnishing labor, equipment, services, or materials in connection with the Contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.

9.7 CONTINUING LIABILITY OF CONTRACTOR AND SURETY

Payment by District of a claim in the manner authorized in this section does not relieve Contractor or Contractor's surety from obligation with respect to any unpaid claims.

9.8 PREVAILING RATE OF WAGE

The Project is a public works project subject to the Prevailing Wage Rates requirements in ORS 279C.800 to 279C.870. Contractor and any subcontractors shall comply with ORS 279C.838 and 279C.840. Contractor agrees that the provisions required by ORS 279C.830 pertaining to Contractor's payment of prevailing wage rates shall be included as part of this Contract. Contractor and subcontractors shall pay workers in each trade or occupation that

Contractor, subcontractors or other person who is a party to the Contract uses in performing all or a part of the Contract at not less than the minimum hourly rate of wage for such workers as detailed in the prevailing wage rates incorporated by reference in the Contract Documents.

9.9 BOLI FEE

District will pay the fee to the Commissioner of the Bureau of Labor and Industries pursuant to ORS 279C.825.

9.10 COMPLIANCE WITH LAWS/TAX LAWS

Contractor shall comply with all applicable federal, state, and local laws, statutes, codes, regulations, rules, orders, and rulings as well as all applicable construction industry standards, including, without limitation, those governing labor, materials, equipment, construction procedures, safety, health, sanitation, and the environment. Contractor agrees to indemnify, hold harmless, reimburse, and defend District from and against any penalties or liabilities arising out of violations of such obligations by Contractor or its subcontractors or suppliers at any tier. Contractor must also comply with all Oregon tax laws.

9.11 EMPLOYEE DRUG-TESTING PROGRAM.

Contractor shall demonstrate to District that Contractor has initiated, and shall maintain through the completion of the Work, an employee drug testing program.

9.12 WORKDAY/WORKWEEK

No person shall be employed on the Project for more than 10 hours in any one day, or 40 hours in any one week, except in cases of necessity or emergency, or when the public policy absolutely requires it, and in such cases, except for cases of contracts for personal services as defined in ORS 279C.100, the employee shall be paid at least time-and-a-half pay for (1) all overtime in excess of 8 hours in any one day or 40 hours in any one week when the workweek is five consecutive days, Monday through Friday, (2) all overtime in excess of 10 hours a day or 40 hours in any one week when the workweek is four consecutive days, Monday through Friday, and (3) all work performed on Saturday, and on any legal holiday specified in ORS 279C.540. Contractor shall pay employees at least time and a half pay for

work the employees perform under the Contract on the legal holidays specified in a collective bargaining agreement or in ORS 279C.540 (1)(b)(B) to (G) and for all time the employees work in excess of 10 hours in any one day or in excess of 40 hours in any one week, whichever is greater. As required by ORS 279C.520, Contractor shall comply with ORS 652.220 and shall not discriminate against any of Contractor's employees in the payment of wages or other compensation for work of comparable character, the performance of which requires comparable skills, or pay any employee at a rate less than another for comparable work, based on an employee's membership in a protected class as defined in ORS 652.220. Contractor may not prohibit any of Contractor's employees from discussing the employee's rate of wage, salary, benefits or other compensation with another employee or another person and may not retaliate against an employee who discusses the employee's rate of wage, salary, benefits or other compensation with another employee or another person. Contractor shall comply with the prohibition set forth in ORS 652.220, that compliance is a material element of the Contract and that a failure to comply is a breach that entitles District to terminate the Contract for cause.

9.13 NOTICE OF REQUIRED WORK HOURS

Contractor, each first-tier subcontractor, and each lower-tier subcontractor must give written notice to its employees, either at the time of hire or before commencement of Work, or by posting a notice in a location frequented by its employees, of the number of hours per Day and Days per week that the employees may be required to work.

9.14 CLAIMS FOR OVERTIME

Any worker employed by Contractor shall be foreclosed from the right to collect for any overtime provided for in ORS 279C.540 unless a claim for payment is filed with Contractor within 90 Days from the completion of the Contract, provided Contractor has (1) caused a circular, clearly printed in boldfaced 12-point type and containing a copy of this section, to be posted in a prominent place alongside the door of the timekeeper's office or in a similar place that is readily available and freely visible to any or all workers employed on the Work; (2) maintained the circular continuously posted from the inception to the completion of the Contract on which workers are or have been employed.

9.15 WORKERS' COMPENSATION

All employers, including Contractor, that employ subject workers who work under this Contract in the state of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. Contractor shall ensure that each of its subcontractors complies with these requirements.

9.16 PROMPT PAYMENT FOR MEDICAL SERVICES

Contractor shall promptly make payment, as due, to any person, co-partnership, association, or corporation furnishing medical, surgical, or hospital care services or other needed care and attention, incident to sickness or injury, to the employees of Contractor, of all sums that Contractor agrees to pay for the services and all moneys and sums that Contractor collected or deducted from the wages of employees under any law, contract, or agreement for the purpose of providing or paying for the services.

9.17 PROMPT PAYMENT BY CONTRACTOR AND SUBCONTRACTORS; INTEREST PENALTY

Contractor shall include in each subcontract for property or services entered into by Contractor with a first-tier subcontractor, including a material supplier, for the purposes of performing the Contract:

A. A payment clause obligating Contractor to pay the first-tier subcontractor or supplier for satisfactory performance under the subcontract within 10 days out of amounts District pays to Contractor under the Contract;

B. A clause that requires Contractor to provide a first-tier subcontractor with a standard form that the first-tier subcontractor may use as an application for payment or as another method by which the subcontractor may claim a payment due from the Contractor;

C. A clause that requires Contractor, except as otherwise provided in this subsection, to use the same form and regular administrative procedures for processing payments during the entire term of the subcontract. Contractor may change the form or the regular administrative procedures Contractor uses for processing payments if Contractor: (a) notifies the subcontractor in writing at least 45 days

before the date on which the Contractor makes the change; and (b) includes with the written notice a copy of the new or changed form or a description of the new or changed procedure;

D. An interest penalty clause that obligates Contractor, if Contractor does not pay the first-tier subcontractor within 30 days after receiving payment from District, to pay the first-tier subcontractor an interest penalty on amounts due in each payment Contractor does not make in accordance with the payment clause included in the subcontract under subsection A. of this section. Contractor or a first-tier subcontractor is not obligated to pay an interest penalty if the only reason that Contractor or the first-tier subcontractor did not make payment when payment was due is that Contractor or the first-tier subcontractor did not receive payment from District or Contractor when payment was due. The interest penalty:

    a. Applies to the period that begins on the day after the required payment date and that ends on the date on which the amount due is paid; and

    b. Is computed at the rate specified in ORS 279C.515 (2);

E. Contractor, in each of Contractor's subcontracts, will require the first-tier subcontractor to include a payment clause and an interest penalty clause that conforms to the standards of subsections A through D of this section in each of the first-tier subcontractor's subcontracts and to require each of the first-tier subcontractor's subcontractors to include such clauses in the first-tier subcontractors' subcontracts with each lower-tier subcontractor or supplier; and

F. Contractor shall comply with all of the provisions in ORS 279C.570.

9.18 LIST OF SUBCONTRACTORS/LICENSING WITH CONSTRUCTION CONTRACTORS BOARD

Before commencing Work, Contractor shall provide to District and Engineer a list of all subcontractors and suppliers to be involved in the Project. The list of subcontractors and suppliers will be attached to the Contract. The receipt of such list shall not require District or Engineer to investigate the qualifications of proposed subcontractors and suppliers, nor shall it waive the right of District to later object to or reject any proposed subcontractor or supplier. It

shall be the responsibility of Contractor to ensure that all subcontractors are duly registered with the Oregon Construction Contractors Board and have not been declared ineligible to work on a public contract.

9.19 MATERIAL SALVAGE

To the extent that the Work for this Contract requires demolition, Contractor must salvage or recycle construction and demolition debris, if feasible and cost-effective.

9.20 COMPOSTING

To the extent that the Work for this Contract requires lawn and landscape maintenance, Contractor must compost or mulch yard waste material at an approved site, if feasible and cost-effective.

9.21 RECYCLED MATERIALS

Contractor, in performance of the Work, shall use recycled paper as defined in ORS 279A.010(1)(gg), recycled PETE products as defined in ORS 279A.010(1)(hh), and other recycled plastic resin products to the maximum extent economically feasible.

9.22 ENVIRONMENTAL AND NATURAL RESOURCES LAWS

Pursuant to ORS 279C.525, the following is a list of federal, state, and local agencies that have enacted ordinances or regulations dealing with the prevention of environmental pollution and the preservation of natural resources that may affect the performance of this Contract. The following list may not include all such agencies that have enacted ordinances or regulations relating to the prevention of environmental pollution and the preservation of natural resources.

Federal Agencies:
- Agriculture, Dept. of
  - Forest Service
  - Natural Resources Conservation Service
- Defense, Dept. of
  - Army Corps of Engineers
  - Coast Guard
- Environmental Protection Agency
- Interior, Dept. of

U.S. Fish and Wildlife Service
Bureau of Land Management
Bureau of Indian Affairs
Bureau of Reclamation
Labor, Dept. of
Occupational Safety and Health Administration
Transportation, Dept. of
Federal Highway Administration
Bureau of Mines
Federal Energy Regulatory Commission
U.S. Geological Survey
Health and Human Services, Dept. of
Housing and Urban Development, Dept. of
Mine Safety and Health Administration
Minerals Management Service
National Oceanic and Atmospheric Administration
Office of Surface Mining, Reclamation and Enforcement
Water Resources Council

State Agencies:

Administrative Services, Dept. of
Agriculture, Dept. of
Columbia River Gorge Commission
Consumer and Business Services, Dept. of
Oregon Occupational Safety and Health Division
Environmental Quality, Dept. of
Fish and Wildlife, Dept. of
Forestry, Dept. of
Geology and Mineral Industries, Dept. of
Human Services, Dept. of
Labor and Industries, Bureau of
Land Conservation and Development, Dept. of
Natural Resources, Dept. of
Parks and Recreation, Dept. of
State Fire Marshall
State Lands, Dept. of
Water Resources Department

Local Agencies:

City Councils
Circuit Courts
County Commissioners, Boards of
Fire Districts
Historical Preservation Commission
Planning Commissions
Port Districts

Special Districts

Oregon Tribal Governments

9.23 RETAINAGE

The withholding of retainage by Contractor or subcontractor shall be in accordance with ORS 279C.550 through 279C.570 and ORS 279C.845(7).

9.24 LIENS

Contractor shall not permit any lien or claim to be filed or prosecuted against the state or a county, school district, municipality, municipal corporation, or subdivision thereof on account of any labor or materials furnished.

9.25 NOTICE OF CLAIM ON BOND

The notice of claim required by ORS 279C.600 must be sent by registered or certified mail or hand-delivered no later than 180 Days after the Day the person last provided labor or furnished materials to the Project, or 180 Days after the worker listed in the notice of claim by the Commissioner of the Bureau of Labor and Industries last provided labor to the Project. The notice may be sent or delivered to Contractor or subcontractor at any place Contractor or subcontractor maintains an office or conducts business or at the residence of Contractor or subcontractor. If the claim is for a required contribution to a fund of an employee benefit plan, the notice required by ORS 279C.600 must be sent or delivered within 200 Days after the employee last provided labor or materials to the Project. The notice shall be in writing substantially as follows:

To (here insert the name of Contractor or subcontractor and the name of District):

Notice hereby is given that the undersigned (here insert the name of the claimant) has a claim for (here insert a brief description of the labor or materials performed or furnished and the person by whom performed or furnished; if the claim is for other than labor or materials, insert a brief description of the claim) in the sum of (here insert the amount) dollars against the (here insert public works bond or payment bond, as applicable) taken from (here insert the name of the principal and, if known, the surety or sureties upon the public works bond or payment bond) for the work of (here insert a brief description of the work concerning which the public works bond or payment bond was taken). Such material or labor was supplied to (here insert the name of Contractor or subcontractor).

_____(here to be signed)

9.26 HAZARDOUS MATERIALS, WETLANDS, ARCHEOLOGICAL SITES

Immediately upon discovery, Contractor shall cease performing the Work in that area of the Project where there are, or reasonably appear to be, any of the following: (i) hazardous materials, (ii) a wetland condition, (iii) an archeological site or (iv) any occurrence or condition that constitutes or reasonably could constitute an immediate danger to persons or the environment. In such event, Contractor shall take such emergency actions as are reasonably necessary to contain the hazardous materials, protect the wetland condition or archeological site, or minimize the danger, shall take such emergency actions as are reasonably necessary to secure the involved area of the Project from further disturbance, and shall notify District and the appropriate public officials as soon as reasonably possible with prompt confirmation in writing.

9.27 NO ADDITIONAL COMPENSATION ALLOWED FOR COMPLIANCE WITH LAWS

The Contract Price includes full compensation for compliance with all applicable laws, rules, regulations, ordinances and orders and all amendments thereto and Contractor shall not make claim for, nor be allowed any additional compensation for such compliance.

Chapter 10

GENERAL REQUIREMENTS

10.1 SCOPE

This Chapter covers the Work necessary for and relating to site maintenance, site conditions and responsibilities, mobilization, progress of construction, protection of property, restoration and cleanup. This Chapter applies generally to and shall be performed by Contractor throughout the term of this Contract.

10.2 SITE SAFETY AND MAINTENANCE

10.2.1 Traffic Maintenance and Safety

Contractor shall comply with all rules and regulations of state and local authorities having jurisdiction regarding the closure of public streets and highways to public traffic. No public road shall be closed to the public except by express written permission of the public agency responsible for the road and applicable fire and police departments. Contractor shall conduct its operations so as to ensure the least possible obstruction to traffic and normal commercial pursuits. Contractor shall comply with all conditions of the applicable road cut permit. Contractor shall submit a traffic plan, if required, for approval by the jurisdiction having authority for the road before beginning construction. No trenching activities within the affected roadway may begin until District receives a copy of the approved road cut permit and traffic control plan.

Contractor shall provide and be responsible at all times for all flaggers, signs and other traffic control devices needed for the project. Contractor shall erect and maintain all barricades, guards, standard construction signs, warning signs, detour signs and the like as necessary to warn and protect the public at all times from injury or damage as a result of the work operations on highways, roads or streets affected by such operations. Once the devices are no longer needed, Contractor shall remove them immediately from the work site.

Upon failure to immediately provide the necessary flaggers or to provide, erect, maintain and remove barricades, lights and standard signs when so ordered, District may, without further notice to Contractor or Contractor's surety, do so and deduct all the costs thereof from any payments due or coming due to Contractor. Nothing contained in this Section shall, however, require that District act in any situation or relieve Contractor of its duties hereunder.

10.3 MOBILIZATION

Mobilization consists of pre-construction expenses. These expenses include the cost of preparatory work and operations performed by Contractor such as the cost to move personnel and equipment onto the job site, and the cost of premiums paid on bonds and insurance for the project.

10.4 PROTECTION OF PROPERTY

Contractor shall protect stored materials, cultivated trees and crops, landscaping, and other items located adjacent to or in the vicinity of the Project. Property owners affected by the construction shall be notified by Contractor at least 48 hours in advance of the time construction begins. During construction, no person shall be without access to his or her residence or place of business for a period exceeding eight hours, unless Contractor has made special arrangements and obtained consent in writing from the affected persons.

Contractor shall maintain postal service facilities in accordance with the requirements of the U.S. Postal Service. Mailboxes may be moved to temporary locations as designated by the U.S. Postal Service. At the completion of the Work in each area, Contractor shall return them to their original locations and in a condition satisfactory to the U.S. Postal Service.

10.5 SITE CONDITIONS AND RESPONSIBILITIES

10.5.1 Profile Elevations

Existing ground profiles were determined from field surveys, which are available for inspection by Contractor at the office of District.

10.5.2 Underground Utilities

Construction plans provided by District depict existing utilities and structures; discrepancies and/or omissions may exist. Except as otherwise indicated in the Contract, District assumes no responsibility for the accuracy or completeness of this depiction.

10.5.3 Utility Interference Discovered Prior to Construction

Contractor shall perform the following tasks that concern locating utilities prior to commencing excavation work:

A. Contractor shall contact the Oregon Utility Notification Center to have all utilities within the construction area located in the field;

B. Contractor shall expose and determine the depth of any utility that could interfere with the improvements; and

C. Contractor shall notify District of all utilities that would directly conflict with the pipeline or improvement.

District shall be responsible for the cost of moving utilities that directly conflict with the pipeline or improvement if the tasks above are completed. The cost of any delay in Contractor's work schedule caused by a utility relocation performed under this Section shall be borne by Contractor.

10.5.4 Utilities Interference Discovered During Construction

If the construction plans indicate that a utility may interfere with the proposed project improvements, Contractor fails to comply with Section 10.5.3, and the utility directly conflicts with the pipeline or improvement, Contractor shall be responsible for the cost of relocating the utility.

The cost of any delay in Contractor's work schedule caused by a utility conflict and relocation performed under this Section shall be borne by Contractor.

10.5.5 Non-conflicting Utilities

Contractor shall be responsible for the cost of working around all utilities that do not directly conflict with the pipeline or improvement, regardless of whether the utility was known to Contractor prior to commencing the excavation work. The foregoing notwithstanding, if such a utility runs within the excavation trench for more than forty feet and substantially interferes with the excavation work, District shall assume responsibility for the additional cost incurred by Contractor in working around the utility.

10.5.6 Sewer Laterals

In the event a sanitary sewer lateral that is connected to an existing structure or pipeline is discovered during the performance of the Work and the lateral is not shown on the plans, Contractor shall notify District and Contractor shall reconnect the lateral to the public line. District shall be responsible for the cost of reconnecting the lateral.

10.5.7 Contractor's Responsibility for Utility Properties and Service

In areas where Contractor's operations are adjacent to or near a utility and any damage to such utility might result in considerable expense, loss, or inconvenience, the Contractor shall suspend work until all arrangements necessary for the protection of the utility have been made by Contractor.

Contractor shall notify the Oregon Utility Notification Center (503-232-1987) at least 48 hours in advance of commencing any excavation work. Before exposing any utility, Contractor shall obtain permission from the utility having jurisdiction and the utility service provider shall be allowed by Contractor to oversee the operation. Should service of any utility be interrupted due to Contractor's operation, Contractor shall notify the utility service provider and the District immediately. Contractor shall cooperate fully with the authority having jurisdiction in restoring the service as promptly as possible. All costs and damage incurred shall be borne by Contractor.

Utility	Responsible Service Provider	Phone Number
Gas	Northwest Natural Gas	503-226-4211, ext. 212
Water	Tualatin Valley Water District	503-642-1511
Power	Portland General Electric	503-643-5454, ext. 313
Telephone	QWest	503-246-6699
Telephone	Verizon	800-483-1000

10.5.8 Interfering Structures

Contractor shall protect all existing structures from damage. When existing structures must be removed or are damaged due to construction operations, Contractor shall restore such structures to their original condition. Contractor shall remove and replace small miscellaneous structures such as fences, mailboxes and signposts. Replacement condition shall be as good or better than the original condition.

Contractor shall provide and maintain temporary fences as directed by District to keep pets and livestock out of construction areas. The cost of providing and maintaining temporary fences shall be considered incidental and included in the Contract Price. Temporary fencing shall be installed before starting trench excavation in any area. Livestock shall not be cut off from access to water for more than 8 hours. All temporary fencing shall be removed by Contractor and existing fences restored to their original condition or better before final acceptance of the project.

All poles and wires of whatever nature shall be protected from damage by Contractor. If interfering power poles, telephone poles, guy wires or anchors are encountered by Contractor, Contractor shall notify the affected utility a minimum of 48 hours in advance of construction operations to permit the necessary arrangements with the affected utility for protection or relocation of the interfering structure. All costs related to such protection or relocation shall be borne by Contractor.

When any existing structures or facilities that are intended to remain in place are damaged by Contractor, Contractor shall promptly repair or replace the damaged structure or facility at no additional cost to District.

10.5.9 Field Relocation

If during the progress of construction, Contractor encounters an obstruction other than utilities that affect the placement of the sewer line or improvement, and requires a revision to the Project design, Contractor shall notify District before continuing construction. District shall review the obstruction and make design changes if necessary. The cost of waiting or downtime during field revisions shall be borne by Contractor without additional cost to District if District completes redesign or resolves the conflict within 4 working hours of receiving notice of the obstruction. Unforeseen obstructions encountered as a result of relocations shall not be subjects for claims for additional compensation or time by Contractor to any greater extent than would have been the case had the obstructions been encountered along the original location.

10.5.10 Easements and Permits

Easements will be obtained by District to allow Contractor to work on private property. Copies of the easements are available from District for inspection by Contractor. Contractor shall confine its operations within the construction and permanent easement limits and street right-of-way limits and shall comply in all respects with the terms and conditions of all easements. Any damage to private property, either inside or outside of the aforementioned limits, shall be the responsibility of Contractor.

It is anticipated that all the required easements and permits will be obtained before construction begins. However, should the procurement of any easement or permit be delayed, Contractor shall schedule its Work in such a way that its operations are confined to areas where easements or permits have been obtained or are not required, until such time that the easements or permits have been secured. Contractor shall not be entitled to additional compensation due to delays from the lack of signed easements but shall be entitled to time extensions.

Before final payment will be authorized, Contractor shall be required to furnish District with written releases from property owners where side agreements have been made by Contractor with the property owner or where Contractor's operations have not been kept within the construction right-of-way obtained by District.

Contractor shall obtain all other permits and licenses, and pay any fees connected therewith, having to do with the construction operations.

10.5.11 Land Monuments

Contractor shall be responsible for the preservation or replacement of all existing federal, state, county, city and private land monuments, unless the monuments are within ten feet of the trench center line. District shall reference and flag the land monuments that are in the construction area. Contractor shall conduct its operation to avoid disturbance of these land monuments.

When such monuments are not within this specified distance and are disturbed or destroyed due to Contractor's operations, Contractor shall be responsible for the cost of replacement of all such disturbed monuments before final payment is made. Contractor or District, at Contractor's expense, shall retain a registered land surveyor to restore said monuments, using methods and materials consistent with recognized surveying practices and with recording laws.

10.6 PROGRESS OF CONSTRUCTION

Contractor shall give notice to District not less than two working Days in advance of when survey services will be required in connection with the laying out of any portion of the Work. District will furnish construction staking to establish lines and grades as determined necessary by District for all Work under the contract. Contractor shall make all reasonable effort to preserve all stakes and marks. Stakes and marks removed or destroyed shall be replaced by District at Contractor's expense. No Work shall be done without the proper line and grade stakes and information provided by District. District reserves the right to withhold line and grade staking on any pipelines when, in District's opinion, excessive trench is being opened ahead of the pipe laying, when backfilling is not proceeding satisfactorily, when manhole construction is lagging more than five calendar days behind backfilling or when cleanup and restoration is not proceeding satisfactorily.

Construction shall proceed in a systematic manner that will result in a minimum of inconvenience to the public. Therefore, Contractor shall limit its operations to a small length of work area per crew.

Cleanup of all construction debris, excess excavation and excess materials and complete restoration of all fences, mailboxes, ditches, culverts, signposts and similar items shall be completed immediately following the final backfill of the trench, or before if so directed by District.

10.7 PRESERVATION, RESTORATION AND CLEANUP

10.7.1 Site Restoration and Cleanup

Contractor shall keep the premises clean and orderly at all times during the Work and leave the project free of rubbish or excess materials of any kind upon completion of the Work.

During construction, Contractor shall stockpile the excavated trench materials so as to cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, trees or fences, regardless of the ownership of the areas. All excavated materials shall be removed from the areas, and the surfaces shall be left in a condition equivalent to or better than the original condition and free from all rocks, gravel, boulders or other foreign material. Contractor shall restore topsoil areas as specified in the chapter entitled TRENCH EXCAVATION AND BACKFILL. All existing drainage ditches and culverts shall be reopened and graded and original drainage restored. All damaged irrigation and house drainage pipe, drain tiles, and culverts shall be repaired or replaced. Such repair or replacement shall be considered incidental to the construction, and the cost thereof shall be borne by Contractor and included in other items.

Within 500 feet of pipe laying and backfilling operations in any section, Contractor shall rake and drag all disturbed areas, leave the same free from rocks, gravel, clay or any other foreign material, place topsoil and prepare the surface in all respects for seeding. The finished surface shall conform to the original surface and shall be free-draining and free from holes, rough spots or other surface features detrimental to a seeded area.

All areas disturbed by Contractor's operations inside dedicated rights-of-way or easements shall be fertilized and reseeded or replanted in accordance with applicable portions of Chapter 16, "LANDSCAPE RESTORATION". Areas outside of the easements or rights-of-way that are disturbed by Contractor's operations shall be graded and reseeded at Contractor's expense in a method acceptable to the property owner. Contractor shall obtain a written release from all such property owners before Final Payment on this Contract.

10.7.2 Preservation of Irrigation and Drainage Ditches

Contractor shall arrange its schedule so that construction will not interfere with the irrigation of cultivated lands or pastures. Contractor shall construct, at its own expense, such temporary irrigation ditches, turnouts and miscellaneous structures as are necessary to avoid interference with irrigation and as are acceptable to the owner of the land, which shall permit the land to be irrigated by others during construction.

Following the backfill of the trenches, Contractor shall restore all irrigation and drainage ditches destroyed, damaged or otherwise modified during construction to a condition equivalent, in the opinion of District, to the condition of the ditch before construction. Ditches so reconstructed shall be built in their original locations.

10.8 MEASUREMENT AND PAYMENT

10.8.1 Mobilization

Payment for mobilization shall be based on a lump sum. The lump sum shall be paid as follows:

- When 5 percent of the total original contract amount is earned from other bid items, 50 percent of the contract amount for mobilization will be paid.
- When 10 percent of the total original contract amount is earned from other bid items, the remaining 50 percent of the contract amount for mobilization will be paid.
- Mobilization shall not exceed 5 percent of the total original contract amount.

Chapter 11

ENVIRONMENTAL PROTECTION REQUIREMENTS

11.1 SCOPE

This section covers the work necessary to comply with federal, state, local and District environmental protection requirements.

11.2 GENERAL REQUIREMENTS

Contractor shall properly install, operate, maintain and remove any works as provided in this section or District approved plan to protect the environment during construction of the project.

Contractor shall comply with all project permit conditions. Violation of permit conditions and applicable laws exposes the offending Contractor and other violators to criminal and civil sanctions. Civil sanctions include, but are not limited to, the offender's sole liability for all costs associated with site restoration, maintenance and additional mitigation work required by Federal or State authorities.

Contractor shall meet with the District on-site prior to moving equipment on-site or beginning any work to ensure that all parties understand the locations of or potential impacts to Sensitive Areas or species and the measures that shall be taken to protect them. Sensitive areas includes both Water Quality Sensitive Areas (WQSA) and Vegetative Corridors as defined by District's Design and Construction Standards and shall be marked by the District prior to initiation of any project activities.

Contractor shall submit an Emergency Spill Response Plan and a Pollution Control Plan that identifies specific hazardous material containment measures for equipment to be used within 150 feet of WQSAs. These submittals may be combined as long as all the criteria are met.

Contractor shall locate areas for non-workshift storage of equipment and vehicles, other than track-mounted vehicles and cranes, outside WQSAs. Contractor shall locate areas for storing fuels and other potentially hazardous materials and areas for refueling and servicing

construction equipment and vehicles outside WQSA. If staging areas are within 150 feet of any waters of the state, full containment of potential contaminants shall be provided to prevent soil and water contamination. Throughout construction, Contractor shall clean, inspect and record maintenance on all construction equipment. Upon discovery of identified leaks, construction equipment shall be removed from site until repairs can be made.

Contractors shall maintain on-site containment measures adequate to prevent pollutants or construction and demolition materials, such as waste spoils, petroleum products, concrete cured less than 24 hours, concrete cure water, silt, welding slag and grindings, concrete saw cutting by-products and sandblasting abrasives, from entering any WQSA. Contractor shall contain project related spills immediately and then contact District. Spills that enter waters of the state, or onto land with a potential to enter waters of the state shall be reported to the Oregon Emergency Response System at 800-452-0311.

Nothing in this section shall relieve Contractor from the obligation to obtain and comply with the regulations or permits of any federal, state, or local authority.

11.3 EROSION AND SEDIMENT CONTROL

Contractor shall be responsible for complying with the Oregon Department of Environmental Quality (DEQ) and District adopted rules regarding erosion control during construction, and more specifically defined as the provisions of OAR 340-41-455 Section (3) and the District's Resolution and Order 07-20 or any updates.

Contractor shall take all measures necessary to control erosion and prevent silt from leaving the construction area during the construction and maintenance period.

Contractor shall inspect all erosion control facilities daily during construction and immediately repair all damage. For the project duration, Contractor shall have a person on the project site qualified to maintain erosion control measures and, if required, to write and submit water quality monitoring reports to DEQ to meet all regulatory permit conditions. Contractor shall maintain on site an adequate supply of materials needed to control erosion.

Where appropriate, catch basins shall be protected with a District approved inlet protection. Contractor shall maintain inlet protection to ensure proper function throughout the construction activity. Contractor shall remove and properly dispose of inlet protection upon

completion of the project.

Contractor shall install a sediment barrier in accordance with the erosion control plans or where needed to meet applicable regulatory requirements. The barrier shall remain and be maintained until vegetation is established enough to prevent erosion from occurring. Contractor shall remove the barrier when vegetation is established or as directed by District.

During dry weather, Contractor shall inspect erosion and sediment controls on active construction, borrow, or disposal sites weekly and inspect erosion and sediment controls on inactive construction, borrow, or disposal sites at least biweekly and in accordance with the permit requirements. Contractor shall comply with the District's wet weather requirements between October 1 and May 31. During rainy periods, stockpiles outside the active work area shall be covered with an impervious material when unattended or at the end of each work day. Contractor shall construct erosion control facilities so that any runoff will be contained or filtered before entering WQSAs.

Where indicated on the approved erosion control plans or where required by District, Contractor shall protect bare soils with ground cover. The ground cover may be straw, mixed yard debris compost, or District approved material applied to a uniform thickness of 1.5 to 2.5 inches. The ground cover may also be an approved jute or coir fabric. Straw mulch shall be either weed free native or sterile straw.

11.3.1 Dust Prevention

During all phases of work, Contractor shall minimize dust to the extent practicable by sprinkling haul and access roads and other exposed dust producing areas with water, applying dust palliatives on access and haul roads, sweeping asphalt surfaces, placing wood chips or other effective mulches on vehicle and pedestrian use areas, pre-wetting cut/borrow area surfaces and using covered haul equipment.

11.3.2 Street Cleanup

Where appropriate, the construction site shall have a gravel construction entrance. If conditions allow, wood chips may serve as an acceptable alternative to gravel for the protection of soils. Contractor shall make every effort to avoid tracking mud, dirt, or debris onto streets. Prior to washing road surfaces, Contractor shall remove all tracked mud, dirt, or debris by

mechanical means. All runoff from washing shall be collected and filtered using a District approved method prior to discharging to any WQSA.

Contractor shall clean all spilled dirt, gravel, or other foreign material caused by the construction operations, from all streets and roads at the conclusion of each day's operation. Cleaning shall be by brushing and hand labor unless otherwise approved by District. Dirt, mud and debris shall not be washed or brushed into storm drain inlets or catch basins.

Upon completion of all paving and gravel shoulder resurfacing, Contractor shall remove all dirt, mud, rock, gravel and other foreign material from the paved surface immediately.

11.4 PROTECTION OF NATIVE VEGETATION

Contractor shall protect native vegetation to the maximum extent practicable through the installation of construction fencing. Contractor shall make every effort to avoid impacting native trees within the authorized work area. During clearing operations, trees shall not be permitted to fall outside the work area unless authorized by District. In areas designated for selective cutting or clearing, Contractor shall take care in falling and removing trees and brush to avoid injuring trees and shrubs to be left in place. Where native vegetation has been removed or the original land contours disturbed, the site shall be re-vegetated as soon as practicable after construction is completed in that area.

11.5 PROTECTION OF FISH AND WILDLIFE

Contractor shall meet the requirements contained inORS Chapter 498 and ORS 509.605, et al, and the Washington County Community Development Code and ODOT Best Management Practices or their successors. These rules and resolutions mandate protection of fish and wildlife during construction and are outlined in the Oregon Department of Fish and Wildlife (ODF&W) “Guidelines and Criteria for Stream-Road Crossings”. Additional information regarding environmental requirements is contained within the “Endangered Species Act – Section 7 Consultation Biological Opinion & Magnuson - Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation – Revised Standard Local Operation Procedures for Endangered Species (SLOPES III) for Certain Regulatory and Operations Activities Carried Out by the Department of the Army in Oregon and the North

Shore of the Columbia River – NOAA's National Marine Fisheries Service Northwest Region – November 2004".

11.5.1 In Water Work

Contractor shall only be permitted to work within the jurisdictional waters of the state between July 15 and September 30 unless otherwise approved in writing by the appropriate regulatory agencies.

11.5.2 Turbidity Standards

All runoff from the construction site shall meet required turbidity standards. Contractor shall monitor turbidity in stream and shall prevent it from exceeding the natural stream turbidity by 10 percent as measured 100 feet downstream from the project, or as required by DEQ or by the amount approved by DEQ. The monitoring methodology shall comply with the conditions stated in the DEQ permit. The turbidity standard may be exceeded for a limited period not to exceed 2 hours within a 24-hour period, provided that all practicable erosion control measures have been implemented. If this standard is violated, Contractor shall stop action, report violations to District and take actions as directed by District.

11.5.3 De-watering and Diversion of Flow

Contractor shall submit a Stream Flow Diversion and Dewatering Plan that maintains sufficient downstream flow to not adversely impact resident or anadromous fish species. Upon plan approval, the scope includes the installation, maintenance and removal of the approved techniques or devices. In the event that no stream flow is present during construction, the District waives these requirements and the standard specification for temporary erosion control and environmental protection apply.

Isolation of construction activities from the stream flow may be accomplished by techniques including, but not limited to the installation of a bypass channel, flume or culvert, the installation of a sheetpile or sandbag wall, or the use of a water filled cofferdam. For treatment of water removed from the isolated work area refer to Sections 11.3 and 11.5.2. Any excess sub or surface flow shall be removed and/or treated each day prior to initiating construction activities

Tualatin Basin streams rise rapidly with minimal precipitation. Contractor shall monitor weather reports throughout the period of in-stream work, and shall inspect the creek diversion daily, including non-working days, during periods of anticipated rain, rain, and or high water. If any rain is anticipated on any day, Contractor shall have backup and redundant pumps or diversion systems in place, tested, and operational prior to commencement of work. Contractor shall provide current, local weekly or daily weather and precipitation forecasts at weekly construction meetings, and notify District between submittals of any revisions to weekly forecasts that involve rain anticipation.

Contractor shall maintain downstream passage for adult and juvenile fish for the duration of the project unless temporary short-term upstream impoundment of fish is included in the approved Stream Flow Diversion and Dewatering Plan. Approved impoundment of the fish does not include blocking stream flow from entering the channel downstream of the project. No equipment will be allowed in the stream channel outside of the dewatered work area.

Contractor shall notify District of any stranded fish identified outside of the dewatered and de-fished work area. If the fish are positively identified as not being sensitive, threatened and/or endangered under Federal or State ESA regulations, Contractor may relocate fish with the approval of District and under the supervision of an ODFW biologist or designee. If the fish are suspected to be listed salmonid species, Contractor shall contact District immediately and shall avoid moving the fish unless directed to do so by District or other on-site state or federal representatives. If a listed fish is in imminent danger of death due to low flow or high water temperatures, Contractor may add sufficient stream water or shade to the area containing the stranded fish until ODF&W or NOAA Fisheries staff arrives to salvage the fish.

Any listed species that is found deceased within the project limits must be retained until the District is notified, the fish is photographed and the information forwarded to the appropriate regulatory agencies. Disposal of deceased fish shall be in accordance with instructions from those agencies.

11.6 SITE RESTORATION

Contractor shall de-compact soils driven on by vehicles and equipment, apply District approved native seed for erosion control at a rate of 10 pounds per acre and cover seed with native or certified weed-free straw. No fertilizers shall be applied within WQSAs. Contractor shall re-seed with the same seed if permanent-seeding work, done within the seeding dates, does not provide uniform coverage of existing surrounding areas at 70 percent cover.

11.7 SUSPENSION OF WORK

District may suspend the work or require additional or different protection measures if District determines, based upon observed conditions of the project, that the either the approved plan or its implementation by Contractor is insufficient to prevent environmental harm. The District may require the Contractor to submit a written plan for protection of the site for the duration of the project before work resumes.

11.8 HISTORICAL AND ARCHAEOLOGICAL AREAS

In accordance with ORS 358.905 and ORS 97.740, when burial sites, buried camp areas or village sites and other distinctive archaeological or historical items are uncovered, Contractor shall report the same to District and the state liaison officer. Construction operations shall be stopped until the appropriate authorities can examine the area and give clearance to proceed with the work.

11.9 MEASUREMENT AND PAYMENT

11.9.1 Erosion and Sediment Control

Payment for installing, maintaining, and removing sediment barrier shall be based on the cost per linear foot installed. Payment shall constitute full compensation for all labor, material and equipment costs.

Payment for installing ground cover shall be based on a cost per square foot installed. Payment shall constitute full compensation for all labor, material and equipment costs. Payment for all other erosion control measures through the one-year warranty period shall be made on a lump sum basis, as stated in the Schedule of Bid Prices as “Miscellaneous Erosion Control.” Payment shall constitute full compensation for all labor, material and equipment costs, including

maintenance and removal of installed sediment fence or mulch berm.

11.9.2 Dust Prevention

Payment for dust prevention shall be incidental to Temporary Erosion and Sediment Control work item.

11.9.3 Street Cleanup

Payment for street cleanup shall be incidental to Temporary Erosion and Sediment Control work item.

11.9.4 Protection of Native Vegetation

Payment for native vegetation protection fencing shall be per lineal foot. Payment shall constitute full compensation for all labor, material, and equipment costs, including maintenance and removal of installed fencing.

11.9.5 Protection of Fish and Wildlife

Payment for protection of fish and wildlife shall be incidental to the De-watering and Diversion of Flow work item.

11.9.6 De-watering and Diversion of Flow

De-watering and diversion of flow shall be paid for at the Contract unit price. Payment shall constitute full compensation for all labor, material and equipment costs.

Approval of Contractor Submittals	20% of Unit Cost amount
Installation of Diversion and De-watering Devices	40% of Unit Cost amount
Removal of Diversion and De-watering Devices	40% of Unit Cost amount

11.9.7 Site Restoration

There shall be no separate payment for site de-compaction. Payment for all other site restoration work shall be based on a lump sum upon establishment of 70 percent native grass cover. Payment shall constitute full compensation for all labor, material and equipment costs.

Chapter 12

TRENCH EXCAVATION AND BACKFILL

12.1 SCOPE

This Chapter concerns the work necessary for trench excavation and backfill.

12.2 DEFINITIONS

12.2.1 Trench Excavation

Trench Excavation is the removal of all material encountered in the trench to the depths shown on the plans or as directed by District. Trench Excavation shall be classified as either common or rock excavation.

A. Common Excavation - Common Excavation is defined as the removal of all material, which is not classified as Rock Excavation.

B. Rock Excavation - Rock Excavation is defined as boulders exceeding ½ cubic yard in size, or as reasonably excavated with a Cat 235 size of backhoe equipped with two rippers, or solid ledge rock, which in the opinion of District requires for its removal, drilling and blasting, wedging, sledging, barring or breaking up with power-operated tools. Rock Excavation does not include any of the following: soft or disintegrated rock, hard-pan or cemented gravel that can be removed with a hand pick or power operated excavator or shovel; loose, shaken, or previously blasted rock or broken stone in rock fillings or elsewhere, and rock outside of the minimum limits of measurements or that may fall into the excavation.

12.2.2 Trench Foundation

Trench Foundation is defined as the bottom of the trench on which the pipe bedding is to be placed and that provides support for the pipe.

12.2.3 Pipe Bedding

Pipe Bedding is defined as the furnishing, placing, and compacting of specified materials on the trench foundation to uniformly support the barrel of the pipe from the trench foundation to the springline of the pipe.

12.2.4 Pipe Zone

The Pipe Zone is defined as the full width of the trench from six inches above the top outside surface of the barrel of the pipe to the springline of the pipe.

12.2.5 Springline

Springline is defined as halfway up the sides of the pipe after it has been placed on the pipe bedding.

12.2.6 Trench Backfill

Trench Backfill is defined as the furnishing, placing and compacting of specified material in the trench between the top of the pipe zone material and the bottom of the pavement base rock, ground surface, or surface materials as directed.

12.2.7 Native Topsoil

Native Topsoil is defined as the top 12 inches of existing material prior to excavation.

12.2.8 Subsoil

Subsoil is defined as that soil which is below the top twelve (12) inches of existing material prior to excavation.

12.3 MATERIALS

12.3.1 Class A Backfill

Class A Backfill shall be native or subsoil material that, in the opinion of District, meets the desired characteristics required for the specific surface loading or other criteria of the backfill zone.

The native material shall be free of humus, organic matter, vegetative matter, frozen material, clods, sticks and debris and shall present no isolated points or areas, or larger stones which would cause fracture or denting of the structure or subject it to undue stress.

12.3.2 Class B Backfill

Class B Backfill shall be granular material consisting of gravel or crushed rock meeting the requirements of Section 12.3.5. Designated size shall be 3/4"-0 unless otherwise specified.

12.3.3 Pipe Bedding Material

12.3.3.1 Crushed Rock

Pipe Bedding Material shall be 3/4"-0 crushed rock for pipes up to 15 inches that meets the requirements of Section 12.3.5. Pipe bedding material shall be 3/4"-0 or 1-1/2"-0 crushed rock as indicated in the specifications written for that project.

12.3.4 Pipe Zone Material

The Pipe Zone Material shall consist of approved Pipe Bedding Material. When using reinforced concrete pipe, ductile iron pipe, or C-900 pipe, the Pipe Zone Material may be Class A Backfill material outside paved areas. All pipe zone materials

shall be subject to District approval.

12.3.5 Granular Material

Granular Material shall be crushed gravel or rock meeting the following quality standards:

Abrasion (AASHTO T96)	Maximum wear	35 percent
Fractured Face	Min. Particles	75 percent
Liquid Limit (AASHTO T89)	Not greater than	30 percent
Plasticity Index (AASHTO T91)	Not greater than	6 percent

The aggregate shall consist of uniform quality, clean, tough, durable fragments of rock or gravel, free from flat, elongated, soft or disintegrated pieces, organic and/or other objectionable matter occurring either free or as a coating on the stone. Granular material shall conform to the following:

1 1/2-Inch Minus		3/4-Inch Minus	
Sieve Sizes	% Passing	Sieve Sizes	% Passing
2-inch	100	1-inch	100
1-1/2 inch	95-100	3/4-inch	90-100
3/4-inch	55-75	3/8-inch	60-80
1/4-inch	35-50	1/4-inch	40-60
No. 10	15-30	No. 200	0-5

12.3.6 Foundation Stabilization (Crushed Rock)

Foundation Stabilization shall be 4-inch minus pit-run or crushed rock, or as required to stabilize the trench bottom with a reasonably uniform gradation from coarse to fine and free from excessive dirt or organic matter.

12.3.7 Foundation Geotextile Fabric

The Foundation Geotextile Fabric used in trench stabilization shall be lightweight, nonwoven filter fabric (Mirafi 140N or equal) for unstable soil conditions or

high-strength woven filter fabric (Mirafi 600x) for highly unstable soil conditions. Geotextile fabrics shall be subject to District approval.

12.3.8 Imported Topsoil

Imported Topsoil shall be natural, fertile, friable topsoil, 90 percent free of clay lumps or other foreign matter and larger than 2 inch diameter that is not frozen or muddy and with a pH range of 5 to 7 and not less than 3 percent humus as determined by loss on ignition of moisture-free samples dried at 100°F. Gravel portion particles larger than 2mm shall not exceed 15 percent of total volume. It shall be free of quack grass, horsetail and other noxious vegetation and seed. It shall not be infested with nematodes or other undesirable insects or plant disease organisms.

12.3.9 Riprap

Rock for Riprap shall be angular in shape.

Thickness of a single rock shall not be less than one-third its length.

Rounded rock will not be accepted unless approved by the District.

Grade Riprap shall be the class and size of rock according to the following:

Class 25	Class 50	Class 100	Class 350	Class 1000	Percent (by mass)
SIZE OF ROCK (LB)					
55-33	110-60	220-140	770-550	2200-1430	20
33-15	60-25	140-75	550-220	1430-660	30
15-2	25-2	75-10	220-20	660-40	40
2-0	2-0	10-0	20-0	40-0	10

12.4 CONSTRUCTION

12.4.1 Preparation of Right-of-Way

Where clearing or partial clearing of the right-of-way is necessary, such clearing shall be completed prior to the start of excavation. Individual property owners have the right to remove trees within the easement on their property prior to the start of construction. The Contractor shall attempt to save as many trees as possible, but is allowed to remove the trees within the permanent easement unless otherwise shown on the plans.

All trees that are removed shall include the removal of the stump and root wad unless otherwise indicated on the plans.

If trees are removed by the Contractor that were shown on the plans to remain or were otherwise outside of the limits of allowed removal, compensation shall be made to the property owner by the Contractor in the form of the District approved replacement trees for each tree removed, or a cash settlement approved by the property owner and the District.

Contractor shall not remove any tree larger than 4 inches in diameter and three feet above the ground from the temporary easement without written approval by the District.

Any tree in the temporary easement located in a landscaped yard shall not be removed unless removal is indicated on the plans or Contractor receives written permission from District.

12.4.2 Disposal of Excavated and Cleared Material

The Contractor shall bear all costs of disposing of excavated material not required elsewhere on the project (trees, stumps, brush, roots, limbs, etc.) and other waste materials from the clearing operation. Material shall be disposed of in such a manner as to meet all the requirements of state, county, regional and local regulations regarding health, safety, the environment, and public welfare. Contractor shall not permit excavated materials to cover brush or trees prior to disposal.

No material shall be left on the project, on abutting private properties, or embankments or trenches on the project except as approved by District and/or the property owner. Vegetation in areas to be cleared may be pulverized by means of rotary brush cutter and/or chipper. Pulverized materials may remain on site if approved in writing by the property owner and District and spread or scattered to a depth of not over 2 inches.

12.4.3 Removal of Pavement

Contractor shall cut all bituminous and concrete pavements (regardless of the thickness), and all curbs and sidewalks before excavation of the trenches. Cuts shall be made using an approved pavement cutter that will leave a clean, straight cut surface on the width required at the trench surface. The remaining pavement shall not be subject to a lifting or separating force, either by direct contact with the excavating equipment or by inadequate pavement precutting. Any pavement beyond the trench line that is lifted shall be removed and replaced at no cost to District. Pavement and concrete materials removed shall be hauled from the site and not used for trench backfill.

12.4.4 Removal of Topsoil

Where trenches cross a wetland, lawn, garden area, pastureland, cultivated field, or similar areas, the topsoil shall be removed to a depth of twelve (12) inches for the full width of the trench to be excavated. This topsoil shall be stockpiled to one side of the right-of-way and not mixed with the remaining excavated material. The topsoil in the top twelve (12) inches of the backfilled trench shall be replaced. The minimum finished depth of topsoil over all trenches shall be twelve (12) inches.

In lieu of stockpiling the topsoil, imported topsoil may be substituted in the top twelve (12) inches when approved by District.

The finished grade of the topsoil shall be level with the area adjacent to the trench. Damage to adjacent topsoil caused by work operations shall be repaired or replaced with imported topsoil as necessary. All rock, gravel, subsoil clay, and any other foreign materials shall be removed from the surface of the adjacent working areas; regraded, and imported topsoil shall be added as required at no additional cost to District.

12.4.5 Rock Excavation

Where ledge rock or boulders that meet the definition of Rock Excavation as described in Section 12.2.1B are encountered during trench excavation, the rock shall be removed to provide a minimum of 6 inches of clearance to each side of and below all pipe and appurtenances. Contractor will be required to excavate and remove the overburden and expose the rock to allow District to profile or cross section the rock for measurement pay quantity. The measurement shall be completed before removal of the rock.

The use, transport, and storage of explosives shall comply with all laws and ordinances.

When blasting rock in trenches, the area to be shot shall be covered with blasting mats or other protective material to prevent the scattering of rock fragments outside the excavation area. Contractor shall assume all liability and responsibility connected with or accruing from blasting or the use of explosives.

12.4.6 Pipe Bedding

Pipe Bedding consists of leveling the bottom of the trench on the top of the foundation material and placing bedding material to the horizontal centerline of the pipe. Contractor shall spread the bedding smoothly to the proper grade so that the pipe is uniformly supported along the barrel, and excavate bell holes at each joint to permit proper assembly and inspection of the entire joint. Bedding under the pipe shall provide a firm, unyielding support along the entire pipe length. Particular attention shall be given to the area from the flow line to the horizontal centerline of the pipe to ensure that firm support is obtained to prevent any lateral movement of the pipe. Pipe Bedding shall be placed in the full width of the trench.

The minimum depth of Pipe Bedding shall be as follows:

Pipe Size	Depth of Base
15-inch and smaller	4-inches
18-inch and larger	6-inches

12.4.7 Trench Width

The maximum permissible trench width through the bedding and pipe zone, shall be as follows:

15-inch diameter and smaller - 40 inches

18-inch diameter and larger - outside diameter plus 24 inches

Greater trench widths must be approved by District prior to excavation. The maximum width of trench above the top of pipe will not be limited, except in cases where excess width would cause damage to adjacent structures or property, or cause environmental damage. Trench widths shall be confined to dedicated rights-of-way or within areas for which construction easements have been obtained, unless special written arrangements have been made with the affected property owners.

12.4.8 Open Trench Limitation

The length of trench excavated in advance of the pipe laying shall be kept to a minimum, and in no case shall it exceed 100 feet unless otherwise specifically authorized by District prior to excavation. The trench shall be backfilled so that no section of trench or pipe is left open longer than 24 hours. Trenches located in a right-of-way shall be completely backfilled before Contractor leaves the site each day or protected with steel plates. Trench excavations on private property shall be covered and/or protected at the end of each work day.

12.4.9 Grade

Excavate the trench to the lines and grades shown or as established by District, with proper allowance for pipe thickness, Pipe Bedding, and foundation stabilization. The foundation upon which the Pipe Bedding is placed shall be firm, undisturbed, and

true to grade.

If the Contractor excavates the trench below the required grade without the approval of District, Contractor shall restore the grade with Pipe Bedding at no additional cost to the District.

12.4.10 Shoring and Sheeting

Contractor shall provide all materials, labor and equipment necessary to adequately shore trenches to protect the work, existing property, utilities, etc., and to provide safe working conditions in the trench. The method of shoring shall be according to Contractor's design, provided the method meets with the approval of all applicable local, state, and federal safety codes. If a movable box or steel sheeting is used and the bottom of the shoring or sheeting cannot be kept above the springline of rigid pipe or the crown elevation of flexible pipe, the bedding or side support shall be carefully consolidated behind the movable box or steel sheeting prior to placing backfill.

The use of horizontal strutting below the barrel of pipe or the use of the pipe as support for trench bracing is not permitted.

12.4.11 Location of Excavated Materials

During Trench Excavation, the excavated material shall be placed within the construction easement, right-of-way or approved working area. Excavated material shall be stockpiled in such a manner that it will cause a minimum of inconvenience to the traveling public. No private or publicly traveled streets shall be obstructed without the written approval from the property owner or the jurisdiction having authority over the public street. All federal, state, and local codes governing the safe loading of all trenches with excavated material shall be followed.

Contractor shall maintain access to all fire hydrants, water valves and meters, and shall allow clearance to enable the free flow of storm water in all gutters, other conduits and natural watercourses.

12.4.12 Dewatering

Contractor shall promptly remove and dispose of all water entering the Trench Excavation during the time the trench is being prepared for the pipe laying, during the laying of the pipe, and until the backfill at the pipe zone has been completed. Groundwater shall be controlled to prevent the softening of the bottom of excavations or the formation of "quick" conditions or "boils" during excavation.

The water shall be disposed of in a manner approved by District and without damage to adjacent property. Contractor shall filter all water pumped from the trench excavation through an approved system before the water enters a creek, wetland or other storm system. Drainage of trench water through the pipeline under construction is prohibited unless specifically approved by District prior to such drainage.

12.4.13 Foundation Stabilization

When in the judgment of District, the existing material in the bottom of the trench is unsuitable for supporting the pipe, Contractor shall either use foundation stabilization (crushed rock) or foundation geotextile fabrics as specified in the Schedule of Bid Prices. Material such as boulders, peat or other organic material shall not be used for supporting the pipe. Foundation stabilization used in lieu of dewatering may be used only with the prior written approval of District and will be at no additional cost to District.

When using crushed rock for foundation stabilization, Contractor shall excavate below the flow line of the pipe and backfill the trench to the subgrade of the pipe bedding with District approved foundation stabilization material. The material shall be placed over the full width of the trench in thoroughly compacted layers, not exceeding 6 inches deep. When using foundation geotextile fabric, the selection of the appropriate fabric shall be made in the field during construction by District. The installation of the fabric shall be in accordance with District's Standard Detail Drawing No. 1170. To help reduce the subgrade disturbance, Contractor shall excavate at trench subgrade level with a smooth-edge grading bucket, and place the geotextile fabric as soon as possible after the excavation is completed.

12.4.14 Trench Backfill Placement

District reserves the right to modify the use, location, and quantities of the various types of backfill during construction. Backfill material shall not be permitted to free fall into the open trench until at least 2 feet of cover is provided over the top of the pipe. Under no circumstances shall sharp, heavy pieces of material be allowed to drop directly onto the pipe or the tamped material around the pipe. Backfill material of consolidated masses larger than 12 inches in any dimension shall not be used.

12.4.15 Class A Backfill

After Contractor has completed backfilling the trench, the entire working area including the trench shall be graded. With the approval of District, a windrow of excavated material may be placed over the trench to allow for settlement, but only in areas that are not classified as wetlands, or flood plain or landscaped. Contractor shall estimate the amount of settlement that will occur and may windrow enough material to

compensate for settlement. Any excess or deficiency of backfill material which becomes apparent after settlement and within the warranty period shall be corrected by regrading, disposal of excess material, and adding additional material where required. Contractor shall ensure that the top 12 inches of the trench backfill is topsoil.

Where the contract specifications require that the construction area be returned to its original elevations, backfill shall be compacted by Contractor to 90 percent relative compaction as determined by Method A of AASHTO T99. Contractor may also have the option to water settle the trench to reach the compaction requirement of 90 percent. In water settling the trench, Contractor shall inject water into the trench so that the entire trench from pipe to top of ditch is saturated with water.

Contractor shall correct any settlement of the trench during the warranty period, along with any damage to the landscaping at no additional cost to District.

12.4.16 Class B Backfill

Class B backfill shall be placed and compacted with a vibratory compactor or mechanical tampers. The granular backfill within four (4) feet of finished grade shall be compacted to not less than 95 percent relative compaction as determined by Method A of AASHTO T99. Backfill more than four (4) feet below finished grade shall be compacted to not less than 90 percent relative compaction. Contractor, at no cost to District, shall promptly repair any subsequent settlement of the finished surface during the warranty period.

District may retain a testing laboratory to take periodic density tests. Should such tests show inadequate compaction, no additional backfill shall be placed until compaction of the in-place material conforms to these specifications. If the required

compaction density has not been obtained, Contractor shall remove the backfill from the trench and recompact at no cost to District.

12.4.17 Maintenance of Trench Backfill

The surface of the backfilled trench shall be maintained level with the existing grade until final surface restoration is completed or the entire project is accepted by District. The maintenance shall include, but not be limited to, the addition of gravel and cold-mix asphalt to keep the surface of the backfilled trenches reasonably smooth and suitable for normal traffic flow. Temporary pavement replacement of a one-inch lift of approved cold-mix asphalt shall be installed on the same day as backfilling above all trenches that cross paved streets. If final paving does not occur within 5 days of backfilling the trench, Contractor may be required to install cold-mix asphalt in sewer trenches that parallel the street. In all pavement cuts in major streets, Contractor shall place cold-mix asphalt the same day of the work.

12.4.18 Drainage Culverts and Tile

All drainage culverts or tiles, which are removed, shall be replaced. If the pipe is damaged during removal, it shall be disposed of and new pipe shall be furnished and installed at no cost to District unless otherwise specified in the bid proposal. Culvert pipe or tiles shall be replaced to the lines and grades established by District.

12.4.19 Impervious Zone

Where indicated on the construction plans, Contractor shall construct an impervious zone of bentonite that is 2 feet thick and extends from the bottom to the top of the pipe zone and bedding.

12.4.20 Creek Crossings

A "creek crossing" will be installed whenever the sewer line crosses a creek where the pipe has less than 3 feet of cover. The "creek crossing" shall start five feet before the point of minimum cover and shall extend five feet beyond the point of minimum cover. Contractor shall either place a 6 inch concrete cap on top of the pipe down to the pipe springline, or by installation of ductile iron pipe with flexible couplings, or as approved by District.

12.4.21 Temporary Trench Plating

Whenever temporary steel plates are used over the street trench cut, they shall be capable of carrying a minimum of MS-18 loading. The steel plate shall have a minimum of 12 inches bearing on all sides of a cut. All steel plates shall be anchored to minimize shifting. The edges of all steel plates shall be shimmed with cold mix asphalt.

12.5 MEASUREMENT

12.5.1 Trench Excavation and Backfill

The work performed under this item for gravity sewer pipe shall be paid for on a linear-foot basis for the type of backfill installed and for the depth of the trench from the ground surface to the flow line of the pipe. The depth figures indicated in the proposal are to the nearest 0.1 foot; that is a trench depth measured as 11.9 feet will be paid for at the unit price for excavation 10 to 12 feet deep. A trench depth measured as 12.0 feet will be paid for at the unit price for excavation 12 to 14 feet deep.

The length of trench shall be measured horizontally from center-to-center of manholes or to the end of the pipe, whichever is applicable. The depth of the trench will be measured at intervals of 25 feet along the centerline of the trench, and the depth of

each measuring point will be the depth used for computing the depth of trench for a distance of 25 feet ahead of the point of measurement.

Payment for this item shall cover all work specified under this section except for Rock Excavation and foundation stabilization. These will be paid for as separate items. No extra payment will be made for providing additional cover over the pipe when required. The price bid per linear foot shall include any extra excavation required to provide space for gravel base.

12.5.2 Foundation Stabilization (Crushed Rock)

Payment for this item will be made on a cubic yard basis. The volume will be computed upon the following basis for length, width, and depth of trench:

Length - The length will be the entire horizontal distance on a linear foot basis, along the centerline of the trench, including measurement through manhole or structure locations, except that the measurement through such structures will be deducted if the proposal carries a separate item for structure excavation that is applicable to the structure.

Width - The width upon which trench foundation will be calculated shall be the maximum outside diameter of the pipe barrel plus 12 inches.

Depth - The depth measured will be the actual depth placed below the Pipe Bedding. The depth will be measured at intervals of 25 feet along the centerline of the trench, taking the average depth between measuring points. Payment for this item shall constitute full compensation for all work necessary to furnish materials at trench side, placing and compacting material in the trench, and for the extra depth of Trench Excavation and disposal required below the Pipe Bedding grade to provide for a stable

foundation for the pipe. Payment for this item shall include costs associated with any unstable base encountered in the progress of the work.

12.5.3 Foundation Stabilization Geotextile Fabric

Payment for this item will be made on a price per linear foot of fabric installed as measured along the centerline of trench. Payment for this item shall constitute full compensation for all labor, material, and equipment costs for installing the geotextile fabric as designed. This will include all costs to install the foundation stabilization design above the costs of installing the standard Pipe Bedding material.

12.5.4 Rock Excavation

Measurement for Rock Excavation shall be on a cubic yard basis as calculated below, unless another method is agreed to in advance of the excavation.

Depth - Depth for payment purposes shall be 6 inches below flow line.

Width - Width for payment purposes shall be the outside diameter of the pipe bell plus 12 inches.

Rock Excavation for manholes shall be paid for as measured, up to a maximum of 21 inches greater than the outside diameter of the manhole walls.

Payment for Rock Excavation will be based on the unit price per cubic yard stated in the Contractor's proposal and will be paid in addition to the linear foot payment for trench excavation and backfill. Payment for Rock Excavation shall include full compensation for all labor, equipment and materials necessary.

12.5.5 Impervious Zone

Payment shall be based on a price for each impervious zone installed. Payment shall constitute full compensation for all labor, material, and equipment costs.

12.5.6 Creek Crossing

Payment for creek crossings shall be based on a price per linear feet of creek crossing measured along the centerline of the trench. Payment for this item shall constitute full compensation for all labor, material, and equipment costs for installing the creek crossing.

12.5.6 Shoring and Sheeting

The cost of complying with this section shall be considered incidental to the project cost.

12.5.6 Dewatering

The cost of complying with this section shall be considered incidental to the project cost unless otherwise indicated in the bid quantities or special specification.

Chapter 13

MANHOLES AND CATCH BASINS

13.1 SCOPE

This section covers the construction requirements for the construction of manholes, catch basins, and miscellaneous concrete structures.

13.2 MANHOLE MATERIALS

13.2.1 Base Rock

Clean crushed rock with a maximum size of 3/4-inch, uniformly graded from coarse to fine and meeting the specifications of Section 12.3.5.

13.2.2 Concrete

Concrete shall conform to the requirements of ASTM C 94, Alternate 2. Compressive field strength for manhole bases and miscellaneous structures shall not be less than 3000 psi in 28 days; maximum size aggregate shall be 1-1/2"; slump shall be between 2 and 4 inches, unless specified otherwise.

13.2.3 Precast Manhole Sections

Precast manhole sections shall be a minimum of 48 inches in diameter and conform to ASTM C 478. Minimum wall thickness shall be 5 inches. All cones shall be eccentric and have the same wall thickness and reinforcement as manhole sections. Joints shall be tongue and groove, rubber ring or keylock type. Top and bottom of all sections shall be parallel. The manufacturer of the manhole sections shall cast manhole steps in the precast sections.

Before delivery of any size of precast manhole section to the job site, yard permeability tests shall be conducted at the point of manufacture. The precast sections to

be tested shall be selected at random from the stockpile material that is to be supplied to the project. The sections shall meet the permeability test requirements of ASTM C14.

13.2.4 Manhole Steps

Manhole steps shall be 3/4-inch galvanized Grade 40, ASTM A-123/A615 or plastic with reinforcing bar with a minimum of 1/2-inch Grade 60 and meet the requirements of ASTM A615, including encapsulated with injection molded copolymer polypropylene with serrated surface.

13.2.5 Precast Base Sections and Bases

Precast base sections or manhole bases shall be approved by District prior to installation. Base sections shall have the base slab integral with sidewalls. The base slab shall be 6 inches thick with No. 5 reinforcing bar on 12-inch centers, both directions in center of slab.

13.2.6 Preformed Plastic Gaskets

Gaskets shall be Kent-Seal No. 2 or Ram-Nek and conform to Federal Specifications SS-5-00210 or an equal pre-approved by District.

13.2.7 Manhole Extension

Concrete rings for extensions shall be a maximum of 6 inches thick and a minimum of 4 inches thick.

13.2.8 Manhole Rings, Frames, and Covers

All castings shall be tough, close-grained gray iron, smooth and clean, free from blisters, blowholes, and all defects, and conform to ASTM A48 Class 30. Bearing surfaces shall be planed or ground to ensure flat, true surfaces. Covers shall be true and seat within rings at all points. Frames and covers shall be standard or suburban, solid; and

shall have two holes for sanitary and sixteen holes for storm, unless otherwise approved by District.

13.2.9 Reinforcing Steel

All reinforcing steel shall conform to ASTM A615, Grade 60, deformed bars.

13.2.10 Pipe and Fittings Used in Outside Drop Manholes

Tees, ells, and pipe used in manhole drop assemblies may be either concrete conforming to ASTM C 14, Class 3, or Class 50 mechanical joint ductile iron pipe.

13.2.11 Pipe Stubouts

Pipe stubouts shall consist of the same material as the lateral, main, or trunk lines. Pipe stubouts shall be the bell or hub sections of the pipe. Rubber-gasketed watertight plugs shall be furnished with each stubout on a sanitary sewer line and shall be adequately braced against air test pressures.

13.2.12 Nonshrink Grout

Nonshrink grout shall be Sika 212, Euco N-S, Five Star, or District approved equal nonmetallic, cementitious, commercial grout exhibiting zero shrinkage. Grout shall not be amended with cement or sand and shall not be reconditioned with water after initial mixing. Nonshrink grout shall be placed or packed only with the use of an approved commercial concrete bonding agent applied to all cured concrete surfaces being grouted. Unused grout shall be discarded after 20 minutes and shall not be used.

13.2.13 Chimney Seals

Internal and external rubber seal and seal extensions shall be as manufactured by Cretex Specialty Products, or an District approved equal. The sleeves and extensions shall have a minimum thickness of 3/16 of an inch and shall be extruded from a high-

grade rubber compound conforming to the applicable requirements of ASTM C923. The bands used for compressing the sleeve and extension against the manhole shall be fabricated from 16-gauge stainless steel that conforms to ASTM A240 type 304. Screws, bolts, or nuts shall be stainless steel.

13.2.14 Manhole Pipe Connector

Flexible connectors designed to produce a positive watertight connection for pipes entering a precast manhole shall be manufactured by A.Lok or an District approved equal that meets the requirements of ASTM C-923.

13.3 MANHOLE CONSTRUCTION

13.3.1 Excavation and Backfill

Excavation and backfill shall conform to applicable portions of Chapter 12, TRENCH EXCAVATION AND BACKFILL.

13.3.2 Foundation Stabilization

If, in the opinion of District, unstable material exists that will not support the manhole or other structures, Contractor shall excavate below grade and backfill with foundation stabilization material to the subgrade of the manhole in accordance with Section 12.4.13.

13.3.3 Concrete Base - Poured in Place

Contractor shall remove from the excavation all excess water that will interfere with the pouring of concrete. Contractor shall provide a 12-inch minimum layer of compacted 3/4-inch minus crushed rock as a base. The concrete base shall be leveled off so that the first manhole section to be placed has a level uniform bearing for the full circumference. Contractor shall place sufficient concrete on the base to assure a

watertight seal between manhole base and wall. There shall be a minimum of 8-inches of concrete between the compacted gravel and the lowest invert of the manhole. Twenty-four hours shall be allowed to elapse before placing the remaining sections on the base, unless otherwise approved by District. Manhole steps shall be positioned over the largest shelf in the manhole base, unless directed otherwise by District. The contractor shall place steel reinforcement in manhole bases 60-inches or larger.

13.3.4 Precast Concrete Base

The precast base section shall be carefully placed on the prepared bedding so as to be fully and uniformly supported in true alignment and so that all entering pipes can be inserted on proper grade.

13.3.5 Placing Manhole Sections

Contractor shall clean the ends of manhole sections of all foreign materials. The preformed plastic gasket shall be installed in conformance with the manufacturer's recommendations. Precast sections shall be placed and aligned to provide vertical sides. The completed manholes shall be rigid, true to dimensions, and watertight. Manhole sections shall not have lift holes.

13.3.6 Manhole Inverts

Contractor shall construct manhole inverts in conformance with details and with smooth transitions to ensure an unobstructed flow through manhole. Contractor shall remove all sharp edges or rough sections, which obstruct flow.

13.3.7 Drop Manholes

13.3.7.1 Free Fall Drop Manhole

The maximum free fall drop for a sanitary manhole is two feet; for a

storm manhole the maximum is four feet and is measured from the top of the existing pipe to the new flowline in. When the drop is more than specified above, an Inside Drop Manhole, Outside Drop Manhole, Fiberglas Panel, or an approved equal shall be used.

13.3.7.2 Inside Drop Manhole

The Inside Drop Manhole shall be constructed in accordance with Standard Drawings No. 075 and 080. The maximum pipe size allowed on an inside drop 48-inch manhole shall be 12-inches. The drop material shall be PVC 3034 unless otherwise specified. The drop shall be attached to the manhole wall with stainless steel bands. The manhole channel shall be constructed so that the flow will enter the main channel without flowing onto the manhole shelf. Where the drop assembly connects with the pipe coming into the manhole, Contractor shall install a Tee fitting so that there is access into the mainline pipe.

13.3.7.2 Outside Drop Manhole

The outside drop manhole shall be constructed with ductile iron pipe, C-900 PVC, or encased concrete pipe.

A. Concrete Outside Drop Manhole

Drop manholes shall be constructed in conformance with Standard Drawing No. 0900. When concrete pipe is used, the entire riser pipe and inlet pipe shall be encased in concrete with a minimum of 6 inches of cover.

B Ductile Iron Outside Drop Manhole

Contractor may use class 150 mechanical joint ductile-iron pipe for the encased drop construction. The cast iron pipe run shall extend beyond the

area of manhole excavation and shall be connected to the pipe with an adapter or closure collar as approved by District. The lower cast iron elbow shall be cast into the existing stubout or manhole base.

13.3.8 Flexible Joints

All flexible pipes shall be connected to manholes by using Kornseal boot, or A.Lok or District approved equal according to the manufacturer's recommendations. Pipes entering manholes shall be placed on firmly compacted base rock. Where the last joint of the line that has been placed up to the manhole is more than 1.0 foot from the manhole base on non-reinforced concrete pipe smaller than 24 inches, a 6-inch concrete encasement shall be constructed around the entire pipe from the manhole base to within 1.0 foot of the pipe joint. The pipe encasement shall be constructed integrally with the manhole base. Pipes laid out of the manhole shall be shortened to ensure that the first flexible joint is no more than 1.0 foot from the manhole base.

13.3.9 Manhole Stubouts

Stubouts from manholes shall be installed as shown on the construction drawings or as required by District. A watertight flexible connection shall be used for pipe sizes of 6-inches through 18-inches, and will be in all new manholes installed. Invert channels shall be constructed in accordance with standard drawings. Stubouts shall be installed using the flexible joints described above to ensure a watertight seal around the stubout. Compacted base rock as specified shall be provided under all stubouts.

13.3.10 Manhole Extensions

Manhole Extensions shall be limited to a maximum height of 27 inches from the center point of the first step to the top of the casting. The extensions (rings) shall be set with non-shrinking grout. Only one 2-inch ring may be used. No steps are allowed in the grade rings.

13.3.11 Frames and Covers

Frames and covers shall be installed on top of sanitary sewer manholes to positively prevent all infiltration of surface or ground water into manholes. Frames shall be set in a bed of non-shrinking concrete with the concrete carried over the flange of the ring. Frames shall be set so that the tops of the covers are flush with the surface of the adjoining pavement, unless otherwise specified by District. In the absence of pavement, frames shall be set one foot above natural ground, unless otherwise specified by the District.

13.3.12 Connection to Existing Manholes

For connections to existing manholes, all diversion facilities shall be provided and all work necessary shall be performed to maintain flow in the existing pipe during the connection process. Existing manhole bases shall be bored out as needed and replaced or grouted to provide a smooth flow into and through the existing manholes. Contractor shall allow no debris to enter the existing system while making the connection.

13.3.13 Manholes over Existing Sewers

Contractor shall construct manholes over existing operating line(s) at locations shown on plans and shall construct the new base under the existing line as specified. Contractor shall not break into any existing sanitary sewer lines until authorized by

District. After acceptance, Contractor shall break out the existing line inside the manhole so that a smooth channel exists with no broken edges. All broken edges shall be covered with non-shrinking grout and troweled smooth. Contractor shall prevent any debris from entering the manhole while breaking into the existing pipe.

13.4 CATCH BASINS AND INLETS

13.4.1 Materials

13.4.1.1 Base Rock

Aggregate for base rock shall meet the requirements set forth in Section 13.2.1.

13.4.1.2 Concrete

Concrete shall meet the requirements set forth in Section 13.2.2.

13.4.1.3 Frames, Grates, and Covers

All materials shall be flat bar steel (standard grade), cast iron or ductile iron meeting the requirements of ASTM A48 Class 30B. The cover shall be designed to withstand H-20 wheel loading.

13.4.1.4 Forms

All exterior surfaces shall be formed with steel or plywood. Other surfaces shall be formed with matched boards, plywood, or other approved material. Trench walls, rock, or earth will not be acceptable form material.

13.4.1.5 Metal Reinforcement

All metal reinforcement shall conform to the requirements of ASTM A615, Grade 60, deformed bars.

13.4.1.6 Precast Concrete Units

All precast concrete units shall conform to the same requirements as manholes per ASTM C478.

13.4.2 Construction

13.4.2.1 Trench Excavation and Backfill

Trench excavation and backfill will conform to the requirements of Section 12.4.

13.4.2.2 Bedding

Contractor shall remove all water and debris from the ditch area and provide an 8-inch minimum layer of compacted 3/4-inch minus crushed rock for a base.

13.4.2.3 Cast-in-Place

Cast-in-place catch basins shall have a minimum of 6 inches of concrete between the compacted gravel and the lowest invert. The forms used for cast-in-place catch basins shall be tight and well braced. The storm pipe material being used shall extend into the poured concrete of the catch basin. All corners shall be chamfered. Immediately after placement, the concrete shall be consolidated with an approved vibrator. The top surface shall be screed and exposed surfaces troweled to a smooth finish free from marks or irregularities. After forms are removed, Contractor shall patch any defects in the concrete with an approved material.

13.4.2.4 Precast

After the base is prepared, Contractor shall set the precast catch basin to the proper line and grade. The storm pipe material being used shall connect to the precast catch basin.

13.4.2.5 Inverts, Stubouts, and Sections

Contractor shall clean the ends of all pipes and sections that come in contact with the catch basin. All inverts, stubouts and sections shall be installed according to the details using a non-shrinking grout, making sure all sharp edges or rough sections are removed to prevent obstruction of the flow.

13.4.2.6 Oversize Catch Basins

All catch basins deeper than 4-feet measured from the top of frame to flowline shall have steps.

13.5 TESTING

13.5.1 Sanitary Manholes

Sanitary manholes shall be free from visible leaks and tested in accordance with this Section. The first three sanitary manholes built on any project shall be tested. Unless otherwise approved by District, acceptance tests shall be conducted on a random sample of 15 percent of sanitary sewer manholes that have been selected by District. Each manhole that fails the acceptance testing will obligate Contractor to test additional manholes to be selected at random by District. Sanitary manholes shall be tested for acceptance after backfilling the trench, compaction requirements have been met, road base rock has been installed, and/or the road has been paved and chimney seals or concrete manhole closure collars installed. If the manholes have passed the test and the

castings have been disturbed by construction activities and need to be reinstalled, the manholes shall be re-tested.

13.5.2 Hydrostatic Testing

The hydrostatic test shall consist of plugging all inlets and outlets, and filling the manhole with water to the rim. Leakage in each manhole shall not exceed 0.2 gallons per hour, per foot of head above the invert. A manhole may be filled 24 hours prior to the time of testing, if desired, to permit normal absorption into the manhole walls to take place. Leakage will be determined by refilling to the rim using a calibrated or known volume container.

13.5.3 Vacuum Testing

The vacuum test shall consist of plugging all inlets and outlets. The test head shall be placed at the inside of the top of the cone, including grade rings and casting, and the seal inflated in accordance with the manufacturer's recommendations. A vacuum of 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 inches. The manhole shall be considered passing the test if the time for the vacuum reading to drop 9-inches, meets or exceeds the values indicated in the following table:

Depth of Manhole	**Allowable Time (sec)**		
(feet)	**48”**	**60”**	**72”**
8	20	26	33
10	25	33	41
12	30	39	49
14	35	46	57
16	40	52	65
18	45	59	73
20	50	65	81
22	55	72	89
24	59	78	97

26	64	85	105
28	69	91	113
30	74	98	121

13.6 MEASUREMENT AND PAYMENT

13.6.1 Manholes

Payment for standard manholes and drop manholes will include payment for all work necessary to construct the manholes of the type and depth specified. Manhole depths will be measured to the nearest foot, from the top of the manhole frame and cover, to the manhole invert at the center of the manhole. Payment for standard and drop manholes shall be based on price per each manhole installed for an 8-foot deep manhole. No deduction will be made from the manhole price for depths of less than 8-feet. The above payment includes compensation for over-excavating and placement of compacted 12-inch layers of base rock under the concrete base and the cost of the frame and cover. The above payment also includes compensation for all labor, material and equipment costs for completing each manhole.

13.6.2 Additional Manhole Depth

Payment for standard and drop manholes for depths greater than 8 feet deep shall be based on a price per each additional foot of depth including extensions. The depth shall be measured to the nearest foot. Payment shall include compensation for all labor, material and equipment cost for completing this Section.

13.6.2 Manhole Stubouts

Payment for manhole stubouts shall include all work required to stub a pipe of the sized specified to at least 12 inches outside the manhole wall. Payment shall be based on

a price for each stubout installed of the size specified. Payment shall include compensation for all labor, material, and equipment for completing this Section.

13.6.4 Catch Basins

Payment for catch basins will include payment for all work necessary to construct each catch basin of the type specified. Payment for catch basins will be based on a price stated in Contractor's proposal for each catch basin. Payment shall include compensation for all labor, material, and equipment costs for completing each catch basin including the excavation, placement of the required base rock, and the casting.

13.6.2 Manhole Testing

The cost for complying with this Section shall be considered incidental to the project cost.

Chapter 14

PIPE AND FITTINGS

14.1 SCOPE

This section covers all work necessary for the installation of gravity pipe and fittings.

14.2 PIPE MATERIALS

14.2.1 Concrete Pipe

The plane of the ends of the pipe, except for special shapes, shall be perpendicular to the longitudinal axis of the pipe. The interior surface shall be smooth and well finished. The completed pipe shall be free from fractures, large or deep cracks, laminations, and surface roughness. Each pipe shall be marked clearly and legibly to show the class of pipe, the date of manufacture, and the name or trademark of the manufacturer. If steam cured, the pipe shall be at least seven (7) days old before installed. If not steam cured, the pipe shall be aged 21 days prior to installation.

14.2.1.1 Nonreinforced Concrete Pipe

Nonreinforced concrete pipe shall conform to ASTM C-14. Unless otherwise specified, pipe shall conform to Class 3.

14.2.1.2 Reinforced Concrete Pipe

Reinforced concrete non-pressure pipe shall conform to ASTM C76 or C655 requirements and shall be of the class as noted on the plans or bid proposal. Unless otherwise specified, pipe shall meet the design requirements of Wall B.

14.2.2 Concrete Pipe Joints

Joint shall be rubber-gasketed type. Rubber-gasketed type with "captive gasket in groove" design will be required on all pipe 24-inch-diameter and larger. Gaskets shall conform to ASTM C 443. Free movement of water through the pipe joint or pipe well will be grounds for rejection of the pipe.

A certified statement may be required from the manufacturer of the gaskets, setting forth the basic polymer used in the gaskets and results of the tests of the physical properties of the compound. Gaskets shall be shipped in containers with identification of

the batch from which the gaskets were fabricated. Only lubricants for jointing approved by gasket manufacturer shall be used.

14.2.3 Polyvinyl Chloride (PVC) Pipe

PVC pipe shall conform to ASTM D-3034 or ASTM F-679, and have a SDR of 35 with gaskets conforming to requirement of ASTM 477 and ASTM 3212. PVC pipe may also conform to ASTM C-900 or ASTM C-905.

14.2.4 Ductile Iron Pipe

Ductile iron pipe shall conform to ANSI A12.5-1 or AWWA C150-1. Class of pipe shall be as specified in the bid form or the plans.

14.2.5 A2000 Plastic (Storm Only)

All A2000 plastic pipe and fittings shall conform to ASTM F949 specifications.

14.2.6 Corrugated Polyethylene (Storm Only)

Corrugated polyethylene pipe, double wall, and fittings shall be made of polyethylene compounds which conforms with the physical requirements of Type III, Category 3, 4 or 5, P23, P33, P34, Class C with the applicable requirements defined in ASTM 1248. Spiral pipe is not acceptable.

14.2.7 PVC Rib (Storm Only)

PW Rib pipes and fittings shall be made of PVC, as defined in ASTM D1784. The pipe stiffness shall correspond with the series as determined in accordance with ASTM D2412. Series 46 and 28 are allowed.

14.2.8 Corrugated Aluminum and Corrugated Aluminum Arches (Storm Only)

Corrugated aluminum pipe and fittings shall conform to the requirements of AASHTO M-196 and M197. Corrugated aluminum pipe arches shall consist of corrugated aluminum pipe, which has been re-formed to multi-centered pipe having an arch-shaped top with a slightly curved integral bottom. The minimum radius of any part of the pipe section shall be not less than 3-inches. The pipe shall not be placed in a ditch in direct contact with hydrating Portland Cement or lime.

The connecting bands shall conform to the requirements of AASHTO M196, except the minimum width of bands for 12-inch and larger pipe shall be 12 inches. Minimum width for pipes less than 12-inches shall be 7 inches. The base metal of the

connecting bands shall be the same base metal as that of the pipe. The gage of the connecting bands may be two standard use thickness' lighter than that used for the pipe, but not less than 0.060 of an inch thick. The band couplers shall be connected with stainless steel bolts of not less than 1/2-inch diameter.

14.2.9 Pressure Pipe

See Special Specifications.

14.2.10 Tee Fittings

14.2.10.1 General

A tee fitting shall be provided in the sewer main for each sanitary and/or storm side sewer. All fittings shall be of sufficient strength to withstand all handling and load stresses encountered. All fittings shall be of the same materials as the pipe unless otherwise approved. Fittings shall be free from cracks and shall adhere tightly to each joining surface. All fittings shall be capped or plugged and gasketed with the same gasket material as the pipe joint, fitted with an approved mechanical stopper, or have an integrally cast knockout plug. The plug shall be able to withstand all test pressures without leaking and when later removed, shall permit continuation of piping with joints similar to those in the installed line.

14.2.10.2 Ductile Iron

Fittings shall be mechanical or push-on of the class specified. Mechanical joint cast iron fittings shall conform to AWWA C110 and shall be of a class at least equal to that of the adjacent pipe. Push-on joint fittings shall be gray iron with body thickness and radii of curvature conforming to ASNI A21.10.

14.2.10.3 PVC

Fittings shall conform to the applicable portions of the following specifications: ASTM D1785, ASTM D2729, ASTM D2466, ASTM 2467, ASTM D3034, and ASTM D3033. Fitting joints shall be the same as the pipe joints.

14.2.11 Mechanical Couplings

Mechanical couplings shall be wrought steel or ductile iron. For all pipes except PVC, couplings shall be Fernco or approved equal. For PVC pipe, use only the PVC repair sleeve. Diameter of the coupling shall be compatible with the outside diameter of the pipe on which the coupling is installed. All joint accessories shall be furnished with mechanical couplings. Dimensions of all existing pipelines shall be verified in the field before ordering couplings.

14.2.12 Line Tap Fittings

14.2.12.1 PVC Tee Saddle

PVC Tee saddles shall be manufactured in accordance with ASTM D3034 with minimum cell classification of 12454B-C or 12364-C as defined in ASTM D-1784. Elastomeric seals meeting ASTM F-477 specifications shall be located at both the lead and skirt ends of the saddle. Stainless steel bands shall be series 300 and a full 9/16-inch wide. This saddle is allowed on PVC, clay, IPS, concrete, asbestos cement and PE pipe.

14.2.12.2 Inserta Tee

Inserta Tee shall meet the same standards as the PVC Tee Saddle. This saddle is allowed only on thick wall pipe material, e.g., concrete, ductile iron, rib type plastic, C900, and C905.

14.2.12.3 Romac Style “CB” Saddle

Romac Style "CB" Saddle shall have a ductile iron casting, which meets ASTM 536-80, grade 65-45-12. The rubber gasket shall meet ASTM D-200 3 BA715. The band shall be stainless steel with Teflon coated nuts and bolts. This saddle is not allowed on plastic pipe except C-900.

14.2.12.4 DFW/HPI Saddle (Storm Only)

A DFW/HPI Saddle is an elastomeric polyvinyl chloride saddle with steel reinforced edges and stainless steel bands, series 300. This saddle is allowed on PVC, clay, IPS, concrete, abets cement, and PE pipe.

14.2.14.5 Corrugated Aluminum Saddle (Storm Only)

Saddles installed on corrugated aluminum pipe shall be fabricated and installed using stainless steel nuts and bolts or stainless self-tapping screws.

14.3 PROOF TESTS

The District may require that a joint system be prequalified as to the watertightness capability of the joint system. The manufacturer shall provide material and test equipment for proof testing. Each pipe material and joint assembly may be subject to any of the following proof tests at the discretion of the District.

14.3.1 Pipe in Straight Alignment

No less than three, or more than five pipes selected from stock by the District shall be assembled according to the manufacturer's installation instructions with the ends suitably plugged and restrained against internal pressure. The pipe shall be subjected to 10-psi hydrostatic pressure for 10 minutes. Free movement of water through the pipe joint wall shall be grounds for rejection of the pipe.

14.3.2 Pipe in Maximum Deflected Position

The test section shall be assembled as described for each pipe type.
The pipe shall be subjected to 10-psi hydrostatic pressure for 10 minutes. Free movement of water through the pipe joint or pipe wall shall be grounds for rejection of the pipe.

14.3.3 Joints Under Differential Load

The test section shall be supported on blocks or otherwise as described. There shall be no visible leakage when the stressed joint is subjected to 10-psi internal hydrostatic pressure for 10 minutes.

14.3.4 Test Configuration

14.3.4.1 Concrete Pipe

For deflected position tests on concrete pipe, a position one-half inch wider than the fully compressed position shall be created on one side of the outside perimeter. For differential load tests, one pipe shall be supported so that it is suspended freely between the adjacent pipe and bearing only on the joints. In addition to the weight of the suspended pipe, a test load shall be added as given in the following table:

TEST LOADS FOR PIPES UNDER DIFFERENTIAL LOAD

Pipe Size (Inches)	Load/Foot Lgth up to 4' (Pounds)	Total Load for Pipe 4' and Over (Pounds)
4	650	2,600
6	1,000	4,000
8	1,300	5,200
10	1,400	5,600
12	1,500	6,000
15	1,850	7,400
18	2,200	8,000
21	2,500	10,000
24 and over	2,750	11,000

14.3.4.2 Ductile Iron Pipe

For deflected position, a position 1/2-inch wider than the fully compressed section shall be created on one side of the outside perimeter. For differential load, one of the pipes shall be supported so that it is suspended freely between adjacent pipe and bearing only on the joints. A force shall be applied per the following table along a longitudinal distance of 12-inches immediately adjacent to one of the joints:

TEST LOADS FOR PIPES UNDER DIFFERENTIAL LOAD

Pipe Size (Inches)	Force (Pounds)	Pipe Size (Inches)	Force (Pounds)
4	600	15	3,700
6	900	18	4,400
8	1,200	21	5,000
10	1,500	24 and over	5,500
12	1,800		

14.3.4.3 PVC Pipe

For deflected position, two 12-1/2 foot lengths shall be joined, then deflected along an arc of 720-foot radius (0.11 feet offset at the end of each length from a tangent at the joint). For differential load, two lengths shall be joined and uniformly supported for at least two feet on both sides of the joint and adjacent pipe to 95 percent of its vertical diameter.

14.4 CONSTRUCTION

14.4.1 Ground Water

Pipe shall not be placed in water. Ground water shall be controlled such that softening of the bottom excavation or formation of "quick" conditions during excavation is prevented.

When laying a sanitary sewer, inflow of water from the trench shall be prevented from entering into the sanitary sewer line. A plug shall be installed in the downstream sanitary manhole at the end of each day's work period, or when so ordered by the District. The accumulated water shall be pumped out at the beginning of each day. Precautions shall be taken to prevent the uplift or floating of the line prior to the completion of the backfilling operation.

14.4.2 Bedding

Pipes shall not be placed on blocking or any material other than Bedding material in conformance with Section 12.3.3. Bell holes shall be excavated at each joint of sufficient depth that bells do not touch base or native material. Pipe base shall be fine graded by hand to give uniform, even support to the barrel of the pipe.

14.4.3 Pipe Distribution

Pipe, which cannot be physically handled by workers, shall be unloaded by approved means. Pipe shall not be unloaded by dropping from the bed of a truck to the ground or in any manner that will result in damage to the pipe. Contractor shall distribute material on the job in an orderly and timely fashion.

All pipe and fittings shall be inspected prior to lowering into trench to insure no cracked, broken, or otherwise defective materials are being used. Ends of pipe shall be cleaned thoroughly. Foreign matter and dirt shall be removed from inside of pipe. Pipe shall be kept clean during and after placement.

Contractor shall use approved implements, tools and facilities for the safe and proper protection of the work. All damaged pipes shall be removed from the job site.

14.4.4 Pipe Line and Grade

Deviation from line or grade as established by the District shall not exceed 1/2-inch for line and 1/4-inch for grade at any point, provided that such deviations do not

result in a level or reverse sloping grade. Grade shall be measured at the pipe invert, not at the top of the pipe. The Contractor shall constantly check line and grade and in the event they do not meet the limits described, the work shall be immediately stopped, the District notified, and the cause remedied before proceeding with the work.

14.4.5 Pipe Laying

Pipe placement shall proceed upgrade with spigot ends pointing in direction of flow. After a section of pipe has been lowered into the prepared trench, the contractor shall clean the end of the pipe to be joined; the inside of the joint and the rubber ring shall be cleaned immediately before joining the pipe. The joint shall be assembled in accordance with the recommendations of the manufacturer of the type of joint used. The Contractor shall provide all special tools and appliances for the jointing assembly.

After the joint has been made, pipe shall be checked for alignment and grade. The trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between joints.

The contractor shall not break into an existing sanitary sewer line until the system has been tested and ready for acceptance by the District. When a contractor ties into a "live" sanitary line, the contractor shall keep the new line plugged at the downstream end of the construction to prevent entry of groundwater and debris into the system.

14.4.6 Concrete Closure Collars

Closure collars shall be used only with prior approval of the District, and then only to make connections between dissimilar pipe or where standard rubber-gasketed joints are impractical. The contractor shall pour closure collars against undisturbed earth. The Contractor shall wash pipe to remove all loose material and soil from the surface on which the concrete will be placed. The Contractor shall wet nonmetallic pipe thoroughly prior to pouring the collars. The Contractor shall wrap and securely fasten a light gauge of sheet metal or building felt around the pipe to insure that no concrete shall enter the line. The entire collar shall be constructed in one pour and extend a minimum of 12 inches on each side of the joint. The minimum thickness around the outside diameter of the pipe shall be 6 inches. No collar shall be poured in water. After the collars are

poured and have taken their initial set, the collar shall be covered with well-moistened earth for final curing.

14.4.7 Transition Fittings

When joining different types of pipes, the Contractor shall use approved rigid fittings. No flexible fittings will be approved. Bell type couplings are considered flexible and are not acceptable.

14.4.7.1 Shear Ring/Ridge Couplings

Shear ring/rigid transition couplings meeting the ASTM C564 or equal shall be used.

14.4.7.2 PVC Couplings

PVC couplings or adapters shall meet the ASTM 3034-SDR 35/C900-DR 18-D1784 specifications.

14.4.7.3 Ductile Iron Couplings

Ductile iron transition couplings shall meet the ASTM A536-80 for center and end rings, ASTM D2000 3 BA75 for gaskets and AWWA C-111-80 for bolts and nuts.

14.4.8 Placing Pipe Zone Material

Pipe Zone Material shall be placed uniformly on both sides of the pipe up to 6-inches above the pipe. For reinforced pipe material, pipe zone material shall be placed up to horizontal centerline of pipe. Pipe Zone Material shall be placed in lifts not exceeding 6-inches and each lift shall be sliced with a hand shovel to insure that there are no voids beneath the pipe, and compacted.

14.5 PRECAUTIONS

14.5.1 Foreign Material

The Contractor shall prevent excavated or other foreign material from getting into the pipe during the placement operation. At all times when pipe laying operations are not in progress, the Contractor shall close and block the open end of the last laid section of pipe to prevent entry of foreign material or creep of the gasketed joints.

14.5.2 Movable Shield

When pipe is laid within a movable trench shield, the Contractor shall take all necessary precautions to prevent pipe joints from pulling apart when moving the shield ahead. The bottom of the shield shall not extend below the springline of the pipe without recompacting the pipe zone.

14.5.3 Cutting Pipe

When cutting and/or machining the pipe is necessary, the Contractor shall use tools and methods recommended by the pipe manufacturer and approved by the District. The contractor shall cut cast iron or ductile iron pipes with milling type cutter or with rolling pipe cutter and shall not be flame cut.

14.6 ACCEPTANCE TESTS

14.6.1 General

All sanitary sewers shall pass the required hydrostatic or air tests, pass the required compaction test, be video inspected, and be free of visible leaks. All aluminum and other flexible pipes shall pass a deflection test. All storm sewers shall be video inspected and pass the required compaction test.

The District shall determine whether the pipe must pass a hydrostatic or air test. All pipe openings shall be plugged with gasketed caps or plugs securely fastened or blocked to withstand internal test pressures. Plugs and caps shall be removable and after removal shall not affect the installation of additional pipes or appurtenances to the tested pipe. Contractor shall furnish all test equipment and shall provide the District with satisfactory evidence that gauges for air testing are properly calibrated.

Acceptance tests shall only be performed after all house service laterals, manholes, and backfilling are complete. Infiltration of ground water, following a successful hydrostatic or air test as specified, shall be considered evidence that the original test was in error or that subsequent failure of the pipeline has occurred. The Contractor shall promptly correct such failures should they occur within the warranty period.

14.6.2 Cleaning Prior to Test

Prior to the internal pressure and deflection testing, the Contractor shall flush and clean all parts of the system. The Contractor shall remove all accumulated construction debris, rock, gravel, and other foreign material from the system. If necessary, the Contractor shall use mechanical rodding equipment. If any foreign matter is present when the District conducts the final inspection, those sections not passing inspection shall be reflushed and cleaned. Under no circumstances shall any material be allowed to enter the downstream existing sewer system.

14.6.3 Deflection Test

The Contractor shall conduct a deflection test on all plastic aluminum pipes installed prior to acceptance by the District. The test shall be conducted by pulling an approved mandrel through the completed pipeline. The diameter of the mandrel shall be 95 percent of the nominal pipe diameter for plastic pipe and 92 percent of the nominal pipe diameter for aluminum pipe. The mandrel shall be a rigid, nonadjustable, odd-numbering-leg (9 legs minimum) mandrel having an effective length of not less than its nominal diameter.

Deflection testing shall be conducted after the line has been completely balled and flushed out with water, and compaction tests completed and accepted. Sanitary sewer line air test must be completed and accepted. The contractor will be required to locate and repair any sections failing to pass the deflection test and to retest the section with air (sanitary only) and deflection tests.

14.6.4 Air Testing

After completion of the sewer system including service connections, compaction testing where required, and backfilling, the contractor shall conduct a low-pressure air test. The contractor shall provide all equipment and personnel for the test. The method, equipment, and personnel shall be subject to the approval of the District. The District may at any time require a calibration check of the instrument used. The pressure gauge used shall have minimum divisions of 0.10 psi and have an accuracy of 0.0625 psi. All air used shall pass through a single control panel.

14.6.4.1 Safety Precautions

All plugs used to close the sewer for the air test must be capable of resisting the internal pressures and must be securely braced. All air testing equipment must be placed above ground and no one shall be permitted to enter a manhole or trench where a plugged line is under pressure. All pressure must be released before the plugs are removed. The testing equipment must include a pressure relief device designed to relieve pressure in the line under test at 10 psi or less and must allow continuous monitoring of the test pressures in order to avoid excessive pressure. The Contractor shall use care to avoid the flooding of the air inlet by ground water.

14.6.4.2 Air Test Procedure

Prior to conducting the air test, the Contractor has the option of wetting the lines. The Contractor shall determine the height of the ground water table at the time of the test. The air test pressure shall be increased 0.433 pounds per square inch (psi) for each foot of average water depth over the line. After all plugs are secured, air shall be added into the pipe section being tested until the internal air pressure reaches 4.0 psi greater than the average back pressure of any ground water that may submerge the pipe. A minimum of two minutes shall be allowed for the air temperature to stabilize adding only the amount of air required to maintain pressure. The time shall be recorded in seconds that it takes for the internal air pressure to drop from 3.5 psi to 2.5 psi greater than the average back pressure of any ground water for concrete pipe. For plastic pipe the time shall be recorded in seconds that it takes for the internal air pressure to drop from 3.5 psi to 3.0 psi greater than the average back pressure of any ground water.

14.6.4.3 Basis of Acceptance for Gravity Sewers

The pipe section being air tested shall be considered acceptable when the total rate of air loss does not exceed 0.003 cfm per square foot of internal pipeline surface, or 2.0 cubic feet per minute whichever is greater. If a line fails to meet these requirements, the Contractor shall determine at his expense, the reason for leakage and shall repair or replace all defective materials or workmanship.

14.6.5 Television Inspection

Upon completion of all construction, repairs and tests, the contractor shall notify the District that the sewer system is ready for television inspection. The District shall commence television inspection of the system at no expense to the Contractor. Any problems with the system will be recorded and the Contractor will be required to correct all deficiencies at no expense to the District.

14.7 MEASUREMENT AND PAYMENT

Payment for pipe shall be based upon the unit price per linear foot as stated in the Bid for the various classes, types and sizes of pipe installed as shown or as directed by the District. Payment shall be based on the actual number of feet installed as measured horizontally from center-to-center of manholes or to the end of the pipe, whichever is applicable. The unit price per linear foot shall constitute full payment for the pipe in place, pipe bedding, backfill in the pipe zone, leakage testing, closure collars and all other work specified. No payment for pipe in place will be made until the pipe has successfully passed the air or hydrostatic test.

The District will withhold full payment on any section of pipe deemed unsatisfactory due to excessive leakage, pressure drop, failure to pass the required test, or any other cause until such defects have been corrected in accordance with the intent of these Contract Documents to the satisfaction of the District.

Chapter 15

STREET RESTORATION

15.1 SCOPE

This section covers the work necessary for the replacement of pavement and other street features.

15.2 MATERIALS

15.2.1 Course Rock

15.2.1.1 Base Course Rock

Rock for the base course of the street shall be 1-1/2 inch minus and shall conform to the applicable portion of the Standard Specifications for Highway Construction of the Oregon Department of Transportation for course aggregate base material.

15.2.1.2 Crushed Rock - Leveling Course Rock

Rock for leveling course shall be 3/4 inch, and shall conform to Section 12.3.5.

15.2.2 Asphalt Concrete

15.2.2.1 Surface Course

Asphalt concrete for the surface course shall be Class C mix and shall conform to the Standard Specifications for Highway Construction of the Oregon Department of Transportation. The surface course mix design is subject to District's approval.

15.2.2.2 Base Course

When more than 2 inches of asphalt concrete is required, the asphalt concrete shall be placed in lifts of no more than two inches each. The base course shall be Class B asphalt concrete mix and shall conform to the Standard Specifications for Highway Construction of the Oregon Department of Transportation.

15.2.3 Tack Coat

Materials for the tack coat shall be emulsified asphalt type RS-1, CSS-1 or approved equal and shall conform to the applicable portions of the Standard Specifications for the Oregon Department of Transportation.

15.2.4 Cold Mix Asphalt

Asphalt for temporary pavement replacement shall be SC-800, and shall meet the requirements of Specification Series No. 2 of the Asphalt Institute. The maximum aggregate size shall be 3/4 inch. The final mixture shall contain from 4 to 6 percent liquid asphalt by weight of total mix.

15.2.5 Concrete

Concrete for curbs, sidewalks, and concrete driveways shall conform to ASTM C 94, Alternate 2 and shall have a design mix that will have 3,000 pounds per square inch compressive strength in 28 days. The concrete mix shall contain no less than 5-1/2 sacks of cement per cubic yard.

15.2.5.1 Concrete Forms

All forms for curbs and sidewalks shall be 2-inch dimensioned lumber, plywood or metal forms. Forms on the face of the curb shall have no horizontal form joints within 11 inches of the top of the curb.

15.2.5.2 Curing Compound

Curing compound shall be approved commercial grade and shall conform to ASTM C 309, Type I.

15.2.5.3 Reinforcing Steel

Reinforcing steel shall conform to ASTM A 615, Grade 40.

15.3 CONSTRUCTION

15.3.1 Trench Maintenance Prior to Permanent Pavement

When traffic will pass over backfilled trenches before they are paved, the top of the trench shall be maintained in a condition that will allow normal vehicular movement to continue. Temporary pavement placement of a 1-inch lift of an approved cold-mix asphalt shall be installed above all trenches that cross-paved streets on the same day as backfilling.

If Contractor fails to install or maintain the cold-mix asphalt surfacing, District may do so and deduct such costs from payments due Contractor. The installation of cold-mix asphalt surface shall not release Contractor from the responsibility to complete the paving as specified in this Section. Clean up operations shall follow immediately behind backfilling and the work site shall be kept in an orderly condition at all times. The costs for installing and maintaining temporary trench patches shall be borne by Contractor.

15.3.2 Trench Preparation

The trench shall be brought to a smooth, even grade at the correct distance below the top of the existing pavement surface to allow for the placement of leveling rock and asphalt concrete. If cold mix asphalt has been installed, the cold mix shall be removed entirely prior to paving. Contractor shall trim existing pavement so that the trench width plus 12-inches of asphalt is removed, creating a "T" cut section, and all pavement shall be removed which has been damaged or which is broken or unsound. The asphalt edge shall be smooth and sound for joining the new asphalt pavement. Trimming the asphalt edge shall be accomplished by use of a saw, or approved equal.

If District requests, Contractor shall trim off and repave sections of surrounding pavement that show indications of base failure or deterioration resulting from construction activities.

The top 8 inches of pavement subgrade shall be compacted to 95 percent relative density in accordance with ASTM D 2049. Supplementary compaction shall be accomplished where required with approved mechanical vibrating or power tampers.

After the leveling course has been compacted, Contractor shall apply an asphalt tack coat at 0.06 to 0.12 gallon per square yard to the edges of the existing pavement and manhole frames. The surface upon which the tack coat is applied shall be dry and clean of dirt and other matter detrimental to the adherence of asphalt.

15.3.3 Placing Asphalt

15.3.3.1 Pavement Replacement Thickness

Pavement shall be replaced to match the existing pavement thickness, with a minimum allowable thickness of 3 inches, or as directed by the governing authority and approved by the District.

15.3.3.2 Weather Conditions

Asphalt concrete shall not be placed when the atmospheric temperature is lower than 40 degrees Fahrenheit, or when the surface upon which it is to be placed is frozen or wet. Exceptions will be permitted only in special cases and only with the prior written approval of District.

15.3.3.3 Base Course

If a base course of asphalt is required, Contractor shall place the base course on the prepared subgrade over the trench to a depth of 2 inches. The asphalt concrete shall then be spread and leveled.

The asphalt shall be compacted by rolling or by use of hand tampers where rolling is impossible. Power rollers shall be capable of providing compression of 250 pounds per inch of width.

15.3.3.4 Surface Course

The surface course of asphalt concrete shall be placed to the required depth. The asphalt concrete shall be spread and leveled with hand tools or by use of a mechanical spreader, depending upon the area to be paved. Asphalt concrete shall be brought to the proper grade and compacted to 90 percent relative density by rolling or the use of hand tampers where rolling is impossible. Power rollers shall be capable of providing compression of 250 pounds per inch of width. The rolling shall start from the outside edge of the replacement, progressing toward the existing surface, lapping the existing surface at least one-half the width of the roller. If existing surfacing bounds both edges of the replacement, the rolling shall start at the edges of the replacement, lapping the existing surface at least one-half the width of the roller, and progressing toward the center of the replacement area. Each preceding track shall be overlapped by at least one-half

the width of the roller and sufficient passes shall be made over the entire area to produce the desired result as determined by District.

The finished surface of the new compacted paving shall be flush with the existing surface and shall conform to the grade and crown of the adjacent pavement. Immediately after the new paving is compacted, all joints between the new and original asphalt pavement shall be painted and sealed with hot asphalt or asphalt emulsion and be covered with dry paving sand before the asphalt solidifies. Each manhole frame, water valve frame and other appurtenance that exists in the new paving shall be sealed with asphalt emulsion.

15.3.4 Sidewalks, Curbs and Concrete Driveways

Sidewalks, curbs and driveways shall be replaced to the section width, depth, line and grade as required by the responsible jurisdiction and/or District. On private property or in other areas not under the jurisdiction of a public agency, the replacement work shall match the existing walk, curb, driveway, etc., in quantity, quality and finished appearance. All discontinuous edges shall be finished with a suitable edging tool.

Concrete sidewalks shall be replaced between scored joints and replacement shall be made in a manner that will avoid a patched appearance. Curbs and sidewalks shall be finished in a way that is similar to the existing and abutting areas. A minimum of 2-inch thick compacted leveling course of clean 3/4 inch minus rock shall be used as a subgrade under all sidewalks. The Contractor has the option of tunneling under curbs and sidewalks. If any subsequent cracking, subsidence, or any other indication of failure occurs within the warranty period, the damaged section shall promptly be replaced at no additional cost to District.

15.3.5 Protection of Structures

Contractor shall provide whatever protective coverings may be necessary to protect the exposed portions of bridges, culverts, curbs, gutters, posts, guard fences, road signs, and any other structures from splashing oil and asphalt caused by the paving operations. Contractor shall remove any oil, asphalt, dirt, or other undesirable matter

that accumulates upon these structures by reason of the paving operations.

Where water valve boxes, manholes, catch basins, or other underground utility appurtenances are within the area to be surfaced, the resurfacing shall be level with the top of the existing finished elevation of these facilities. If it is evident that these facilities are not in accordance with the proposed finished surface, Contractor shall notify District to have the proper authority contacted in order to have the facility altered before proceeding with the resurfacing around the obstruction. Any delays experienced from such obstructions shall be considered incidental to the paving operation. No additional payment shall be made for such delays.

15.3.6 Settlement of Pavement

Contractor shall repair all pavement settlement over the sewer trench within the warranty period at no additional charge to District.

15.4 MEASUREMENT AND PAYMENT

Payment for the work under this Chapter shall be considered full compensation for furnishing all labor, materials, and equipment to complete the work as specified under this section. Payment for temporary "cold-mix asphalt" pavement is included in the unit prices for Trench Excavation and Backfill.

15.4.1 Asphalt Concrete Pavement Replacement

When the trench centerline crosses asphalt concrete driveways or walks or is under or at the edge of existing pavement, payment for asphalt concrete pavement shall be based on the unit price per linear foot of centerline of trench (for the full width of the disturbed or damaged surface) stated in Contractor's proposal. The number of linear feet will be measured by District. The unit prices shall include payment for the excavation required to provide space for the surfacing, preparation of the trench, including the addition of crushed rock to the subgrade and compaction of the subgrade, disposal of all excess excavated materials, and all other work required to complete the resurfacing.

Should Contractor elect to jack or tunnel under certain sections of pavement, payment will be made as though removal and replacement had been accomplished.

15.4.2 Sidewalks, Curbs, and Driveways

Payment for driveway and sidewalk replacement shall be based on the unit price per square foot as stated in Contractor's Proposal. Payment for sidewalk replacement will be limited to sidewalks replaced within 5 feet of the trench centerline. All sidewalks damaged outside of these limits shall be replaced at Contractor's expense.

Payment for concrete curb replacement shall be based on the unit price per linear foot as stated in Contractor's Proposal. Payment for curb replacement will be limited to curbs replaced within 5 feet of the trench centerline. All curbs damaged outside of these limits shall be replaced at Contractor's expense. No differentiation for payment will be made between curb and monolithic curb and gutter sections.

If Contractor elects to tunnel under curbs, sidewalks, driveways, etc., payment will be the same as if the structures were actually removed and replaced.

Chapter 16

LANDSCAPE RESTORATION

16.1 SCOPE

This section covers the work necessary for restoration of the landscape.

16.2 MATERIALS

16.2.1 Plants

All plants shall be grown within the Willamette Valley and be of local genetic stock. Plants shall be first-class representatives of their normal species or varieties as follows: The branch system shall have normal development and be free from disfiguring knots, sunscald, injuries, abrasions of the bark, dead or dry wood, or other objectionable disfigurements. Trees shall have reasonably straight stems and be well branched and symmetrical in accordance with their natural habits of growth. Grading of plants shall conform to the "American Standard for Nursery Stock," as approved by the American National Standard Institute. Plants shall be free from plant diseases and insect pests.

Should it be necessary to substitute a plant of a different variety than the plant material specified, the Contractor shall secure approval from the District for the substitution prior to digging the plants. An approved substitute plant shall be of equal or greater value to the specified plant for which the substitution is being made.

16.2.2 Seed

All seed shall be collected within the Willamette Valley and be of local genetic stock. Seed shall be from blue tag stock and from the latest crop available. Each variety shall be from tested seed and shall be delivered in standard sealed containers labeled in accordance with Oregon State laws and U.S. Department of Agriculture rules and regulations under the Federal Seed Act in effect on the date of invitation of bids. The percentage of purity, germination and maximum weed content shall be as set forth in the General Seed Certification Standard by Oregon State University Certification Board or as specified. The label shall show the variety of seed, the percentage of germination, purity and weed content, and the date of test. The seed shall have been tested within nine months of date of delivery and shall not be moldy or show evidence of having been wet or otherwise damaged.

The District shall approve all grass seed prior to application. Seed not meeting the requirements of these specifications or not labeled as specified, will be rejected and shall be replaced with seed conforming to the specifications.

Grass seed may be delivered to the project as a mixture, providing each variety of grass seed in the mixture is identified and labeled as specified or a certification from the supplier is attached giving the percentage of each variety of grass seed in the mixture and the percentage of purity, germination, and weed content.

16.2.3 Seed Mix

Seed mixes to be used on District projects are as follows:

Zone 1, Residential Lawn/Parks Areas Only:

40% Kentucky Bluegrass (*Poa pratensis*)
25% Ryegrass (*Lolium spp*.)
25% Fescue (*Festuca spp*.)
10% Bentgrass (*Agrostis spp*.)

Zone 2, Upland Areas and Stream Banks:

40% Blue wild rye (*Elymus glauca*)
25% Slender hairgrass (*Deschampsia elongata*)
25% Spike bentgrass (*Agrostis exarata*)
10% Streambank lupine (*Lupinus rivularis*)

Zone 3, Wetlands with high invasive species coverage:

100% Tufted hairgrass (*Deschampsia cespitosa*)

Zone 4, Wetlands with low-moderate invasive coverage:

35% Slough sedge (*Carex obnupta*)
25% Small-fruited bulrush (*Scirpus microcarpus*)
20% Saw beaked sedge (*Carex stipata*)
10% Slender rush (*Juncus tenuis*)
10% Creeping spike rush (*Eleocharis palustris*)

Zone 5, Forested Wetlands:

20% Spike bentgrass (*Agrostis exarata*)
60% Sough Sedge (*Carex obnupta*)
20% Dewey Sedge (*Carex deweyana*)

All percentages specified are by weight.

16.2.4 Sod

Sod shall be nursery grown on agricultural land cultivated specifically for sod purposes. Sod shall meet the Oregon Department of Agriculture's "Sod Quality" standards and shall consist of bluegrass and fine fescues or other combinations of fine texture grasses. Sod shall be mature, not less than ten months old, and shall have the approval of the District at the source prior to delivery to the project.

Sod shall be machine cut to uniform thickness of approximately 5/8-inch excluding top growth and thatch. Broken pads and torn or uneven ends are not acceptable.

Sod shall be delivered and placed within a period of 36 hours after harvest.

16.2.5 Fertilizer

Fertilizer shall be furnished in moisture-proof bags. Each bag shall be marked with the grade, weight and the manufacturer's analysis of the contents showing the percentage for each ingredient contained therein. Fertilizer shall be furnished in a dry condition, free from lumps and caking. Fertilizing material shall not contain toxic ingredients or fillers in quantities harmful to human life, animals, or plants. Fertilizer shall be standard commercial grade, conforming to state and federal laws.

Fertilizer shall have the following minimum percentage of plant food by weight for soil preparation: 16 percent nitrogen, 16 percent phosphoric acid, 16 percent potash, and 5 percent iron.

16.2.6 Mulch

16.2.6.1 Straw Mulch

Sterile, straw mulch shall consist of native bent grasses, blue grasses, fescues and rye grasses, singly or in combination. Straw mulch shall not be musty, moldy, caked, decayed or of otherwise low quality, and shall be free of noxious weeds and includes no seed heads.

16.2.6.2 Bark Mulch

Bark mulch shall be ground or broken particles from bark of fir, pine, or hemlock trees and shall be free from weed seeds, harmful bacteria or disease spores and substances toxic to plant growth. The mulch shall be of the size commonly known as "medium bark mulch."

16.2.6.3 Compost

The compost shall be derived from plant material and shall be the result of biological degradation of plant derived materials under conditions designed to promote aerobic decomposition. The material shall be well composted, free of viable weed seeds and stable in regard to oxygen consumption and carbon dioxide generation. The compost shall have no visible free water and produce no dust when handled. The compost shall meet the following criteria as reported by the US Composting Council STA Compost Technical Data Sheet provided by the vendor.

1) 100% of the material shall pass through a ½-inch screen.
2) The pH of the material shall be between 6 and 8.
3) Manufactured inert material shall be less than 1.0% by weight.
4) Organic matter shall be between 30% and 70% by dry unit weight.
5) Soluble salt content shall be less than 6.0 mmhos/cm.
6) Maturity Indicator shall be greater than 80% for germination and vigor.
7) Stability shall be “Stable” to ”Very Stable.”
8) Carbon/Nitrogen (C/N) ratio shall be less than 25:1.
9) Trace metals test result must “Pass.”

Compost shall consist of either cleaned sanitary biosolids or other organic compost, free from weed seeds, harmful bacteria, or disease spores and substances toxic to plant growth.

16.2.7 Matting/Blankets

Matting shall be jute matting, coir matting, coconut matting or geotextile matting, as defined in the District’s Erosion Prevention and Sediment Control Measures and BMP’s (Chapter 4, Table 4.3) or equal, approved in writing by the District. Plastic reinforced matt/blanket shall not be used in active stream areas.

16.2.7.1 Jute Matting

Jute matting shall be heavy-duty netting and shall consist of a uniform open plain weave of single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one half of its normal diameter. The weave shall provide openings approximately 1-inch square. The matting shall be in widths of 45 inches or more and shall weigh not less than 0.9 pounds per square yard. It shall be furnished in continuous lengths of not less than 150 feet. Staples for use with jute matting shall be of 12-gauge or heavier steel wire bent U-shaped approximately 1-½ to 2 inches in width and shall be not less than 12 inches long unless hard pan soil conditions dictate and shorter lengths are approved in writing by the District.

16.2.7.2 Coir Matting

Coir matting shall be heavy-duty coconut fiber netting. Coir matting shall consist of 0.35 inch thick twisted bristle coir twines with tensile strength ranging from 75 to 150 lbs. /inch, in wet condition. The weave shall be of grade 7 (½ inch openings, 23 oz/sq. yd.) or grade 9 (less than ½ inch openings, 29 oz/sq.yd.) depending on the site application. It shall be furnished in continuous lengths of not less than 150 feet. Staples for use with coir matting shall be 12 gauge or heavier steel wire, bent U-shaped and be approximately 1-½ to 2 inches in width and not less than 12 inches long, unless approved by the District.

16.2.7.3 Coconut Blankets

Biodegradable coconut blankets shall consist of a double net jute mesh interwoven over a coconut fiber matrix, 80% of which shall be of consistent thickness with the fibers evenly distributed over the entire area of the blanket. The top and bottom netting shall be biodegradable and weigh a minimum of 9 pounds per 100 square feet. The coconut fiber shall weigh a minimum of 0.5 pounds per square yard.

16.2.7.4 Geotextile Matting

Geotextile matting shall be a green, highly flexible polymeric mat possessing an intricate three-dimensional web-like weave. The mat shall be a

minimum of ¼ inches thick. The matting shall be resistant to ultraviolet light degradation and have had testing to prove maintenance of physical properties over a minimum of 16 months.

16.3 CONSTRUCTION

16.3.1 Residential Lawn/Parks Areas, Zone 1

The Contractor shall remove and replace all trees, shrubs, plants or sod that cannot be preserved. All ornamental shrubs or plants shall be balled and carefully handled and kept watered and replaced in their original positions without damage. Lawn sod shall be handled in a similar manner. Wherever lawn sod cannot be saved and restored, the ground must be reseeded and cared for until a stand of grass is re-established. Installation of sod is a substitute for reseeding lawn areas. Contractor shall either replace all trees and shrubs that do not survive or shall pay District the replacement value plus replanting costs. The Contractor shall leave the surface and planting in substantially the same or better than the pre-existing condition as determined by the District.

16.3.1.1 Seeded Lawn Preparation & Construction

Seeded lawn construction shall be performed only at times when local weather and other conditions are favorable to the preparation of the soil and to the germination and growth of grass seed.

Areas on which seeded lawn is to be established shall be in a loose, friable condition for a minimum depth of six inches. The area shall be made free of vegetative matter, stones, clods, roots, sticks, debris and other matter detrimental to the preparation of a good seedbed, or toxic to the growth of grass.

Each area shall be at the pre-existing grades and shall be furnished to provide good drainage. The finished grade of lawn area shall be approximately ¼ inch below the grades of adjacent walks, driveways and pavements.

Soil conditioners, soil amendments and fertilizers shall be spread evenly over the surface of the area to be seeded, at the rate of 650 pounds per acre, and shall be thoroughly and uniformly incorporated into the upper six inches of the soil. The surface shall then be fine-graded to specified grades and brought to a

fine-textured, smooth and firm condition horticulturally recognized as providing a seed bed favorable to the germination and growth of lawn grasses. The seed shall then be applied uniformly at the rate of 400 pounds per acre. At the end of the establishment period, the District will inspect all lawn areas. These areas shall have uniform green color and texture, and shall be free of weeds. The judgment of the District as to conformance to these requirements shall be final.

Fertilizer and seed may be combined in water for application by hydraulic means. When fertilizer and seed are to be applied separately and successively, they shall be applied in dry conditions. If applied from separate compartments, the application may be done in one operation.

Fertilizer and seed normally shall be placed prior to the placing of mulch. However, fertilizer and seed may be applied after mulching under the following conditions:

(1) when the mulch is punched into the soil by mechanized means such as modified sheepsfoot rollers or serrated flat blade discs, (2) when it is necessary to hold down the mulch with wire netting or like material, and (3) on slopes steeper than 1½ horizontal to 1 vertical where a slurry containing seed, fertilizer and water applied directly to the soil would tend to run down the slope.

On areas having slopes of 3:1 or flatter, the fertilizing and seeding shall be done with grass seed drills or seeders. Regardless of the equipment and methods used, due care shall be exercised to prevent drift and displacement of fertilizer and seed. If the equipment used and the method of application results in waste of material, other equipment and methods may be substituted with District approval. The fertilizing and seeding operations shall be conducted to avoid disturbance of areas previously prepared, fertilized, seeded or mulched, and if any such areas do become disturbed they shall be again prepared, fertilized, seeded and mulched as the District may direct, without additional compensation to Contractor.

16.3.1.2 Sod Lawn Preparation & Installation

Sod lawn work shall be performed only at times when local weather and other conditions are favorable to the preparation of the soil and placement of sod. Fertilizer shall be spread uniformly over the area and thoroughly cultivated into the soil to a depth of six inches. Rates of applications shall be 10 pounds per 1,000 square feet. After cultivation, the area shall be carefully fine-graded and rolled to provide a fine-textured, smooth and firm surface, free of any undulations or irregularities. The finish grade of the sod bed shall be 1 inch below the finish grade of the walks and sod shall be placed to final grade ¼ inch below the finish grade of the walks. Immediately prior to placing sod, the sod bed shall be thoroughly watered to prevent drying of grass roots. The first row of sod shall be laid in a straight line and subsequent rows placed parallel thereto and tightly against each other. Lateral joints shall be staggered. The sod shall not be stretched or overlapped, and all joints shall be tightly butted.

After placing sod, the lawn shall be adequately rolled diagonally and watered heavily. The second application of fertilizer at 10 pounds per 1,000 square feet shall be applied and watered in thoroughly.

16.3.1.3 Placing Mulch

Mulch materials on seeded areas shall be placed not later than two work days after seeding. Mulch material shall be maintained in place by whatever means may be appropriate. The Contractor shall be responsible for the replacement of any material, which becomes displaced prior to acceptance of the work.

Mulch material shall be placed to a reasonably uniform thickness, within the range of 1½ to 2½ inches, and averaging approximately 2 inches in loose condition. This rate requires approximately two tons of dry mulch per acre. The mulch shall be loose enough for sunlight to penetrate and air to circulate, but dense enough to shade the ground, reduce the rate of water evaporation, and prevent or materially reduce erosion of underlying soil. Mulch shall be retained in place by appropriate means which may include punching the straw partially into

the soil, covering the straw lightly with soil, covering with open mesh fabric or wire netting fastened to the soil, or by the prior "pegging" of the slopes with small stakes, pegs, arrow shaft material, etc., set in the ground at about two foot spacing and protruding about 3 inches. The method of placing and retaining mulch shall be at the option of the Contractor.

16.3.2 Upland Forests and Creek Bank Restoration, Zone 2

16.3.2.1 Site Preparation

Upon completion of backfilling, the Contractor shall remove all excavated material and replace the native topsoil. All areas shall be raked and graded to conform to their original contours and shall be free draining, free from holes, rough spots or other surface features detrimental to a seeded area. The surface soil on all areas to be seeded shall be in a condition favorable for germination and growth of native grass seed, shrubs, and trees. A minimum of 8-12 inches of surface soil shall be in a loose condition prior to seeding or planting, free from rock, and free from clods larger than one inch in diameter. If District staff determine that surface soil needs soil amendments or conditioners the following shall be completed:

(1) The sub-grade within the (designated) upland areas shall be tilled to a depth of at least 12 inches and,

(2) at least 4 inches of clean, compost-amended soil shall be uniformly applied throughout the site and tilled in to a depth of 8 inches.

The compost-amended topsoil shall have at least 35% organic matter (by bulk density) to ensure a good growing medium for the selected plants.

16.3.2.2 Seeding

Unless otherwise approved by the District, this work shall be performed during either the "spring season" (February 1 to May 31), or the "fall season" (September 1 to November 30) and only at times during these seasons when local weather and other conditions affecting the work are favorable to proper execution. Seed shall be applied uniformly at the rate of 30 pounds per acre for seed. No

seeding is to take place until approval of surface preparation by the District. The work under this specification shall not be undertaken when wind velocities would prevent uniform application of the materials involved or when winds would drift the materials to areas on which they are not desired.

16.3.2.3 Placing Sterile Straw Mulch

Sterile straw mulch materials on seeded areas shall be placed not later than two work days after seeding. Straw material shall be maintained in place by whatever means may be appropriate. The Contractor shall be responsible for the replacement of any material, which becomes displaced prior to acceptance of the work.

Straw material shall be placed to a reasonably uniform thickness, within the range of 1½ to 2½ inches, and averaging approximately 2 inches in loose condition. This rate requires approximately two tons of dry straw per acre. The mulch shall be loose enough for sunlight to penetrate and air to circulate, but dense enough to shade the ground, reduce the rate of water evaporation, and prevent or materially reduce erosion of underlying soil.

16.3.2.4 Placing Coconut Blanket

In the disturbed area within 5 feet of a stream bank, the Contractor shall apply Zone 2 seed mixture (see Section 16.2.3). Coconut blanket shall be placed across the stream channel with the ends tied into the toe of the stream bank by placing rock or tacking down with 2" x 2" x 18" wood stakes. The blanket shall be overlapped 4 inches with the upstream piece overtopping the downstream piece. Rocks, large woody debris, and pole cuttings shall be used to hold the blanket in place. On smaller, low velocity streams, the blanket may be installed parallel to the stream and held in a similar manner.

16.3.2.5 Placing Riprap

Clean, non-erodible, upland angular rock of sufficient size shall be used as riprap for long-term bank armoring. Placement of bank protection material shall maintain normal waterway capacity or configuration. Banks shall be sloped prior to riprap placement. During sloping, bank material shall be pulled

away from the water and placed in an upland site. Riprap shall have a toe trench (a foundation below the substrate level) and be tied into the bank. Gravel or filter fabric shall be placed behind riprap rock as a filter blanket. The riprap toe shall be constructed in an irregular pattern using large boulders or rock clusters off the toe to provide habitat for fish. Riprap shall be placed beginning above the bankline, and shall not be pounded into place. A soil blanket shall be placed over riprap, above high water, to hasten revegetation.

16.3.2.6 Placing Coir Matting

Matting shall be placed over the areas to be protected from erosion. Seeding should occur on the bank before and after matting placement. The matting shall be placed perpendicular to the stream flow with each matting piece overlapping 4 to 6 inches. The end of the upstream piece shall be on top of the downstream piece. Matting shall be secured at the toe of the slope with rock, stakes, or trenching. Matting shall extend a minimum of 5 feet past the top of creek bank. Matting shall be held in place by wooden stakes at all four corners of each piece, and at 4-foot centers throughout the coverage area. Staples shall also be placed along lapped edges of matting every 1 to 2 feet.

16.3.3 Wetland Restoration, Zones 3, 4, and 5

For the areas designated as wetlands as defined by the Oregon Department of State Lands and/or the U.S Army Corps of Engineers, the Contractor shall restore such areas as described in this section.

Upon completion of backfilling, the Contractor shall remove all excess excavated material. The Contractor shall meet all permit requirements of the government agencies that have jurisdiction of restoration of the area. The area shall be raked and graded to conform to its original contours and elevations or as shown on the construction plans. The surface soil on all areas to be seeded shall be in a condition favorable for germination and growth of native grass seed, trees and shrubs. A minimum of 12 inches of surface soil shall be in a loose condition prior to seeding, free from rock, and free from clods larger than one inch in diameter.

16.3.3.1 Seeding

Unless otherwise approved by the District, this work should be performed during either the "spring season" (February 1 to May 31), or the "fall season" (September 1 to November 30). The work shall be performed only at times when local weather and other conditions affecting the work are favorable to proper prosecution within the specified time periods. Seed shall be applied uniformly at the rate of 20 pounds per acre for seed. No seeding is to take place until approval of surface preparation by the District. The work under this specification shall not be undertaken when wind velocities would prevent uniform application of the materials involved or when winds would drift the materials to areas on which they are not desired.

16.3.3.2 Placing Sterile Straw Mulch

Sterile straw mulch materials on seeded areas shall be placed not later than two work days after seeding. Straw material shall be maintained in place by whatever means may be appropriate. The Contractor shall be responsible for the replacement of any material, which becomes displaced prior to acceptance of the work.

Straw material shall be placed to a reasonably uniform thickness, within the range of 1½ to 2½ inches, and averaging approximately 2 inches in loose condition. This rate requires approximately two tons of dry straw per acre. The straw shall be loose enough for sunlight to penetrate and air to circulate, but dense enough to shade the ground, reduce the rate of water evaporation, and prevent or materially reduce erosion of underlying soil.

16.4 MAINTENANCE

16.4.1 Plants in Zone 1 Areas

All plant materials shall be guaranteed for one year following installation. The Contractor shall replace, at no additional cost to the District, any plant material that is not in healthy condition after one year as determined by District representative. Planting of replacement materials shall be in accordance with planting procedures and job conditions

specified herein. Replacement plant materials shall also be guaranteed for an one-year period from the date of installation.

16.4.2 Reseeding

If a satisfactory stand of grass as defined herein has not been established, the Contractor shall renovate and reseed area within the maintenance period.

A satisfactory stand of grass is defined as an area of grass that has:

1) Not more than 10 percent of the area with bare spots larger than one square foot.
2) Not more than 15 percent of the total area with bare spots larger than 6 inches square.

16.5 SENSITIVE AREA SIGN INSTALLATION

The Contractor shall install Sensitive Area and Vegetated Corridor signs within the project area at locations to be determined by District staff. Installation of Sensitive Areas signs shall meet the requirements of Drawing No. VCS-1 (Section 16.8). The District shall provide the Contractor with the signs. The Contractor shall provide all posts and any other installation materials needed.

16.6 EXISTING FENCING

All existing fences that are removed because of interference with the new construction shall be removed so as to do the least possible damage to the fencing. Fencing damaged by the Contractor's operations shall be replaced with like material at Contractor's expense.

16.7 MEASUREMENT AND PAYMENT

16.7.1 Zone 1 (Residential Lawn/Parks Areas)

Payment for work in Zone 1 shall be made on the basis of the unit prices stated in the Contractor's bid. Payment shall include soil preparation, sod, mulch and application of fertilizer and seed.

16.7.2 Zone 2 (Upland Areas and Stream Bank Restoration)

Payment shall be based on the unit prices stated in the Contractor’s bid. Payment shall include soil preparation, seed, creek bank restoration and sign installation materials. If District determines that the Work is incomplete or defective in any respect, Contractor shall take immediate steps to remedy the deficiencies at Contractor’s expense.

16.7.3 Zone 3, 4 and 5 (Wetlands Restoration)

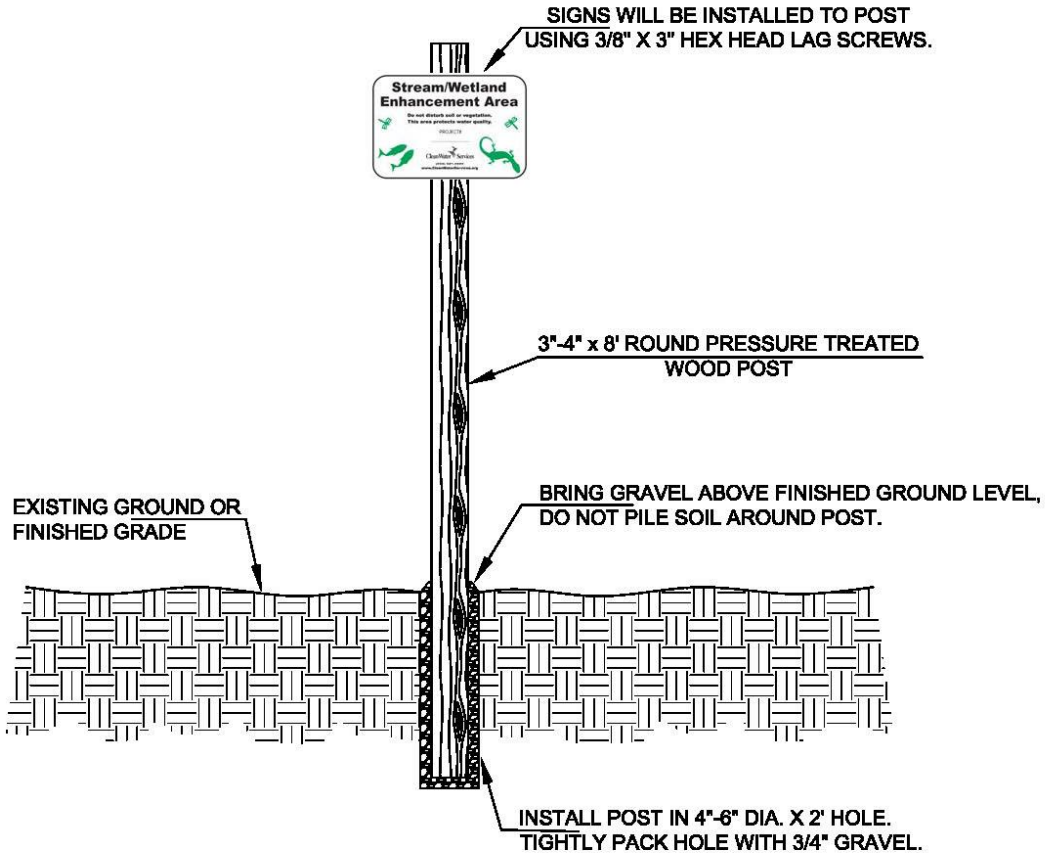
Payment shall be based on the unit prices stated in the Contractor's bid. Payment shall include soil preparation, seed, and straw and sign installation materials. If District determines that the Work is incomplete or defective in any respect, Contractor shall take immediate steps to remedy the deficiencies at Contractor's expense.

16.8 VEGETATED CORRIDOR SIGNAGE





12"X18" SIGNS (SUPPLIED BY THE DISTRICT) SHALL BE PLACED IN A MANNER AS TO CLEARLY IDENTIFY THE SENSITIVE AREA AND VEGETATED CORRIDOR. PLACEMENT OF SIGNS WILL BE DETERMINED BY DISTRICT STAFF.



VEGETATED CORRIDOR SIGNAGE-CAPITAL PROJECTS

DRAWING NO. VCS–1 REVISED 3–07

Clean Water Services
Our commitment is clear.

Chapter 17

SIDE SEWERS

17.1 SCOPE

This section covers the work necessary for installation of the complete side sewer and building sewer. Side sewers will extend from the gravity sanitary or storm sewer main to the street right-of-way line or easement line. Building sewers will extend from the end of the side sewer to within 5 feet of the building. Replacement of street surfacing, curbs and sidewalks damaged by side sewer construction is included in Chapter 15, Street Restoration.

17.2 MATERIALS

17.2.1 Trench Excavation and Backfill

The Contractor shall comply with the applicable requirements in Chapter 12.

17.2.2 Pipe Material

Pipe material for the side sewer shall be one type of material throughout. Residential services shall normally be 4 inches unless otherwise specified. The approved pipe material for the building of a sewer shall conform to the Uniform Plumbing Code (Oregon Plumbing Specialty Code).

17.2.2.1 Concrete Pipe

Concrete pipe shall be a minimum of 6 inches and will conform to the requirements of ASTM C14, Class 3 unless otherwise specified.

17.2.2.2 Ductile Iron Pipe

Ductile iron pipe shall conform to ANSI A21.51, Class 50.

17.2.2.3 Polyvinyl Chloride Pipe (PVC)

PVC pipe shall conform to ASTM D3034, SDR 35.

17.2.3 Marking Stakes

Marking stakes shall be new 2" x 4" utility grade or better in one piece. No splicing shall be permitted.

17.3 CONSTRUCTION

Conform to the applicable portions of Chapter 12, Trench Excavation and Backfill; Chapter 14, Gravity Sewer Pipe; Chapter 15, Street Restoration; and Chapter 16, Landscape Restoration.

17.3.1 Pipe Installation

Workmanship for construction of side sewer shall conform to Chapter 14, Gravity Sewer Pipe. Lay pipe upgrade from connection to the sanitary sewer with bell or coupling ends upgrade. Pipe shall be laid in a straight line at uniform grade between fittings or on a uniform horizontal or vertical curvature achieved by deflecting the pipe joints within manufacturer's recommended limits. Maximum alignment change at one fitting shall not exceed 45 degrees.

Workmanship for construction of building sewers shall conform to the Uniform Plumbing Code (Oregon Plumbing Specialty Code). Ends of all side sewers shall have standard watertight plugs, caps and stopper, suitably braced to prevent blowoff during internal hydrostatic or air testing.

17.3.2 Bends

Where so directed by the District, manufactured bends shall be installed in side sewer at no additional cost to the District.

17.3.3 Line and Grade

The District will establish the line and grade to the tract of land to be served by the side sewer. At the location of the upper end of the side sewer, the District will drive a stake into the ground showing the depth of excavation required. The sewer tee shall be installed as close as practical to the lateral stake.

The Contractor shall lay the pipe uniformly between the tee and the stake. Where minimum slopes are used, the pipe shall be laid by means of a builder's level of good quality and not less than 24 inches in length. Minimum slope for side sewers shall be 1/4 inch per foot unless otherwise permitted in writing by the District.

17.3.4 Marking Stakes

After the side sewer pipe is installed, the Contractor shall install marking stakes at the end of the building sewer extending to one foot above finished ground. The exposed portion of the stake shall be painted immediately after its installation with first-quality green, quick-drying enamel.

17.3.5 Magnetic Tape

The side sewers shall be marked with a detectable underground magnetic tape. The magnetic tape shall be placed from the main pipeline to the end of the side sewer with 18-inches separation between the tape and pipe. The magnetic tape shall be green in color and have the following markings, depending whether it is a sanitary or storm line:

1) CAUTION: SEWER BURIED BELOW
2) CAUTION: STORM DRAIN BURIED BELOW

17.4 PAYMENT

17.4.1 Trench Excavation and Backfill

The work required under this item will be paid for on the basis of the unit prices per linear foot set forth in the Proposal for the type of backfill installed. No differentiation will be made for trench depth. Payment for this item shall constitute full compensation for all work connected with excavation and backfill, (except pipe base), which is included in payment for the pipe. The length of trench will be measured horizontally to the nearest foot from the main or lateral centerline to the end of the pipe as established by the District.

17.4.2 Side Sewer Pipe

Payment for this item shall constitute full compensation for all materials and work required to install the complete pipe. The length of the side and/or building sewer will be measured horizontally to the nearest foot from the main centerline to the end of pipe.

No payment for side and/or building sewer pipe will be made until the section of line in which the building sewers are installed has successfully passed the leakage test, as specified in Chapter 14, Gravity Sewer Pipe.

17.4.3 Side Sewer Surface Restoration

Payment for this item shall be based upon the unit price per linear foot set forth in the Proposal. The number of linear feet will be measured by the District. Payment will be based on the linear foot along the centerline of trench from the edge of mainline trench to the edge of pavement. The unit price shall include payment for excavation required to provide space for the surfacing, preparation of the trench including addition of crushed rock to the subgrade; and compaction of the subgrade, disposal of all excess excavated materials and all other work required to complete the resurfacing.

17.4.4 Tee Fittings

Payment for side sewer tee fittings installed in the sewer line shall be based upon the unit price for each fitting as set forth in the Proposal. The unit price shall constitute full payment for fabrication and installation of the tee fitting, including all plugs, caps, or adapters that may be required to test the sewer or connect to side sewers. The sewer pipe section of the tee fitting will be measured with and paid for in the item for Gravity Sewer Pipe.

Chapter 18

BORED UNDERCROSSINGS

18.1 SCOPE

This Chapter covers the work necessary for the construction of bored undercrossings, complete within the limits shown on the construction plans. All necessary permits for the bored undercrossings will be obtained by District.

18.2 RAILROAD UNDERCROSSING INSURANCE AND AGREEMENTS

The work within the railroad right-of-way must conform to the requirements of the railroad company as outlined in a pipeline crossing agreement made between railroad company and District. Before work starts, Contractor shall obtain and deliver to railroad company, a public liability and property damage insurance policy in the amount required by railroad company. The insurance company writing the policy shall be authorized to do business in the State of Oregon and shall be satisfactory to railroad company. If any special agreement is required between Contractor and railroad company, it shall be completed and signed before Contractor enters upon or commences work on railroad property.

Prior to the start of any operations on the railroad company right-of-way, Contractor shall submit satisfactory evidence to District that all indemnity agreements and insurance coverage requirements have been fully complied with.

18.3 HIGHWAY UNDERCROSSING PERMITS AND AGREEMENTS

The work across the highway right-of-way must conform to the requirements of the permitting authority. Permitting authority, as used herein, shall be understood to mean the party, agency, or governmental authority issuing the permit for the construction within said right-of-way. All necessary agreements and/or permits shall be executed before entering upon or commencing any work within the highway right-of-way. Bonds and insurance that are required by the permitting authority shall be obtained prior to the start of construction within the highway right-of-way.

18.4 SITE PREPARATION AND NOTIFICATION OF PERMITTERS

Prior to starting construction, all required labor, material, and equipment shall be on the site. The permitting authority shall be notified at least five working days in advance of working within the right-of-way.

18.5 MATERIALS

18.5.1 Sewer Pipe

Materials shall conform to Chapter 16, Gravity Sewer Pipe.

18.5.2 Trench Excavation and Backfill

Trench excavation and backfill shall conform to Chapter 12, Trench Excavation and Backfill except that all excavation shall be unclassified.

18.5.3 Casing

Contractor shall provide smooth steel casing of a size to permit proper construction to the required lines and grades shown on the plans. The steel casing shall be fabricated in sections for field-welded joints, and shall meet the requirements of the permitting authority. The minimum wall thickness shall correspond to the size of the casing selected from the following:

Casing Diameter Inches	**Smooth Steel Pipe Minimum Thickness (Inches)**
6 - 12"	1/4", ASTM A 53, Grade B
15 - 24"	5/16", ASTM A 53, Grade B
30 - 36"	3/8", ASTM A 53, Grade B
42" and above	1/2", ASTM A 53, Grade B

The permitting authority may require a thicker casing than those listed above. Contractor shall comply with this requirement at no extra cost to District.

18.5.4 Concrete

Concrete shall conform to ASTM C 94, Alternate 2. Proportion and mix shall produce a minimum compressive strength of at least 3,000-psi at twenty-eight (28) days. Maximum size of aggregate shall be one and one-half (1-1/2) inches; slump shall be between 2 and 4 inches.

18.5.5 Grout

Grout for filling the annular space between the carrier pipe and casing pipe shall be proportioned as one part Portland cement, five parts sand, seven parts pea gravel (by volume) or as approved by District. Grout for pressure grouting outside jacked carrier or casing pipe shall be one part Portland cement and three parts sand (by volume).

18.5.6 Pipe Supports

Pipe supports shall be No. 2 Western Red Cedar graded in accordance with the Western Wood Products Association, current-grading rules. No. 2 West Coast Douglas Fir graded in conformance with Western Wood Products Association Current Grading Rules for Western Lumber may be used in lieu of cedar. The material shall be pressure treated with creosote or pentachlorophenol in mineral spirits in accordance with AWPA C 14, C 8, C 9 and C 2 as applicable. The minimum retention shall be as designated for contact with the ground. The method of treatment shall be in accordance with the applicable portion of the AWPA manual standards. Insofar as is practicable, all timbers shall be cut to size before the material is given the preservative treatment.

18.6 CONSTRUCTION

18.6.1 General

All proposed construction methods and materials for the undercrossing shall be approved by District and the permitting authority prior to the commencing the work.

18.6.2 Protection of Railroad Roadbed

No excavation for jacking and bore pits shall be conducted within 25 feet of the centerline of any railroad track. The sides of pits shall be supported by sheet piling placed in such a manner as to prevent any movement or slippage of the earth during the excavation and jacking or boring operations. Contractor shall work in close cooperation with the railroad companies to ensure the protection of railroad property and traffic.

18.6.3 Grouting Voids Outside Casing

In cased crossings, void space shall be filled between tunnel and casing completely with lean grout. After the casing or carrier pipe has been jacked into position, grout shall be pressured through the grout holes provided, to fill all voids outside the pipe. Grouting shall be started at the spring line hole at one end and grout pumped until

grout appears in grout hole at crown. Then grouting shall start through the opposite spring line hole until grout appears at hole in the crown. Next, grout through the hole at the crown until grout appears in the next set of holes along the pipe. The holes shall be plugged at the starting point and the grouting sequence repeated at the next set of holes until the entire length of jacked pipe has been grouted.

18.6.4 Pipe

Pipe installation shall conform to applicable portions of the specifications. Where timber cradles are shown, strapped timber pipe supports shall be installed under the barrel of the pipe, the pipe then joined and slid into the casing. The pipe barrel shall bear continuously on the cradles.

18.6.5 Placing Fill in Casing

The annular space shall be filled between the casing and the pipe completely with lean grout, sand, or pea gravel to prevent pipe flotation. Accomplish grout filling by pouring or pumping the grout from two ends and such intermediate points as may be necessary. Grouting, once commenced at any point, shall be continuously applied until completed and without stopping. Contractor shall utilize suitable low pressure grouting equipment having capacity to deliver grout.

18.6.6 Placing Concrete Seals

After the sewer pipe has been tested and approved, concrete plugs shall be poured as shown on the Bore Detail. Contractor shall work the concrete around the pipe so that the plug will provide a tight seal.

18.6.7 Settlement or Deterioration of Pavement

Contractor shall be fully responsible for settlement or deterioration of the finished highway crossing pavement or railroad bed for a period of one year after final acceptance by District.

District will withhold final payment for the Project until Contractor furnishes a satisfactory release from the affected permitting authority stating that all claims for labor and materials have been satisfied and that Contractor's work across the right-of-way has been completed.

18.7 MEASUREMENT AND PAYMENT

Payment for the bored crossing shall be based upon a lump sum price for set up, and a price per lineal foot for the boring. Payment of the lump sum price for the set up shall constitute full compensation to Contractor for all labor, materials, and equipment required to mobilize, excavate for the bore pit, set up the boring machine, restore the bore pit area, and any other activity related to set up and take down of the boring machine.

Payment of the lineal foot for the boring shall constitute full compensation to Contractor for all labor, materials, and equipment required to install the bore, except costs included in the set up. The bore price per foot shall include all costs for trench excavation and backfill, for furnishing and placing sewer pipe, or for any other items that are required within the limits of the bored crossing as shown on the plans. Payment by the Contractor for any services provided by the permitting authority shall also be included in this item.

Chapter 19

SEWER REHABILITATION

19.1 SCOPE

This section covers all work necessary to construct, rehabilitate, and replace sanitary and storm sewer lines, manholes, etc.

19.2 SEWER LINE CLEANING

19.2.1 General

The Contractor shall furnish all labor, materials and equipment necessary to clean the lines and manholes (remove foreign materials) prior to joint-testing, sealing, pipe lining, or television inspection.

19.2.2 Cleaning Precautions

When hydraulically propelled cleaning tools which depend upon water pressure to provide their cleaning force, or tools which retard the flow in the sewer line are used, the contractor shall take precautions to ensure that the water pressure created does not cause pipe damage, property damage, or flooding of public or private property. Any flooding, property damage or pipe damage caused by the Contractor's cleaning operations shall be repaired by the Contractor to a condition as good or better than the original.

19.2.3 Sewer Cleaning

The equipment shall be capable of removing dirt, grease, rocks, sand, roots, and other materials and obstructions from the sewer lines and manholes. If cleaning of an entire line section cannot be successfully performed from one manhole, the equipment shall be set up at the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, the Contractor shall notify Clean Water Services (CWS/District) before proceeding with any further work in that section of line.

19.2.4 Material Removal

All sludge, dirt, sand, rocks, grease, and other solid or semisolid material resulting from the cleaning operation shall be trapped and removed at the downstream manhole of

the line section being cleaned. Passing material from line section to line section, which could cause line stoppages, accumulations of debris in wet wells, or damage pumping equipment, shall not be permitted.

19.2.5 Disposal of Materials

All solids or semisolids resulting from the cleaning operations shall be removed from the site and disposed of in a manner that meets all requirements of state, county, regional and local regulations regarding health, safety, and public welfare. Under *NO* circumstances shall the Contractor accumulate debris, etc., on the construction site beyond a single workday except in totally enclosed containers and as approved by District. Contractor shall dispose of the material off the construction site in an approved and lawful location. The cost of disposal shall be considered incidental to the project cost.

19.2.6 Acceptance of Cleaning

Acceptance of sewer line cleaning shall be based on television inspection. If internal sealing is to follow the line cleaning, particular attention shall be given to the adequacy of the cleaning to ensure that proper seating of the sealing packer can be achieved.

19.3 ROOT REMOVAL

The Contractor shall remove roots from line sections indicated on the construction plans. Line sections where cleaning is unsuccessful because of roots may be added to root removal work with the approval of the District. The Contractor shall pay special attention to the removal of roots from the joints. Root removal procedures may include the use of mechanical equipment such as rodding machines, root cutters and porcupines.

19.4 SEWER FLOW CONTROL

19.4.1 General

When depth of flow at the upstream manhole of the line section being worked on is above the maximum allowable, or when necessary to accomplish the specified sewer line rehabilitation, the flow shall be reduced to the required level by blocking of the flow or bypassing of the flow around the line section being worked on. The Contractor shall

furnish, install and operate pumps, plugs and conduits to divert the flow around the line section in which work is to be performed. Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole.

Pipe Size In Inches	Max. Depth of Flow in Inches
6	1.2
8	1.6
10	2.0
16	3.75

Depth of flow allowed in sewer lines to be rehabilitated shall be in accordance with the manufacturer's recommendations or these specifications, whichever is stricter, unless approved by District.

19.4.2 Plugging or Blocking

Prior to the work being performed, the Contractor shall insert a sewer line plug into the line upstream of the section being worked. The plug shall be designed so that all or any portion of the sewage can be released through the plug. After the work has been completed, the plug shall be removed and flow shall be restored to normal.

19.4.3 Pumping and Bypassing

When pumping and bypassing is required, the Contractor shall supply the pumps, pipes, and other equipment that is needed to divert the flow of sewage around the line section to be worked on. The bypass system shall have sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm. The Contractor shall furnish the necessary labor and supervision to set up and operate the pumping and bypassing system. If pumping is required on a 24-hour basis, pumps shall be equipped in a manner to keep noise to a minimum and shall be monitored during the entire 24-hour period. Pumping shall be done in a manner that will not damage public or private property or create a nuisance or threat to public health.

19.4.4 Flow Control Precautions

When flow in a sewer line is plugged, blocked, or bypassed, sufficient precautions must be taken to protect the adjacent properties from damage that might result from

sewer surcharging. Precautions must be taken to ensure that sewer flow control operations do not cause flooding or damage to public or private property. Any damage shall be repaired by the Contractor at his expense to a condition as good or better than the original. The bypass piping system, if above ground, shall have watertight joints. Sewage shall not be allowed to flow or leak on to the ground surface, into gutters or streets, or over sidewalks or into storm inlets.

19.5 TELEVISION INSPECTION

19.5.1. General

Television inspection shall be performed prior to and after all rehab work. The inspection shall be done one line section at a time, and the flow in the section being inspected will be controlled as specified in Section 19.4.

19.5.2 Equipment

The television camera used for the inspection shall be made for operation in connection with sewer inspection, pipe joint sealing, and testing. It shall be operative in 100 percent humidity conditions. Lighting and camera quality shall allow clear in-focus picture of a minimum of six lineal feet of the entire inside periphery of the sewer pipe. Lighting for the camera shall minimize reflective glare. Focal distance shall be adjustable through a range of from six inches to infinity. Continuously displayed on the monitors shall be the date of the survey, number designation of the line section being surveyed, and a continuous forward and reverse readout of the camera distance from the manhole of reference. The remote reading footage counter shall be accurate to two-tenths of a foot. The camera, television monitor and other components shall be capable of producing a minimum 500-line resolution color video picture.

19.5.3 Operation

The camera shall be moved through the line in either direction at a uniform rate, stopping when necessary to permit proper documentation of the sewer's condition. The television camera shall not be pulled at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions

shall be used to move the camera through the sewer line. If, during the inspection operation, the television camera will not pass through the entire line section, the Contractor shall set up his equipment to perform the inspection from the opposite manhole. If, again, the camera fails to pass through the entire line section, the Contractor shall immediately notify the District before proceeding with any further work in that section.

All inspection videotapes and logs shall show distance measurements. Marking on the cable, which would require interpolation for depth of manhole, will not be allowed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device, and be accurate to two-tenths of a foot.

In the event the line section being televised has substantial flow entering the sewer between manholes so that inspection of the sewer is impaired, the Contractor shall coordinate with the owner of source of the flow to have the flow temporarily stopped and/or reschedule television inspection of the line section to a time when the flow is reduced to permit the television inspection.

19.5.4 Documentation of the television results

19.5.4.1 Television Inspection Logs

Contractor shall make printed television inspection records on a form approved by the District which shows the following that was observed during inspection:

a) the date of inspection

b) location on the videotape,

c) location of each infiltration point as measured from an adjacent manhole

d) location of building sewers, joints, unusual conditions, roots, storm sewer connections, broken pipe, presence of scale and corrosion, and other discernible features shall be recorded.

A copy of the inspection logs will be supplied to the District at the completion of each television inspection.

19.5.4.2 Videotape Recordings

The Contractor shall furnish color videotape recordings in a ½-inch VHS format. The tab to prevent accidental erasure shall be removed from the cassette before submittal to the District. Tapes shall be clearly labeled and indexed by section and videotape footage. The video tape recording shall be of such quality to provide a clear visual and audio record of the line section being televised. The videotapes shall be accompanied by television inspection logs, which provide written documentation of the visual and audio recording. The District shall be the owner of all tapes and tape content. Tapes shall include the following information:

1. Data view:

   Date of TV inspection

   Upstream and downstream manhole numbers

   Include property address if televising a building lateral

   Current distance along reach

2. Audio:

   Date of TV inspection

   Verbal confirmation of upstream and downstream manhole numbers

   Verbal confirmation of property address if televising a building lateral

   Verbal description of pipe size, type and pipe joint length

   Verbal description and location of each defect

   Verbal description and location of each service connection

19.5.5 Final Acceptance

The final acceptance of television inspection work shall be made after review of the videotapes by the District. Any videotape not clear or not meeting these specifications shall be rejected and the work shall be redone by the Contractor at no cost to District.

19.6 SEWER PIPE JOINT TESTING

19.6.1 General

Joint testing shall be performed on designated sewer line joints. Small holes, cracks and other defects, which can be successfully tested, shall be treated like a sewer line joint. Joint testing shall be performed before sealing except where joints are visibly leaking or have roots.

Joint testing shall be performed by a void pressure monitoring system. Joint testing with liquid shall not be allowed. Continuous monitoring of the void area pressure shall be maintained at all times and recorded on a pressure metering device which accurately displays the pressure to within 1/10 of one psi and responds to and records all changes of the pressure in the void areas.

19.6.2 Preparation

Immediately prior to joint testing, the line shall be cleaned in accordance with Section 19.2.

19.6.3 Equipment

The basic equipment shall consist of a television camera, joint testing device, and test monitoring equipment. The equipment shall be constructed to provide means for introducing the test medium, under pressure, into the void area created by the expanded ends of the joint testing device and a means for continuously measuring the actual static pressure of the test medium at and within the void area only.

Void pressure data shall be transmitted electrically from the void to the monitoring equipment via a TV picture of the pressure gage located at the void, or via an electrical pressure transducer located at the void. The use of hoses or tubes filled with water or air to transmit void pressure to above ground pressure gages is prohibited. All test monitoring shall be above ground and at a location to allow simultaneous and continuous observation of the television monitor and test monitoring equipment by the District.

19.6.4 Control Test

Prior to starting pipe joint testing, the Contractor shall perform a control test. After entering each line section with the test equipment, but prior to starting joint testing, the test equipment shall be positioned on a section of sound sewer pipe between pipe joints. The entire system shall be purged to demonstrate a free and unobstructed flow of air, and a test performed as specified. If this test cannot be performed successfully, the Contractor shall repair or otherwise modify the testing equipment and retest until the test is successful. This procedure will demonstrate the reliability of the test requirement, as no joint will test in excess of the pipe capability. Should it be found that the barrel of the sewer pipe would not meet the joint test requirements, the requirements will be modified as necessary by the District.

19.6.5 Pipe Joint Air Test Procedure

Each sewer pipe joint that is identified for a joint test shall be individually tested at a test pressure equal to 0.5 psi per vertical foot of pipe depth or 3 psi, whichever is greater in accordance with the following procedures:

Air Test Procedure:

1. The testing device shall be positioned with the line straddling the pipe joint to be tested.
2. The testing device end elements (sleeves) shall be expanded to isolate the joint from the remainder of the line and create a void area between the testing device and the pipe joint. The ends of the testing device shall be expanded against the pipe with sufficient inflation pressure to contain a minimum of 10 psi within the void without leakage past the expanded ends. Test pressure shall not exceed 10 psi.
3. Air shall be introduced into the void area until the required test pressure of 10 psi is observed by the void pressure monitoring equipment. If the required test pressure cannot be developed, the joint has failed the test.
4. After the void pressure is observed to be equal to the required test pressure, the airflow shall be stopped. If the void pressure decays by more than 2 psi

within 15 seconds, the joint has failed the test. If blow-by continue at the end units, the contractor shall stop work on the section and notify the District.

19.6.6 Test Records

During joint testing, the Contractor shall keep records, which include a statement indicating the test results for each joint tested. The Contractor shall provide a test record form that is approved by the District. The form shall, at a minimum, contain the following information:

- Identification of the line section tested
- The test pressure used
- Distance from center upstream manhole to joint being tested
- Location of joint not tested and reasons for not performing test
- Results of test
- Date
- Who performed test
- Summary statement indicating total number of joints in reach, joints tested and joints failed.

19.7 SEWER PIPE JOINT SEALING

19.7.1 General

Contractor shall seal pipe joints, which have failed joint testing or otherwise identified on the plans utilizing the internal joint sealing method. Contractor shall accomplish chemical grouting of sewer joints by forcing sealing materials into and through the joints of the sewer pipe from within the sewer pipe in order to completely eliminate infiltration. The chemical grouting equipment and material shall successfully seal pipeline joints that are offset up to 1" or gapped up to 1" as viewed from the interior of the pipe. An offset joint is a joint where there is longitudinal displacement of adjacent pipe sections. Offset and/or separated joints beyond the limits specified shall be sealed only with the approval of the District.

19.7.2 Materials

All chemical-sealing materials must have the following properties and characteristics:

a) While being injected, the chemical sealant must react/perform in the presence of water (groundwater).

b) The cured material must withstand submergence in water without degradation.

c) The resultant sealant (grout) formation must prevent the passage of water (infiltration) through the sewer pipe joint.

d) The sealant material, after curing, must be flexible as opposed to brittle.

e) In place, the sealant formation should withstand freeze/thaw and wet/dry cycles without adversely affecting the seal.

f) The sealant formation shall not be biodegradable.

g) The cured sealant shall be chemically stable and resistant to the mild concentrations of acids, alkalis, and organics found in normal sewage.

h) Packaging of component materials shall be compatible with field storage and handling requirements. Packaging shall provide for worker safety and minimize spillage during handling.

i) Mixing of the component materials shall be compatible with field operations and not require precise measurements of the ingredients by field personnel.

j) Cleanup shall be done without inordinate use of flammable or hazardous chemicals.

k) Residual sealing materials shall be easily removable from the sewer line to prevent reduction or blockage of the sewage flow.

19.7.3 Equipment

The basic equipment shall consist of a closed-circuit television system, necessary chemical sealant containers, pumps, regulators, valves, hoses, etc., and joint sealing packers for the various sizes of sewer pipes.

19.7.4 Joint Sealing Procedure

Contractor shall accomplish joint sealing by forcing chemical sealing materials into or through faulty joints by a system of pumps, hoses, and sealing packers. Contractor shall position the packer over the joint that will be sealed. It is important that the procedure used by the Contractor for positioning the packer be accurate to avoid over pulling the packer and thus not effectively sealing the intended joint. The packer end elements shall be expanded using controlled pressure to seal the joint but not cause damage to the pipe. The expanded ends shall seal against the inside periphery of the pipe to form a void area at the joint to be sealed, which will be completely isolated from the remainder of the pipeline. Contractor shall pump sealant materials into this isolated area through the hose system at controlled pressures, which are in excess of groundwater pressures.

The Contractor shall at all times be aware of the condition of the pipe and adjust the operating pressure as necessary to avoid cracking or breaking the pipe. The Contractor shall immediately inform the District of any damage caused by the sealing operation. If the pipe is damaged by the Contractor as evidenced by comparing pre- and post sealing TV inspection, the Contractor shall repair the damage as directed by the District at no cost to the District.

19.7.5 Joint Sealing Verification

Upon completing the sealing of each joint, the packer shall be deflated until the void pressure meter reads zero pressure, then reinflated and the joint retested as specified in Section 19.6. Should the void pressure meter not read zero, the Contractor shall clean his equipment of residual grout material or make the necessary equipment repairs/adjustments to produce accurate void pressure readings. Joints that fail to meet the specified test criteria shall be resealed and retested until the test criteria can be met.

19.7.6 Residual Sealing Material

Upon completing the sealing of a line section, Contractor shall remove residual sealing materials that extend into the pipe. The sealed joints shall be left reasonably

"flush" with the existing pipe surface. If excessive residual sealing materials accumulate in the line, the Contractor shall clean the line section to remove the residual materials.

19.7.7 Records

The Contractor shall keep complete records of joint sealing performed on a form approved by the District. The records shall identify the line section in which the sealing was done, the location of each joint sealed, the amount of grout used on each joint, and the joint sealing verification results.

19.7.8 Warranty Tests

Prior to the expiration of the warranty period, the District shall randomly select throughout the project area, line sections that will be retested. The test area shall consist of at least 5 percent, but not exceed 10 percent, of the linear feet contained in the joint sealing (grouting) portion of the project. Within the retest area, the Contractor shall test all previously sealed joints in accordance with Section 19.6. The Contractor shall reseal any joint failing the test. If the failure rate of the tested joints is less than 5 percent of the joints tested, the work shall be considered satisfactory and no further testing will be required.

If the failure rate in the test area of the tested joints exceeds 5 percent of the joints tested, the District shall select an additional area of equivalent size and the Contractor shall test all previously sealed joints. This additional testing and sealing, if necessary, will continue until a failure rate of less than 5 percent for a test area is met. Any additional testing/sealing required beyond the initial test area shall be accomplished at no cost to the District. Should as much as 25 percent of the original project be tested and fail to meet the 5 percent requirement, the Contractor will be required to provide the same number of crews as utilized in the original project so that the testing will proceed at a more rapid rate.

19.8 SEWER MANHOLE SEALING

19.8.1 General The intent of this section is the elimination of infiltration/inflow into manholes that are otherwise structurally sound, using various products and methods either singularly or in combination.

19.8.2 Materials

19.8.2.1 Cement-Epoxy Mixtures

Openings, cracks and deteriorated joints in manhole walls shall be repaired and sealed by utilizing cement-epoxy mixtures manufactured for this purpose, such as those manufactured and/or supplied by Standard Dry Wall Products; Water-Wastewater Products and Systems, Inc.; IPA Systems, Inc.; Stonhard, Inc.; or approved equal.

19.8.2.2 Polyurethane Coatings

Sprayable polyurethane coatings shall be high build polyurethane specifically formulated for use in a sewer system environment.

19.8.3 Manhole Cleaning

Unless specifically prohibited by the product manufacturer, Contractor shall thoroughly clean all manholes that are identified on the plans to be sealed using a high pressure water blast, or primed as recommended by the materials manufacturer to ensure complete coverage and bonding. Contractor shall prevent solid debris resulting from preparatory operations from entering the sewer pipe.

19.8.4 Manhole Structure Sealing

Manhole structure sealing includes the sealing of the manhole base, walls, corbel/cone and chimney. Contractor shall seal manhole walls where shown on the plans or as directed by the District. The Contractor shall furnish manufacturer's product information and recommended procedures for manhole cleaning and other preparatory procedures as well as the sealing procedure. The manufacturer's recommendations shall be strictly followed for the entire operation. The product or system must bear the manufacturer's certification that it will fulfill the requirements of this section when

applied in accordance with the manufacturer's recommendations. The Contractor shall seal the entire wall surface by the new coating or lining. Sealing manhole walls shall extend from the top of the cone to the manhole base and shall include the joint where the walls join the base and where pipes enter and exit the manhole, even if through the manhole base.

19.8.5 Manhole Chemical Grout Sealing

At each point of leakage within the manhole structure, the Contractor shall drill a hole through the manhole wall from inside the manhole. In cases where there are multiple leaks around the circumference of the manhole, the Contractor may drill fewer holes providing all leakage is stopped from these holes. The Contractor shall grout place ports or sealant injection devices in drilled holes in a manner to provide a watertight seal between the holes and the injection device. The Contractor will pump the chemical sealing materials through a hose until material refusal is recorded on the pressure gage mounted on the pumping unit. Care shall be taken during the pumping operation to insure that excessive pressures do not develop and cause damage to the manhole structure. Upon completion of the injection the Contractor shall remove the ports and fill the remaining holes with fast-set, nonshrink mortar, troweled flush with the surface of the manhole walls or other surfaces. Only a nonshrink patching mortar shall be used.

19.8.6 Manhole Frame Sealing

Manhole frame sealing includes the sealing of the frame joint area and the chimney above the cone of the manhole with either a manufactured or applied internal or external flexible seal. The seal shall be designed to prevent leakage of water into the manhole through these areas throughout a 20-year design life. The seal shall remain flexible, allowing repeated vertical movements of the frame due to frost lift, ground movement, or other causes of up to 2 inches and/or repeated horizontal movement of the frame due to thermal movement of the pavement or other causes of up to ½ inch.

19.8.6.1 Manufactured Frame Seal

If the flexible portion of the seal is made of a rubber type product, it shall have a minimum thickness of 3/16 inch, a minimum unexpanded width of 8

inches, and be fabricated from a high-grade rubber compound conforming to the applicable requirements of ASTM C-923. The internal seal shall have a double pleated external seal and have a corrugated, expandable center section. Any extension used in conjunction with the sleeve to increase coverage shall be made of the same material and have the same minimum thickness as the sleeve and be designed to be mechanically attached to the sleeve. The bands used for compressing the sleeve and extension against the manhole shall be fabricated from minimum 16-gauge sheet, if channeled, or 5/16-inch diameter, if round, stainless steel conforming to ASTM A-240, Type 304, for sheet and ASTM A-479, Type 304, for rods. Any screws, bolts or nuts shall be stainless steel conforming to ASTM F-593 and 594, Type 304. The internal seal or its appurtenances shall not extend into the manhole opening to prevent or unduly restrict manhole entry. If the seal is constructed of another flexible material, it shall have both tensile and tear strength equal to or greater than that of the rubber when tested in accordance with the applicable ASTM procedures.

The contact surfaces for the sleeve and extensions shall be clean, reasonably smooth, circular, and free of excessive voids. If the masonry surface is rough or irregular and will not provide an effective seal, it shall be smoothed with mortar. A bead of butyl rubber caulk shall be applied to the bottom-sealing surface of the seal or extension to fill minor irregularities in the masonry surface. After the rubber sleeve has been placed in the proper position, the banks are positioned and individually tightened or expanded as required to provide a watertight seal. When an extension is used, its top shall be positioned in the bottom band recess prior to installing the bottom band. The bands are then positioned in the extension and tightened or expanded as required to provide a watertight seal. Installation procedures shall be in accordance with the manufacturer's instructions.

19.8.6.2 Applied Frame Seal

An applied seal, approved by the District, may be used between the precast adjusting rings of the chimney and under the frame or to the inside or outside surface of the chimney and frame to provide a seal that meets the performance criteria contained in this section.

If the applied sealing product is a butyl compound, all of the surfaces that are to be sealed shall be cleaned, dry, and dust free.

If the applied seal utilizes the elastomeric polyurethane resin-soaked oakum method, each joint shall consist of two concentric rings of 2-inch oakum. The outer ring shall be saturated with the urethane base foam chemical sealing material. The inner ring, saturated with water, shall be placed to prevent urethane foam from entering the manhole. The oakum saturated with urethane shall be sprayed with water. When foaming begins, the frame shall be set in place.

19.8.7 Final Acceptances

After the specified sealing work has been completed, the Contractor shall visually inspect and test the manholes in the presence of the District.

19.8.7.1 Structure Sealing Test

The Contractor and the District shall visually inspect the manhole structure sealing for watertightness. There shall be no visible water leaks. The Contractor shall repair all visible leaks and defects observed during inspection and the warranty period to meet the District's accepted standards.

The Contractor shall test a random sampling of the manholes by hydrostatic or vacuum tests. The Contractor will test a minimum of 10 percent of the sealed manholes as selected by the District. Contractor shall repair the manholes that fail the test shall be retested by the Contractor at no additional cost to the District. If more than 5 percent of the manholes tested fail the initial test, the District shall select an additional 10 percent of the sealed manholes for testing. This process will continue until the testing is satisfactory, or until all manholes are tested. The Contractor shall not test manholes that had cementitious coating or

lining installed until the coating or lining has cured according to manufacturer's recommendations.

19.8.7.1.1 Hydrostatic Testing

Hydrostatic testing shall be conducted in accordance with the requirements in Section 13.5.2.

19.8.7.1.2 Vacuum Testing

Vacuum Testing shall be conducted in accordance with the requirements in Section 13.5.3.

19.8.7.1.3 Frame Sealing Test

The Contractor shall visually inspect manufactured frame seals to ensure that the sleeves are properly positioned and tight against the manhole surfaces, that no voids or leakage points exist under the sleeves and that the bands and locking nuts are tight. The Contractor shall inspect the external seal prior to backfilling.

The Contractor shall visually inspect applied seals to ensure that they were applied according to the manufacturer's instructions.

19.9 PIPE BURSTING REPLACEMENT SYSTEM

19.9.1 General

The Contractor shall rehabilitate the sanitary sewer system by the pipe bursting replacement method. The pipe bursting replacement process shall utilize High-Density Polyethylene pipe as the carrier pipe.

19.9.2 Submittals

The Contractor shall submit two copies of the following to the District within five calendar days of the award date of the contract:

1. Manufacturer certification that all furnished material is manufactured, sampled, tested and inspected in accordance with the pipe bursting method being proposed in these specifications. The manufacturing date of the lining materials shall be included in the certification. Certification shall be signed by an authorized agent of the manufacturer.

2. Construction details including complete manufacturer's recommendations for storage, procedures for trimming, finishing at manhole walls, and lateral reconnection method as specified for this project.
3. Engineering calculations for the design of the liner thickness. Design calculations shall be checked and approved by a Registered Civil Engineer in the State of Oregon. Liner design calculations shall be supported by field analysis, technical assumptions, and requirements of this Specification.
4. Verification of product conformance by third party testing for the chemical resistance and physical testing requirements along with a report of test results.
5. Literature and background information on the independent third party testing laboratory proposed for testing the physical properties of the installed liner pipe.
6. Methods, materials, equipment, and procedures to seal annular space between the new pipe and the existing pipe at the manholes.
7. Where manholes are used for pits, Contractor shall submit any modifications to manholes prior to beginning work.

19.9.3 Materials

19.9.3.1 Pipe and Fittings

All polyethylene carrier pipe and fittings for pipe bursting replacement shall be manufactured from a high density polyethylene compound PE 3406 or PE 3408, Type III, Class C, Category 5, Grade P34 in accordance with ASTM D-1248 or approved equal. PE 3406 pipe shall have a minimum wall thickness of SDR 17. Internal and external surfaces of the pipe should be smooth, clean and free of grooving and other defects. Pipe will be unacceptable if ovality exceeds 1 percent of the external diameter of the pipe. Each pipe length should be stamped with a clear and permanent mark indicating:

Standard

Date

Raw material

Thickness

Nominal pressure

Name and signature of manufacturer

19.9.3.2 Pipe Dimensions

The inside diameter of the new line shall be equal to or greater than the inside diameter of the replaced sewer main.

19.9.3.3 Lateral Connections

Lateral connections shall be saddles or wyes constructed of the same materials as the pipe and attached to the pipe using heat fusion. Saddles shall have either a bell end or spigot end that can be connected directly to PVC, SDR 35 pipe or existing building lateral. Lateral stub-outs shall be PVC, SDR 35, meeting the requirements of ASTM D-3034 or ASTM 789 (T-1).

19.9.4 Material Acceptance

At the time of delivery, the material shall be homogeneous, free of defects, cracks, holes, blisters, foreign materials or deleterious faults. Tests for compliance with this specification shall be made in accordance with the applicable ASTM Specification. A certificate of compliance with this specification shall be furnished, upon request, by the manufacturer for all material furnished under this specification.

19.9.5 Excavations

Prior to beginning work, the Contractor shall indicate the location and size of all pits required for the work. Excavations shall be prepared in accordance with ASTM D-2774 and D-2321. Contractor shall adequately shore, brace, and dewater all pits to ensure a safe work area. The actual length of the pit shall be in accordance with ASTM F 585-94. The Contractor shall locate the excavation pits to minimize traffic disruption.

Where manholes are used for pits, the Contractor shall indicate any modifications to manholes prior to beginning work. The Contractor shall be required to restore or replace manholes damaged by modifications at no additional cost to the District.

The in-service portion of active sewers shall be cut and isolated, and temporary bypassing established in compliance with Section 19.3.

19.9.6 Pipe Joining

19.9.6.1 General

The Contractor shall assemble sections of the new polyethylene pipe on site and joined in the launching manhole (segmented pipe) or launching pit (butt fused pipe). Joining shall be in strict conformance with the manufacturer's recommendations. Contractor shall identify means of joining pipe and details for installation prior to beginning work. Joining and installation details shall be subject to the District's approval.

19.9.6.2 Segmented Pipe

Pipe ends shall be joined by a leak proof, interference fit stab joint method.

19.9.6.3 Butt-Fusion

The pipe shall be butt welded in accordance with the manufacturer's recommendation and ASTM D-2657. The joints shall be leakproof, thermal, butt joints. All fusing shall be done using tools recommended by the pipe supplier and approved by the District. Operators shall be certified by the pipe manufacturer. The fusing machine shall have hydraulic pressure control for fusing two pipe ends together. The ends of pipe shall be trimmed to form perpendicular faces prior to fusing. The heating plate on the fusing machine shall be electrically heated and thermostatically controlled and shall contain a temperature gauge for monitoring temperature. The heating plate shall be subject to periodic inspection, using a temperature stick, to assure even heating.

Joints between pipe sections shall be smooth on the inside and internal projection beads shall not be greater than 3/16 of an inch.

Two joints, selected at random by the District, from the first total of 1,000 feet shall be tested in compliance with ASTM 638 to ensure that the tensile strength of yield of the butt fusion joints equals or exceeds that of the pipe. The test specimen shall be obtained by cutting the liner pipe at least

twelve inches on each side of the field made joint. One additional test shall be made for each additional 1,000 feet of line or portion thereof.

19.9.7 Installation of Pipe

Contractor shall draw or push a tool of greater maximum outside diameter than the maximum inside diameter of the existing sewer pipe along the inside bore of the existing sewer such that the existing sewer pipe is broken up into small fragments and these fragments are driven into the surrounding pipe zone. The tool shall make a tunnel along the path formerly occupied by the existing sewer. Contractor shall install the new pipe by pulling or pushing the pipe into place in the tunnel. The design maximum diameter of the tunnel shall not exceed the maximum outside diameter of the new pipe plus one-inch.

Contractor shall install the new sewer main with the centerline of the new sewer identical with that of the replaced sewer and on the same line and grade.

19.9.8 Sewer Service Connections

The Contractor shall locate and expose live service laterals before commencing the replacement operation. The Contractor shall completely disconnect and isolate the live service laterals from the existing sewer before installing the new pipe. The Contractor shall connect service laterals to the new pipe using polyethylene heat fusion saddles. Saddle materials, and method of installation shall be as stated under Section

19.9.9 Lateral Connections

The Contractor shall tap the pipe using a hole saw of the proper diameter for the particular connection. The Contractor shall lay the service lateral so there will be a smooth flow from the main sewer through the new service lateral connection, such that cleaning equipment will pass easily without damaging the service lateral. The size of the saddle shall not be smaller than the nominal size of the service lateral to which it is to be attached. Service lateral connections shall be saddles constructed of the same materials as the pipe and attached to the pipe using heat fusion. Saddles shall have either a bell end or spigot end that can be connected directly to PVC, SDR 35 pipe or existing building

lateral. Lateral stub-outs shall be PVC, SDR 35, meeting the requirements of ASTM D-3034 or ASTM 789 (T-1).

19.9.10 Anchoring Pipe and Sealing Manholes

After inserting the polyethylene pipe in the existing manhole, the Contractor shall anchor the pipe at the manhole. The pipe end shall be trimmed to correspond to the manhole inside diameter. Care must be exercised to prevent the new pipe from slipping out of position prior to final sealing of the manhole. The polyethylene replacement pipe should protrude far enough into the manhole to allow the contractor to perform the sealing and trimming operations. After a minimum of twelve hours after pipe insertion, the Contractor shall place the seals in the annular space between the polyethylene pipe and the existing pipe in the manhole at each manhole location.

19.9.11 End Seals

The beginning and end of the liner pipe shall be sealed at manholes and all termini to the host or existing pipe by applying a sand collar or a coating of SIKA 1 A or approved equal. Any leakage through the annular space between the existing pipe, manhole, and liner shall be sealed as necessary to prevent infiltration. Manhole troughs shall be raised using a quick set cement type grout. Liner or new pipe shall be cut smooth with the manhole wall at all pipe entrances and exits

19.9.12 Acceptance

Contractor shall televise the pipe replacement line sections. The finish-replaced pipe shall be continuous over the entire length of the installation and shall be free from visual defects, damage, wrinkles, flow obstructions, holes, and other detrimental features. There shall be no visible infiltration through the pipe or from the pipe at manholes and service lateral connections. Installation of service lateral connections shall be neat and smooth. End seals at manholes shall be complete and manhole troughs raised.

19.10 CURED-IN-PLACE PIPE (CIPP) PROCESS SYSTEM

19.10.1 General

This Specification describes the minimum requirements for the rehabilitation of sanitary and storm sewer pipelines by the installation of Cured-In-Place Pipe (hereinafter referred to as CIPP) within the existing pipe. This work is shown on the construction plans as "Line." Liner installation shall be in accordance with these specifications and the licensor's procedures for proper installation. If there is a conflict between these specifications and the licensor's procedures, the Contractor shall bring the conflict to the District's attention.

The inversion method shall be utilized. Price shall constitute full compensation for all labor and material and equipment costs for completing this section. As part of the lining work, the Contractor shall remove and replace all cleanouts located at the terminus ends of mainlines. The Contractor shall take extra care not to damage the cleanout during construction and shall replace the cleanout if damaged or if deemed defective by the District.

19.10.2 Process Objectives

The CIPP rehabilitation method shall be done by the installation of a resin-impregnated flexible tube, which is inverted into the host pipe by use of a hydrostatic head. The resin is cured into a hard, impermeable pipe by circulating hot water throughout the tube. When cured, the entire length of the finished liner shall be continuous and tight fitting. The CIPP shall extend the full length of the original pipe and provide a structurally sound, jointless and watertight pipe. The Contractor is responsible for proper and accurate installation of the new pipe regardless of the methods described herein.

Neither the CIPP product, nor its installation, shall cause adverse effects to any of the District processes or facilities. The use of the product shall not result in the formation or production of any detrimental compounds or by-products at the wastewater treatment plant. The Contractor shall notify the District and identify any by-products

produced as result of the operations, test and monitor the levels, and comply with any and all local waste discharge requirements. The Contractor shall cleanup, restore existing surface conditions and structures, and repair any defective work. The Contractor shall conduct operations and schedule cleanup in a manner to cause the least possible obstruction and inconvenience to traffic, pedestrians, businesses, and property owners or tenants.

19.10.3 Reference Specifications, Codes, and Standards

The following documents form a part of this specification to the extent stated herein and shall be the latest editions thereof. Where differences exist between codes and standards, the one affording the greatest protection shall apply, as determined by the District.

ASTM F1216	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.
ASTM D638	Standard Test Method for Tensile Properties of Plastics.
ASTM D790	Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
ASTM D2990	Standard Test Methods for Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics.
ASTM D5813	Standard Specification for Cured-in Place Thermosetting Resin Sewer Pipe.

19.10.4 Materials

A. Storage and Handling

1. Liner pipes shall be properly stored and handled to prevent damage in accordance with the manufacturer's recommendations and as approved by the District. Damage includes, but is not limited to, gouging, abrasion, flattening, cutting, puncturing, or ultra-violet

(UV) degradation. All damaged materials and pipe rejected by the District shall be promptly removed from the project site at the Contractor's expense and disposed of in accordance with current applicable regulations.

B. Cured-In-Place Pipe

1. The liner tube shall consist of one or more layers of flexible needle felt or an equivalent woven and/or non-woven material capable of carrying resin, withstanding installation pressures and curing temperatures, and compatible with the resin system used.
2. The resin shall be a pure liquid thermosetting resin system compatible with the CIPP rehabilitation process used and designed for a wastewater environment. Resin enhancers are not allowed in this project and shall not be used by the Contractor. Unless otherwise specified by the District, the resin shall be unsaturated polyester and shall be able to meet the service conditions specified for the tube system and the applicable sections of ASTM F1216.
    - The initiation temperature for cure shall be as recommended by the resin manufacturer.
    - Temperature monitoring devices shall be installed at all exposed portions of the pipe (beginning and end of run) for each inversion or run of installed liner pipe between the host pipe and the CIPP liner.
    - The resin shall have sufficient thixotropic properties to obtain non-draining characteristics when impregnated into the fiber fabric.
    - The catalyst system shall be compatible with the resin and other materials to be utilized in the rehabilitation process. Quantity and type of catalyst shall be selected based on the

curing conditions and recommendations of the resin manufacturer.

- The wet-out procedure for the tube shall utilize the resin and catalyst in sufficient quantities to ensure complete impregnation of the liner and provide the properties specified in this Specification.

3. The finished lining shall consist of an inner polyethylene layer and an outer polyester felt layer impregnated with a thermosetting resin to fit tightly against the existing inside pipe wall. The liner shall be fabricated from materials that when cured will be chemically resistant to withstand internal exposure to sewage gases containing quantities of hydrogen sulfide, carbon monoxide, methane, petroleum hydrocarbons, moisture saturation, and dilute sulfuric acid.
4. The tube shall be properly sized to the diameter of the existing pipe and the length to be rehabilitated and be able to stretch to fit irregular pipe sections and negotiate bends. The Contractor shall determine the minimum tube length necessary to effectively span the designated run between manholes, unless otherwise specified. The Contractor shall verify the lengths in the field prior to impregnation of the tube with resin, to ensure that the tube will have sufficient length to extend the entire length of the run. The Contractor shall measure the inside diameter of the existing pipelines in the field so that the liner can be installed in a tight-fitted condition.
5. The liner shall be homogeneous throughout, uniform in color, free of cracks, holes, foreign materials, blisters, or deleterious faults.

6. The physical properties of the cured liner shall meet the minimum chemical resistance requirements of ASTM F1216, and shall conform to the following minimum structural standards:

Structural Property	ASTM Standard	Min. Short Term Value	Min. Long Term Value
Wall Thickness	ASTM D2122	As specified	N/A
Flexure Strength	ASTM D790	4,500 psi	N/A
Flexural Modulus of Elasticity	ASTM D790	250,000 psi	125,000 psi
Impact Strength	ASTM D256	1.9 ft-lb/in.	N/A

7. Design Parameters: The liner material and thickness shall be calculated and designed for use in gravity sanitary and storm sewers and must be in strict conformance with all applicable sections of ASTM F1216 and D5813.

19.10.5 Submittals

The Contractor shall submit two copies of the following to the District within five calendar days of the award date of the contract:

1. Manufacturer certification that all furnished lining material is manufactured, sampled, tested and inspected in accordance with the lining method being proposed in these specifications. The manufacturing date of the lining materials shall be included in the certification. Certification shall be signed by an authorized agent of the manufacturer.

2. Construction details including complete manufacturer's recommendations for storage procedures, resin application, curing process

details and cure schedules (including heat up, hold and cool down cycles and temperature control for each diameter, trimming and finishing at manhole walls, and lateral reconnection method as specified for this project.

3. Engineering calculations for the design of the liner thickness. Design calculations shall be checked and approved by a Registered Civil Engineer in the State of Oregon. Liner design calculations shall be supported by field analysis, technical assumptions, and the requirements of this Specification.

4. Verification of product conformance by third party testing for the chemical resistance and physical testing requirements along with a report of test results.

5. The proposed heating equipment and boiler management operational safety systems for use with the proposed lining method. There shall also be a list of certified boiler technicians approved as operators by the manufacturer or an independent testing District.

6. Certification from the manufacturer that the resin/catalyst and tube material complies with the required application meets the intended service condition and the physical requirements set forth in this specification.

7. Methods, materials, equipment, and procedures to seal annular space between the new pipe and the existing pipe at the manholes.

19.10.6 Installation

A. General

1. Properly size the outside diameter of the tube to allow for expansion so that the CIPP liner can fit tightly against the host pipe.

2. Install the tube through the existing manholes, in accordance with the manufacturer's recommendations and procedures. The Contractor shall protect the manholes to withstand forces generated by equipment, water, or air pressures used while installing the tube.

B. Preparation

1. The Contractor shall clear the line of obstructions such as roots, solids, grout deposits, dropped joints, intruding service connections, or collapsed pipe that would prevent liner installation, or maintain an obstruction to flow once the liner was installed. If obstructions cannot be removed, the Contractor shall notify the District before proceeding with further work on this line section.

2. Prior to installation, fully impregnate the fiber-felt tube with unused resin in the original containers by vacuum or other approved means. Use the resin and catalyst system that is compatible with the requirements of the method. Use a sufficient quantity of resin for tube impregnation to fill the volume of air voids in the tube with additional allowance for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. The Contractor shall keep a record of the volume of resin required per unit length (gal/foot or liters/meter) to fill the volume of air voids in the tube plus the additional allowance for polymerization shrinkage for each diameter and thickness to be installed on the project. The Contractor shall maintain a process record that verifies that the resin impregnation yield matches the required quantity for the diameters and thicknesses.

3. Transport and store the impregnated liner bag to the site and store it in such a manner that it will not be damaged, exposed to heat and/or direct sunlight, or result in any public safety hazard. All materials shall be subject to inspection and review prior to installation. Install the impregnated liner bag prior to exceeding the resin pot life.

4. If resin impregnation/wet-out is to take place off-site, the Contractor must provide the District with 48 hours, notice for each scheduled wet-out. The District reserves the right to check, verify, or inspect all phases of production and testing of materials from manufacturing, shipping, wet-out, installation and cure, to finished product.

C. Temporary Sewage Bypass

D. Pipe Liner Installation

1. The Contractor shall install the pipe liner in strict accordance with the liner manufacturer's instructions and recommendations.

2. Final Cleaning and Inspection: Contractor shall clean the existing host pipe just prior to insertion of the liner. A maximum of ***one hour*** may elapse between this final cleaning pass and the insertion of the liner. After cleaning is complete, pass a camera through the line to verify the cleanliness of the line. Bypass pumping from the upstream manhole shall be utilized to exclude any flow from entering the line section during the inspection. In addition to bypass pumping, the Contractor shall clear the pipe invert of any standing water and the pipe invert shall be continuously visible during the inspection. Prior to insertion of the liner, the sewer main must be accepted as 'clean' by the District. This final inspection does not need to be videotaped but the District Inspector must be present during the inspection to verify the cleanliness of the line. All costs for labor, equipment, and materials related to the said cleaning and inspection shall be considered incidental to the project cost.

3. The liner shall be inserted through an existing manhole or other access approved by the District, by means of the installation process and the application of hydrostatic head, compressed air, or other means sufficient to fully expand and extend the liner to the next designated manhole or termination point. The Contractor shall install the liner at a rate not to exceed 10 feet per minute.

4. Curing

a. After liner placement is completed, the Contractor shall provide a suitable heat source and equipment to distribute or recirculate hot water

throughout the pipe. The equipment shall be capable of delivering hot water throughout the section to uniformly raise the temperature above the temperature required to cure the resin. This temperature shall be determined by the manufacturer based upon the resin/catalyst system employed. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of the soil).

b. The Contractor shall fit the heat source piping with suitable monitors to gauge the temperature of the incoming and outgoing water, steam, or air supply. Water temperature during the cure period shall meet the requirements of the resin manufacturer as measured at the heat source inflow and outflow return lines. The Contractor shall provide standby equipment to maintain supply of the heat source.

c. The cure period shall be of duration recommended by the resin manufacturer during which time the recirculation of the water to maintain the temperature continuously takes place.

d. During the curing process, the Contractor shall keep logs, charts and/or graphs of the liner temperatures at the specified locations to ensure that proper temperatures and cure times have been achieved. These documents may be examined by the District at any time during or and after the curing process.

5. Cool-Down

a. After the tube is cured, allow a cool-down period prior to opening the downstream plug and returning normal flow back into the system.

b. Cool the CIPP to a temperature below 100 degrees Fahrenheit before relieving the head in the inversion pipe. Cool-down may be accomplished by the introduction of cool water into the CIPP. Take care

in the release of the static head so that a vacuum will not develop that could damage the newly installed liner.

E. End Seals

Cut the beginning and end of the CIPP flush at the inlet and outlet points in the manhole, and permanently seal the ends to the rehabilitated pipeline to prevent any infiltration between the CIPP and the host pipe. Seal all connections at the entrance to each manhole with a resin mixture compatible with the liner/resin system or apply a coating of SIKA 1A prior to expanding the liner pipe. These seals shall be watertight. Manhole troughs shall be raised using a quick set type grout. Hydraulic cements and quickset cement products are not acceptable. Acceptable materials shall be an approved epoxy type product that will bond, not crack, dry up, slough off, or shrink in time, and provide a good transition in the manholes. Sealing shall be performed at no additional cost to the District.

F. Finished Pipe Liner

The finished product shall be continuous over the length of reconstructed pipe and be free from dry spots, delamination, and lifts. If these conditions are present, the Contractor shall remove and replace the CIPP.

19.10.7 CIPP Internal Service Lateral Reinstatement

Where required or directed by the District, the Contractor shall internally reinstate a building lateral connection at the mainline. The Contractor shall reinstate the active building service lateral using an internal cutter. The hole shall be opened to a minimum of 95 percent, but not exceed 105 percent of the existing or new pipe size. The hole shall conform to the size and shape of the existing building service lateral. The Contractor shall cut and brush the service connection and shall make a smooth transition into the mainline from the lateral so as not to cause any blockages or obstruction in the flow of sewage.

If the connection is observed to be leaking, the contractor shall grout seal the connection to stop the leak. The grout seal shall be completed at no additional cost to the District.

The Contractor shall not cut the host pipe. If the host pipe is damaged, the Contractor shall excavate the damaged section and replace it or install an internal T-Liner (or approved equal) at no cost to the District. The liner shall bond with the internal pipe liner material and shall extend at least three feet into the lateral. The liner shall make a smooth transition into the mainline from the lateral so as not to cause any blockages or obstruction in the flow of sewage. The service shall be 100 percent watertight and shall pass an air test prior to being accepted by the District.

19.11 LATERALS

19.11.1 General

The term "lateral" shall include that portion of the sewer system, which serves one or more individual properties from within 5 feet of the building foundation to the connection at the main line. This section covers the work to rehabilitate or replace all or portions of existing laterals including installation of cleanouts, reconnection to the existing interior plumbing and connection to the mainline or sewer service stubout.

The District may furnish the Contractor with available videotapes, logs and maps of the existing sewer main and laterals. This information will be provided to the Contractor to assist in locating and rehabilitating or replacing existing laterals. It shall be the Contractor's responsibility to interpret and use the information, as applicable. The District does not guarantee the accuracy or completeness of the information supplied; nor does the furnishing of the information preclude the Contractor from making an independent investigation, including television inspection.

19.11.2 Locating Live Laterals--Field Verify

It shall be the Contractor's responsibility to locate the laterals, determine that they are active, and verify that only those determined active are reconnected to the sewer main. The District shall determine if a lateral to a vacant lot will remain active.

19.11.3 Field Verification

Properties labeled with the letters "FV" on the construction plans will need field verification of the location of the existing lateral from the mainline to where it exits from the building. This work shall be completed prior to rehabilitating the mainline.

Properties labeled with the letters "FVA" on the construction plans have more than one lateral stubbed from the mainline to the property. The Contractor shall verify which lateral(s) is active by televising the mainline and conducting dye or other tests as necessary.

19.11.4 Lateral Replacement

The Contractor shall replace or rehabilitate laterals using the District approved method that meets the requirements of the most current version of the Uniform Plumbing Code (UPC). Pipe and fittings for laterals shall be of one type of material throughout.

Laterals shall be 4-inches minimum in diameter or shall match the size of the existing building sewer, whichever is larger. If the existing house service is smaller than 4-inches, the Contractor shall increase the lateral size to 4-inches at the house cleanout using a standard reducing fitting and in such a manner as to allow television inspection or cleaning equipment to easily pass.

19.11.5 Cleanouts

If needed, the Contractor will install two-way building cleanout at a point within five feet outside the house foundation. Cleanout installation shall conform to the Standard Detail and the requirements of the Uniform Plumbing Code.

19.11.6 Connection of Laterals to Building Sewers and Mainline Stubouts

The Contractor shall make the connection of the lateral to the existing building sewer and mainline stubout with rigid couplings unless otherwise directed by the District.

The Contractor may use concrete closure collars only with prior approval from the District. Before the closure collars are poured, wash all pipe to remove all loose material and soil from the surface of the pipe on which the concrete will be placed. Wet nonmetallic pipe thoroughly prior to pouring the collars. Wrap and securely fasten a light gauge of sheet metal or two layers of building felt around the pipe to ensure that no concrete shall enter the line. Make entire collar in one pour and extend a minimum of 12 inches on each side of the joint. The minimum thickness around the outside diameter of the pipe shall be 6 inches. No collar shall be poured in water. After the collars are poured and have taken their initial set, cure by covering with well-moistened earth. Use concrete closure collars on standard pipe sections only, not closer than two feet to any fitting.

19.11.7 Connections of Laterals to Mainlines

Where the construction or replacement of a lateral requires a new connection to a lined mainline, make the connection in accordance with the specifications that pertain to the approved rehabilitation method for this project. Core drill all line taps unless otherwise approved by the District in writing. Prior to the installation of the saddle, clean and free the area around the saddle of rough edges. Allow no rock, dirt, or debris to enter the mainline during the saddle installation.

Lateral connections to the CIPP main line shall be made with an INSERTA TEE® or a GPK saddle made specifically for CIPP application. Contractor shall submit a saddle submittal after project bid for approval. Contractor shall not begin work prior without an approved saddle.

19.11.8 Types of Saddles for Unlined and New Construction

19.11.8.1 PVC Tee and Wye Saddle

PVC Tee Saddle manufactured in accordance with ASTM 3034 minimum cell classification 12454B-C or 12364-C, with elastomeric end seals meeting ASTM F-477 and 9/16” series 300 stainless steel bands. Use on PVC, clay, IPS, concrete, and AC and HDPE pipe.

19.11.8.2 Insert-a-Tee

Insert-a-Tee manufactured in accordance with ASTM 3034, minimum cell classification 12454 B-C or 12364-C. Use on clay, concrete, ductile iron, or C-900 PVC pipe.

19.11.9 Testing

Acceptance testing of laterals shall conform to applicable provisions of the Uniform Plumbing Code.

19.11.10 Abandoning Laterals on Non-Lined Mains

On lines not scheduled to be rehabilitated by lining or replacement, plug all laterals or portions of laterals which are determined not to be active or not being reconnected when uncovered in an excavation made for any other purpose including point repairs, insertion pits, and connection of laterals. Remove the lateral to be abandoned a minimum of two feet from the main and plug with Class C mortar.

If a mainline point repair of the service connection is made internally but the lateral pipe to be abandoned is uncovered in an excavation made for any purpose, the Contractor shall remove the lateral a minimum of two feet from the main and plug with Class C mortar.

19.11.11 Disconnecting Rain and Surface Connections

The Contractor shall disconnect surface drains, rain drains, sump pump connections, and all other connections which allow rain, ground or surface water to enter the sanitary sewer where designated on the plans and when uncovered during the course of other excavations. Downspout and rain drains shall be disconnected and brought to the nearest street curb, storm or drywell system. Contractor shall obtain a plumbing permit (and be bound to all requirements thereof) from the appropriate governing body prior to beginning work.

19.12 POINT REPAIRS

19.12.1 General

Point repairs are required to repair defective sections of existing main, defective service connections on the main line, lateral sewer lines and abandoned inactive service

lateral connections to the mainline. Generally, the work will require repair at joints, service connections, and short segments of damaged pipe.

Complete all mainline point repairs shown on the plans prior to rehabilitating the pipe by grouting or lining if the service connection is a protruding tap. Any defects in the pipe, which would prevent proper liner installation or completion of the work, which are discovered through subsequent investigation, shall immediately be brought to the District's attention. The District shall make a determination about whether a point repair is required.

Point repair locations indicated on the Plans are based on previously performed inspections. The exact location and extent of the point repair may be determined after the pipe is televised or exposed. The location of the point repair specified or shown shall be considered accurate if it is within 5 feet of the actual location. All work to expose and correct the defects, and the materials and methods used shall conform to the applicable specifications, including excavation and backfill, surface restoration, pipe installation, and sewer flow control. All point repairs shall be visually inspected prior to backfilling and subject to internal video inspection prior to District final acceptance.

19.12.2 Videotapes

The District will furnish the Contractor with available videotapes and logs of the existing sewer unless otherwise noted. The District does not guarantee the accuracy of the television information supplied, nor does the furnishing of the information preclude the Contractor from making an independent investigation, including television inspection. This information will be given to the Contractor to assist in determining the nature and location of point repairs. It shall be the Contractor's responsibility to interpret the information and to use it, as applicable.

After the point repair is located and exposed, the District will inspect the damaged pipe and confirm the required repair and methods proposed by the Contractor.

19.12.3 Repair Methods

Use one or a combination of the following methods.

19.12.3.1 Repair Clamp

Install full circle repair clamps as recommended by the manufacturer and approved by the District. All metallic hardware shall be 316 stainless steel.

19.12.3.2 Remove and Replace Pipe, Defective Service Connection, or Fittings

Remove defective pipe, and/or service connection, or fittings to the nearest joint or by cutting perpendicular to the pipe axis to leave a plain end. Prepare a replacement section of like material or as otherwise approved by the District. Make connections using standard joints, repair clamps, couplings, or heat-shrink sleeves.

19.12.3.3 Resin Injection Process

Amcrete AP/1 Sealant installed in accordance with manufacturer's recommendations.

19.13 MEASUREMENT AND PAYMENT

19.13.1 Sewer Line Cleaning

Payment for sewer line cleaning shall be included in other bid items.

19.13.2 Sewer Flow Control

Payment for sewer flow control shall be included in other bid items.

19.13.3 Television Inspection

Payment for television inspection shall be based on a unit price per linear foot of sewer line. Payment shall provide complete compensation for all labor, material, equipment, incidentals, flow control, and preparatory cleaning necessary to televise the mainline sewer.

19.13.4 Joint Testing

Payment for the sewer pipe joint testing shall be based on a unit price per each joint tested for each pipe size. Payment shall include preparation work and control testing.

19.13.5 Joint Sealing

Payment for sewer pipe joint sealing shall be based on a unit price per each joint sealed for each pipe size. Payment shall include work to prepare the joint for sealing and includes cleaning, flow control, and use of a television camera for positioning. Payment shall also include work needed for sealing verification, residual sealing material removal, record keeping, testing and retesting.

19.13.6 Manhole and Frame Sealing

Payment for manhole and frame sealing shall be based on a unit price for each manhole or frame sealed.

19.13.7 Sewer Pipe Lining

Payment for pipe lining shall be based on a unit price per linear foot of pipe lined. Payment shall include reinstatement of active sewer service, end seals at manholes and air tests.

19.13.8 Trenchless Pipe Replacement

Payment for trenchless pipe replacement shall be based on a unit price per linear foot of pipe replaced. Payment shall include preparation for the work, excavation and backfill of access pits, pipe jointing, seals at manholes, air tests, disconnection and reconnection of laterals not scheduled for rehabilitation or replacement.

19.13.9 Service Lateral Saddle Connections

Payment for service lateral saddle connections shall be based on a unit price for each saddle installed. Payment shall include the cost of reconnection of the lateral to the existing service lateral to a maximum distance of 6 feet from the mainline.

19.13.10 Locate and Televise Laterals

Payment for locating and televising laterals shall be based on a unit price per linear foot.

19.13.11 Lateral Replacement

Payment for replacing laterals shall be based on a unit price per linear foot (all sizes and depths).

19.13.12 Lateral Cleanout

Payment for installing lateral cleanouts shall be based on a unit price for each cleanout installed.

19.13.13 Abandon Inactive Laterals

Payment for abandonment of inactive lateral connections at the mainline shall be based on a unit price for each lateral abandoned.

19.13.14 Point Repairs

Payment for mainline point repairs shall be based on a lump sum cost for each repair completed. Payment for service connection point repairs shall be based on a lump sum cost for each repair completed. Payment shall depend on the type of backfill, and size of pipe. Payment shall include trench excavation and backfill and the point repair.

19.13.15 CURED-IN-PLACE PIPE (CIPP) PROCESS SYSTEM

Payment for CIPP shall be based on a unit price per linear foot of pipe lined.

19.13.16 Internal Reinstatement of Lateral on Lined Lines (CIPP)

Payment for internal reinstatement of lateral on lined lines shall be based on the unit price for each lateral reinstated (all sizes).

19.13.17 Field Verify Active Lateral (FVA)

Payment for Field Verification Active Lateral (FVA) shall be made on a per each basis. Only one payment shall be allowed for each property.

19.13.18 Field Verification

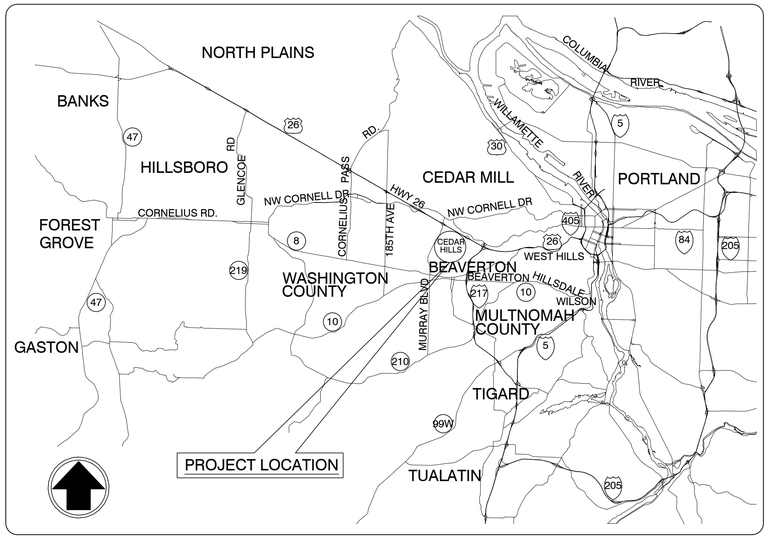
Payment for Field Verification shall include location of the existing lateral from the mainline to where it exits from the building. Payment shall be made on a per each basis.

PLANS



FOOTHILL DRIVE
SANITARY SEWER UPGRADE

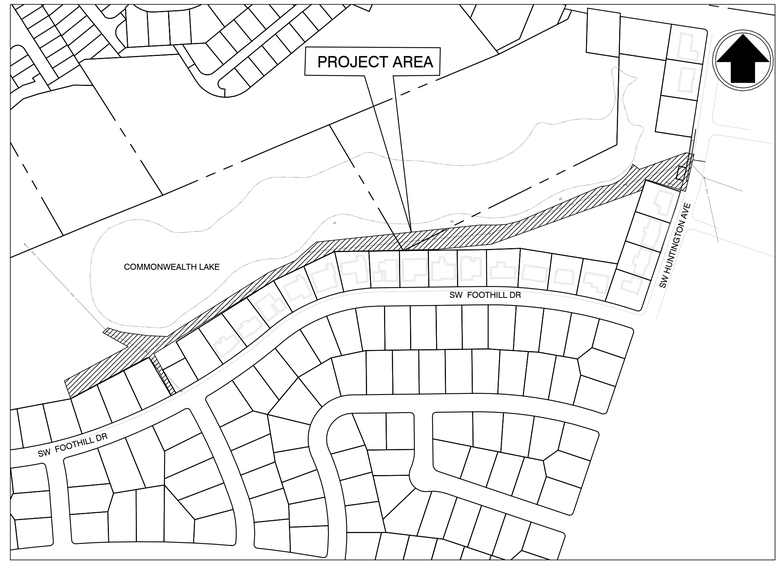
CLEAN WATER SERVICES PROJECT NO. 7207



VICINITY MAP
NTS

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SITE MAP
NTS

UTILITY LOCATES (503) 232-1987

48 BUSINESS HOUR NOTICE PRIOR TO EXCAVATION

OREGON LAW REQUIRES CONTRACTOR TO COMPLY WITH RULES ADOPTED BY OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. COPIES OF RULES MAY BE OBTAINED BY CONTACTING THE UTILITY LOCATE CENTER AT 1-800-332-2344 (or 811).

EMERGENCY UTILITY CONTACTS:

ELECTRIC:	PORTLAND GENERAL ELECTRIC	(800) 544-1795
GAS:	NORTHWEST NATURAL GAS	(800) 882-3377
COMMUNICATIONS:	CENTURYLINK	(800) 244-1111
	COMCAST	(800) 934-6489
	VERIZON	(800) 421-3872
	ZIPLY FIBER	(866) 947-5995
STREETS:	WASHINGTON COUNTY	(503) 846-7037
WATER:	TUALATIN VALLEY WATER DIST.	(503) 848-3000
SANITARY SEWER:	CLEAN WATER SERVICES	(503) 547-8100
STORM SEWER:	CLEAN WATER SERVICES	(503) 547-8100

CLEAN WATER SERVICES

CONTACT INFORMATION-

CONV DIVISION MGR.:	WADE DENNY	(503) 547-8117
PRINCIPAL ENG.	DOUGLAS GRESHAM	(503) 547-8089
ASSOCIATE ENG.:	SARALA GAUTAM	(503) 615-3561
CONST. ENG. DIVISION MGR:	DON POLETSKI	(503) 547-8033

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND MAKE PROVISIONS TO KEEP ALL UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED UTILITIES OR MATERIALS AT THE CONTRACTOR'S EXPENSE AND COORDINATE WITH UTILITY OWNERS AS REQUIRED. NO SERVICE INTERRUPTIONS SHALL OCCUR WITHOUT PRIOR WRITTEN AGREEMENT FROM THE UTILITY PROVIDER.
2. CONTRACTOR SHALL PROVIDE 24 HOUR NOTICE OF WORK RESUMPTION AFTER ANY SHUTDOWN EXCEEDING ONE DAY DURATION EXCEPT FOLLOWING WEEKENDS OR HOLIDAYS
3. ALL CONSTRUCTION AND TESTING OF COMPLETED SANITARY SYSTEMS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CLEAN WATER SERVICES GENERAL CONDITIONS, PROJECT SPECIAL SPECIFICATIONS AND DESIGN AND CONSTRUCTION STANDARDS.
4. ALL EROSION CONTROL INSTALLATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CLEAN WATER SERVICES EROSION PREVENTION & SEDIMENT CONTROL TECHNICAL GUIDANCE HANDBOOK CLEAN WATER SERVICES AND DESIGN AND CONSTRUCTION STANDARDS.
5. ALL RESTORATIVE PAVING WITHIN STREET RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF WASHINGTON COUNTY UNIFORM STREET DESIGN STANDARDS.
6. ALL TRAFFIC CONTROL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS MODIFIED BY THE OREGON SUPPLEMENTS. COST ASSOCIATED WITH IMPLEMENTATION OF TRAFFIC CONTROL, SIGNAGE, OR DEVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. CONTRACTOR SHALL GET THE APPROVED RIGHT-OF-WAY PERMIT FROM THE WASHINGTON COUNTY AND HAVE A COPY OF PERMIT ONSITE AT ALL TIMES AND COMPLY WITH ALL CONDITIONS STIPULATED IN PERMIT.
8. CONTRACTOR SHALL SUBMIT AND RECEIVE APPROVAL OF TRAFFIC CONTROL PLAN FROM WASHINGTON COUNTY PRIOR TO START OF CONSTRUCTION. FEES ASSOCIATED WITH ANY ROAD CLOSURE REQUEST SHALL BE THE RESPONSIBILITY OF CONTRACTOR.
9. CONTRACTOR SHALL FOLLOW THE APPROVED THPRD SITE SAFETY PLAN DURING CONSTRUCTION. CONTRACTORS SHALL MAKE SURE THE TEMPORARY PEDESTRIAN ACCOMMODATIONS SHALL MEET THE ADA REQUIREMENTS.
10. THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION OPERATIONS WITHIN PERMANENT EASEMENTS, TEMPORARY CONSTRUCTION EASEMENTS, OR PUBLIC RIGHT-OF-WAY. IF AREAS OR FEATURES OUTSIDE DESIGNATED CONSTRUCTION ZONES ARE IMPACTED BY THE CONTRACTOR'S ACTIVITIES, THE CONTRACTOR SHALL RESTORE THEM TO PRE-CONSTRUCTION CONDITION AT NO COST TO CLEAN WATER SERVICES.
11. ALL EXISTING UTILITY LOCATIONS AND DESCRIPTIONS SHOWN ON PLANS HAVE BEEN COMPILED FROM AVAILABLE RECORDS. CLEAN WATER SERVICES CANNOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS INFORMATION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF LOCATION AND DEPTH (POTHOLE) OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION ZONE PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL PROMPTLY NOTIFY CLEAN WATER SERVICES OF POTENTIAL CONFLICTS. UNDER THESE TERMS CLEAN WATER SERVICES SHALL BE RESPONSIBLE FOR COST OF REQUIRED RELOCATIONS. IF CONTRACTOR FAILS TO LOCATE ANY KNOWN UTILITY WITHIN CONSTRUCTION ZONE THAT CONFLICTS WITH WORK, CONTRACTOR SHALL CORRECT CONFLICT AT OWN COST.ANY COSTS TO THE CONTRACTOR ARISING FROM COORDINATION WITH UTILITY COMPANY TO RELOCATE UTILITIES SHALL BE CONSIDERED INCIDENTAL TO COST OF PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE DUE CONTRACTOR.
12. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING SURVEY MONUMENTS, BENCHMARKS, PROPERTY CORNERS, AND OTHER REFERENCE POINTS THROUGHOUT CONSTRUCTION. IF ANY SUCH POINTS ARE DISTURBED OR DESTROYED DUE TO CONTRACTOR ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND BE RESPONSIBLE FOR THEIR REPLACEMENT BY EMPLOYING A PROFESSIONAL LAND SURVEYOR TO RESET THE MONUMENTS AT NO ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL RESTORE ALL STREET FEATURES IMPACTED BY CONSTRUCTION. FEATURES SHALL INCLUDE , BUT NOT BE LIMITED TO, PAVEMENT, CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, STREET STRIPING, SIGNAGE, MAILBOXES, AND UTILITIES.
14. CONTRACTOR SHALL RESTORE ALL PROJECT- RELATED EASEMENT AREAS AS STIPULATED IN PERMITS, EASEMENT AND CONTRACT DOCUMENTS. ALL RESTORATION WITHIN THPRD PROPERTY OR EASEMENT SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THPRD PLANNING AND DESIGN STANDARDS, INCLUDING BUT NOT LIMITED TO SITE RESTORATION, REVEGETATION, AND TRAIL CONSTRUCTION. CLEAN WATER SERVICES SHALL PROVIDE CONTRACTOR WITH REFERENCE COPY OF ALL EASEMENT AGREEMENT CONDITIONS.

REGISTERED PROFESSIONAL ENGINEER
65,625PE
OREGON
JANUARY 10, 2006
DOUGLAS MITCHAEL GRESHAM
EXPIRES 6-30-27
APPROVED BY

NO.	DATE	BY
2	ISSUED FOR BID	SG 05/20
1	90% DRAWINGS	SG 03/26
	REVISION	

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COVER SHEET

7207 FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

PROJECT 7207
SHEET 01 OF 16

File: C:\Users\GautamS\9 - AUTOCAD\7207 Foothill Dr\Production Drawings\100\7207 - Cover Sheet.dwg TAB:CVR

GENERAL NOTES:

1. THE CONTRACTOR SHALL MAKE PROVISIONS TO KEEP ALL UTILITIES IN SERVICE AND PROTECT THEM DURING CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY DAMAGED UTILITIES USING MATERIALS AND METHODS APPROVED BY THE UTILITY OWNER. NO SERVICE INTERRUPTIONS SHALL BE PERMITTED WITHOUT PRIOR WRITTEN AGREEMENT FROM THE UTILITY PROVIDER.
2. PROPERTY AND RIGHT-OF-WAY LINES SHOWN ARE APPROXIMATE. THESE PLANS ARE NOT MEANT TO SERVE BOUNDARY SURVEY PURPOSES.
3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND LICENSES BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL HAVE A COPY OF ALL PERMIT ON SITE AT ALL TIMES AND COMPLY WITH ALL CONDITIONS.
4. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF TREES, STUMPS, BRUSH, ROOTS, TOPSOIL, ASPHALT CONCRETE, AND OTHER MATERIAL UNLESS OTHERWISE SPECIFIED.MATERIAL SHALL BE DISPOSED OF IN SUCH A MANNER TO MEET ALL APPLICABLE REGULATIONS.
5. THE CONTRACTOR SHALL PERFORM ALL WORK AND TESTING NECESSARY TO COMPLETE THIS PROJECT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS INCLUDING SUCH INCIDENTALS, AS MAY BE NECESSARY TO MEET THE INTENT OF THE PROJECT CONTRACT DOCUMENTS, APPLICABLE AGENCY REQUIREMENTS, AND OTHER WORK AS NECESSARY TO PROVIDE A COMPLETE PROJECT.
6. NO TRENCHES WILL BE ALLOWED TO REMAIN OPEN OVERNIGHT. ALL TRENCHES SHALL BE COVERED WITH STEEL PLATES OR FILLED IN AT NIGHT. STEEL PLATES SHALL BE PINNED WHEN ON STREETS. FLASHING AND REFLECTORIZED BARRICADES SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IN EASEMENT AREAS AWAY FROM TRAFFIC, TRENCHES MAY BE FENCED AND COVERED WITH PLYWOOD.
7. ANY INSPECTION BY CLEAN WATER SERVICES, THE PROJECT ENGINEER, OR ANY COUNTY, STATE OR FEDERAL AGENCY SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE APPLICABLE CODES, REGULATIONS, COUNTY STANDARDS AND PROJECT CONTRACT DOCUMENTS.
8. ANY LANDSCAPING/TREE NOT IDENTIFIED FOR REMOVAL THAT IS DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED/REPAIRED TO THE SATISFACTION OF THE PROPERTY OWNER OR THE JURISDICTION HAVING AUTHORITY.
9. ANY CURBS, SIDEWALK, DRIVEWAYS, ASPHALT CONCRETE, ETC., AND AREAS WITHIN PUBLIC RIGHTS-OF-WAY DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED IN CONFORMANCE WITH WASHINGTON COUNTY AND TUALATIN HILLS PARK AND RECREATION DISTRICT (THPRD) STANDARDS.
10. ANY STRIPING DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO MATCH EXISTING IN ACCORDANCE WITH WASHINGTON COUNTY STANDARDS.
11. THE CONTRACTOR SHALL RESTORE ALL SURFACES TO MATCH EXISTING GRADES FOLLOWING CONSTRUCTION.
12. THE CONTRACTOR SHALL MAINTAIN AND PROTECT EXISTING SIGNS AND SIGN SUPPORTS.
13. CONTRACTOR SHALL PROVIDE AN INTERLOCKING GROUND PROTECTION MATTING SYSTEM CAPABLE OF SUPPORTING CONSTRUCTION VEHICLES WITHOUT CAUSING COMPACTION OR DAMAGE TO UNDERLYING SOILS. MATTING SHALL BE EQUIVALENT TO OR APPROVED EQUAL OF SPANTRANT® MATS OR NPK DURA-BASE 800 SERIES.

LEGEND:

EXISTING		PROPOSED	
SAN	SANITARY SEWER	SAN	GRAVITY SANITARY SEWER
x	FENCE		CONCRETE CURB
	ROW / PROPERTY LINE	S	MANHOLE/ MAINTENANCE HOLE
320	CONTOUR (1 FT INTERVAL)	⊗	REMOVE TREE
S	SANITARY SEWER MANHOLE/ MAINTENANCE HOLE		AC SURFACING
	UTILITY POLE		STRAW WATTLE
	CONIFEROUS TREE		FLOW DIRECTION
	DECIDUOUS TREE		TEMPORARY CONSTRUCTION EASEMENT
WET	WETLAND BOUNDARY		STOCKPILE
	SANITARY SEWER EASEMENT		CHAIN-LINK FENCE
	CONCRETE CURB		CONSTRUCTION FENCE
	VEGETATED CORRIDOR		CAUTION SIGNAGE
	WETLAND		SIDEWALK/WALKPATH CLOSURE SIGNAGE
	AC SURFACING		CONSTRUCTION PLASTIC MATTING

REGISTERED PROFESSIONAL ENGINEER
65,625PE
OREGON
JANUARY 10, 2006
DOUGLAS MICHAEL GRESHAM
EXPIRES 6-30-27
APPROVED BY

NO.	DATE	BY
2	ISSUED FOR BID	SG 05/20
1	90% DRAWINGS	SG 03/26
	REVISION	

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(503) 681-3600
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GENERAL NOTES AND LEGEND

7207 FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

PROJECT 7207
SHEET 02 OF 16

File: C:\Users\GautamS\9 - AUTOCAD\7207 Foothill Dr\Production Drawings\100\7207 - Cover Sheet.dwg TAB:LEGEND

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MATCH LINE: SEE NEXT SHEET - 04

PROJECT	
7207	
SHEET	
03	
OF	
16	

DRAFTER: SG	
DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

7207 FOOTHILL DRIVE SANITARY SEWER UPGRADE

SITE PLAN 1

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REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 10, 2006
CRAIG A. GREGERSEN
EXPIRES: 6-30-27
APPROVED BY

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LEGEND

- EXISTING VEGETATED CORRIDOR
- EXISTING WETLAND
- EXISTING WATERWAYS
- EXISTING SSWR EASEMENT
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT

KEYED NOTES:

1. EXISTING SANITARY SEWER MANHOLE (TYP).
2. TEMPORARY CONSTRUCTION ACCESS AND WORK AREA.
3. REPLACE ±1587 LF OF EXISTING 10-INCH SANITARY SEWER PIPE WITH NEW 14-INCH SANITARY SEWER PIPE. PIPE BURST METHOD WILL BE UTILIZED.
4. REPLACE EXISTING 48-INCH SANITARY SEWER MANHOLE WITH NEW 48-INCH SANITARY SEWER MANHOLE (TYP).
5. ABANDON EXISTING 48-INCH SANITARY SEWER MANHOLE.
6. INSTALL NEW 48" SANITARY MANHOLE.

PROJECT	7207
SHEET	04
OF	16

DRAFTER:	SG
DESIGNER:	SG
CHECKED:	DG
APPROVED:	DG

7207 FOOTHILL DRIVE SANITARY SEWER UPGRADE

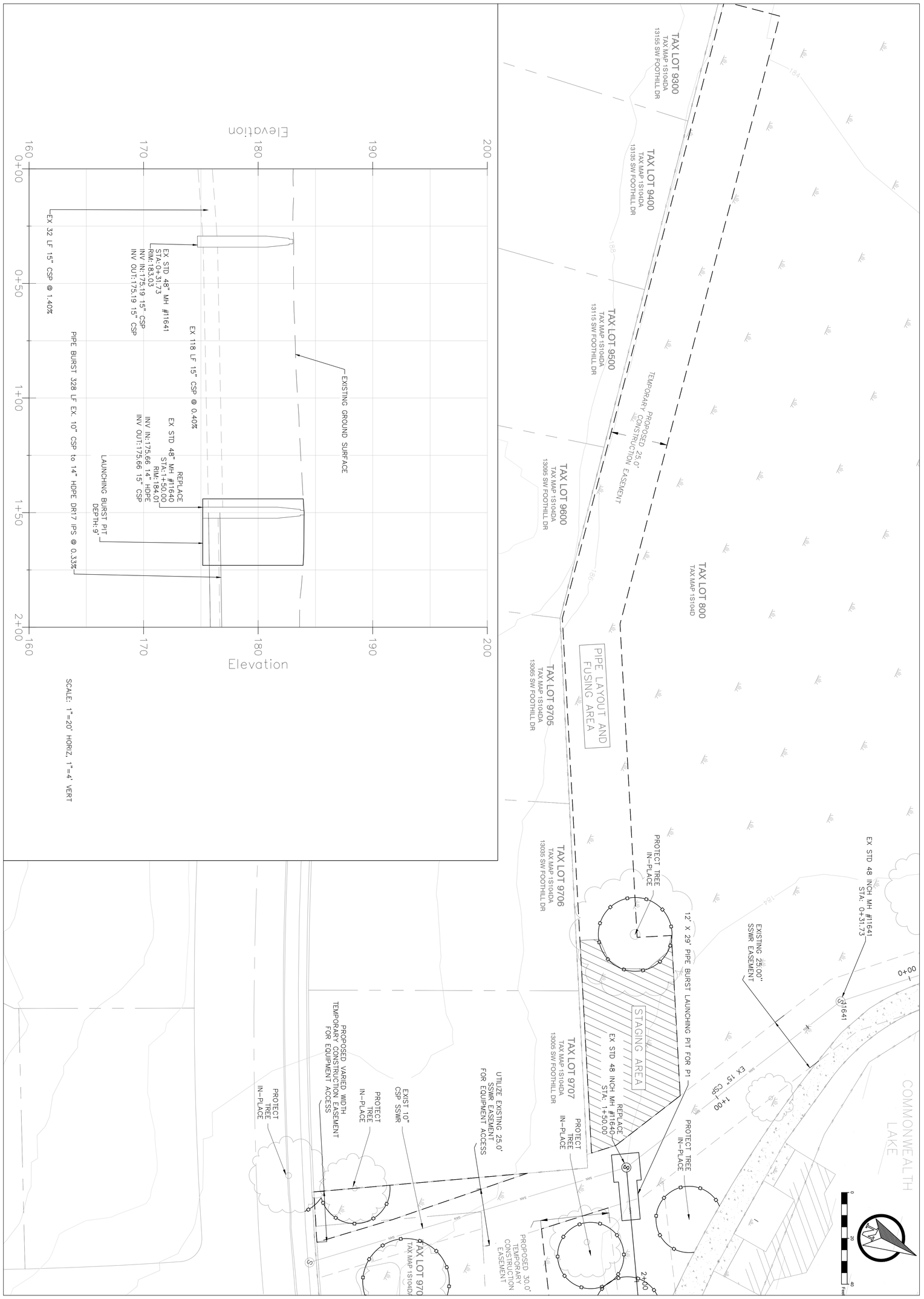
SITE PLAN 2

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REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 10, 2006
CHAD C. GREGHAM
EXPIRES: 6-30-27
APPROVED BY

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PROJECT	7207
SHEET	05
OF	16

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DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

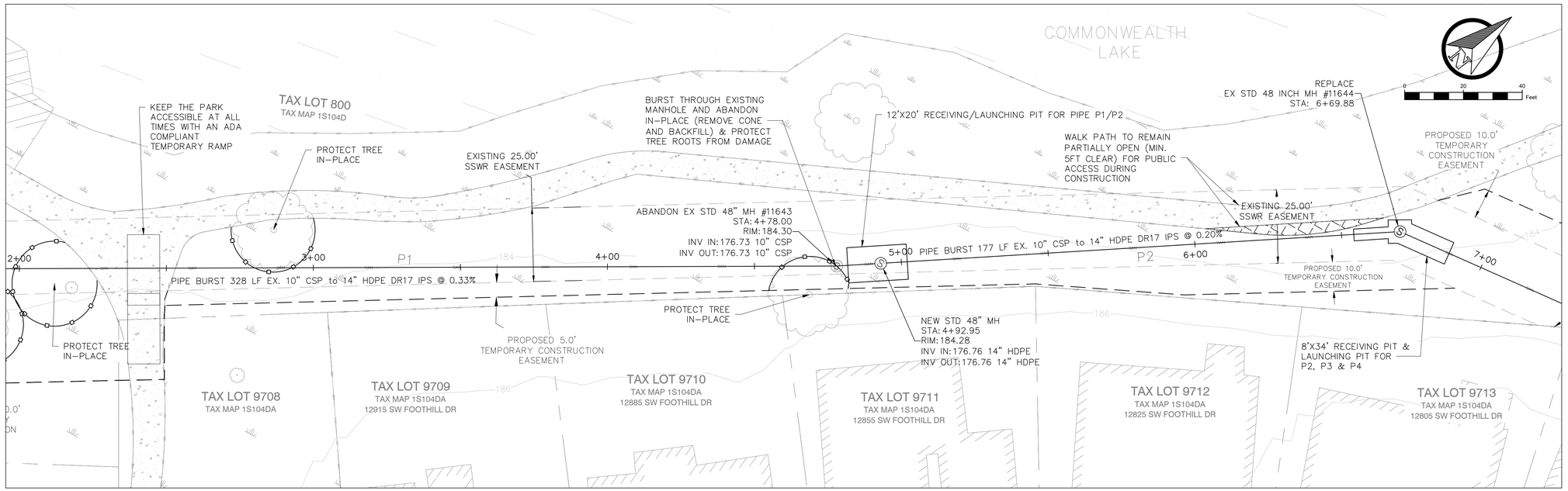
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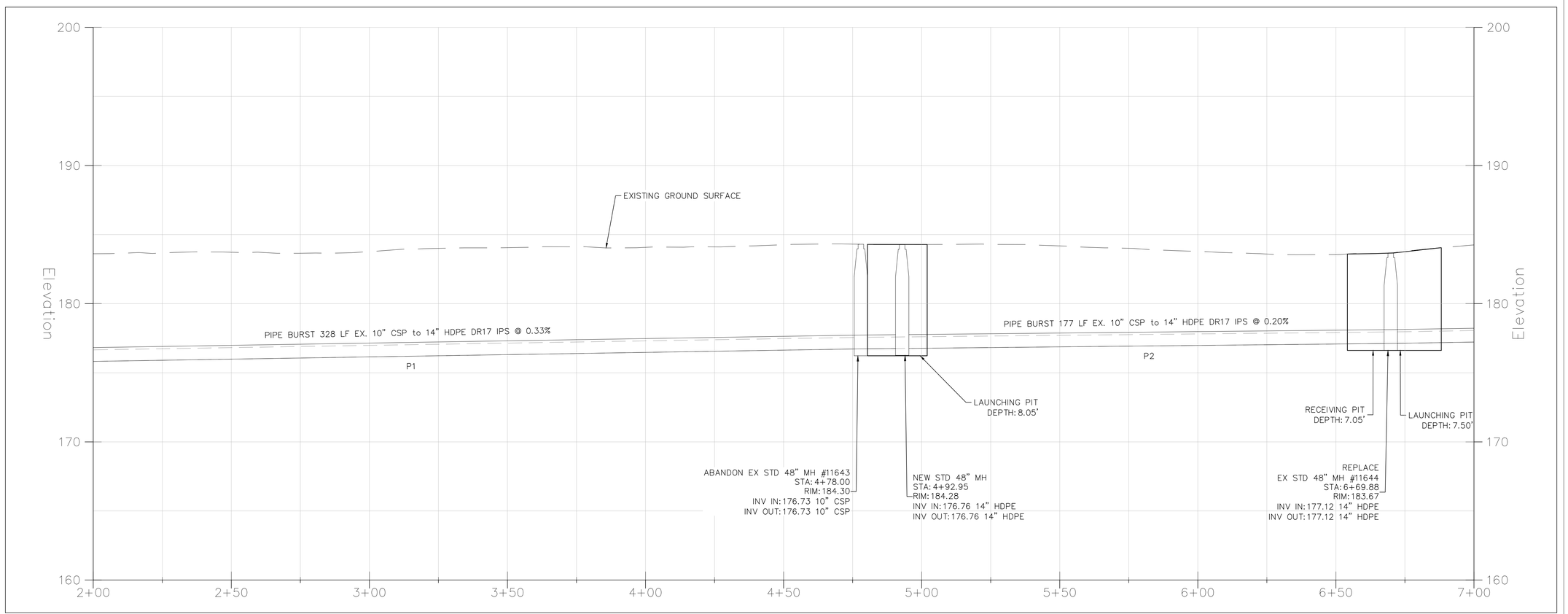
PLAN AND PROFILE STA 0+00 TO STA 2+00

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REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 10, 2009
GAUTAM SHAH
EXPIRES: 6-30-27
APPROVED BY





REGISTERED PROFESSIONAL ENGINEER
65,625PE
OREGON
JANUARY 10, 2006
DOUGLAS MICHAEL GRESHAM
EXPIRES 6-30-27
APPROVED BY

NO.	REVISION	BY	DATE
1	90% DRAWINGS	SG	03/26
2	ISSUED FOR BID	SG	05/20

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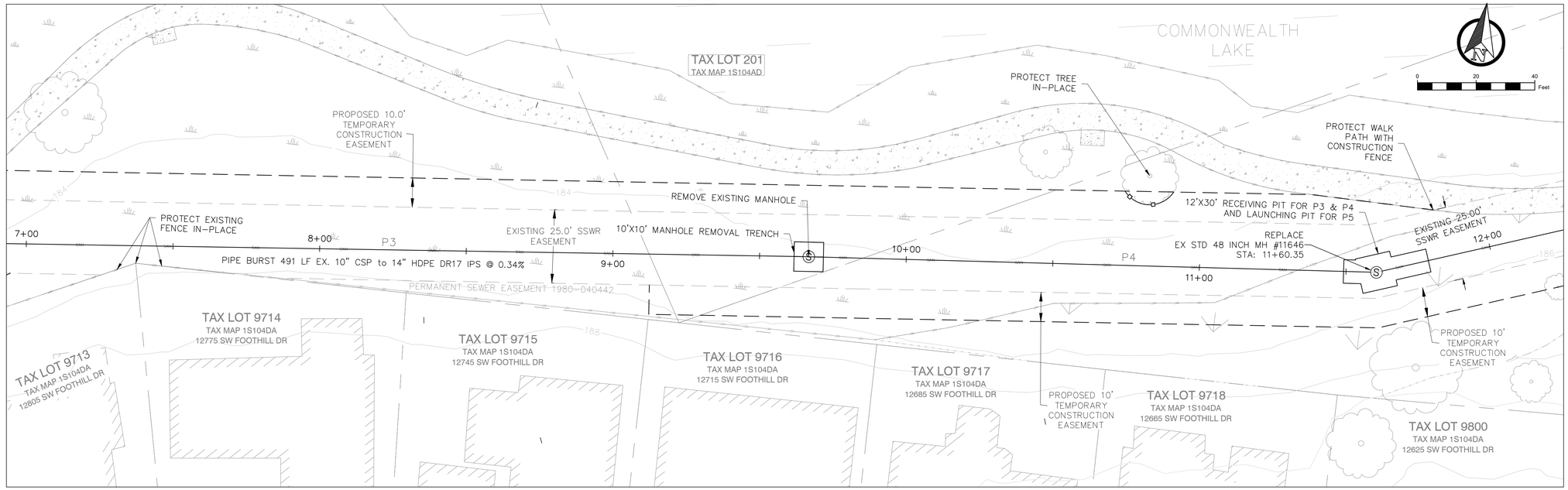
PLAN AND PROFILE STA 2+00 TO STA 7+00

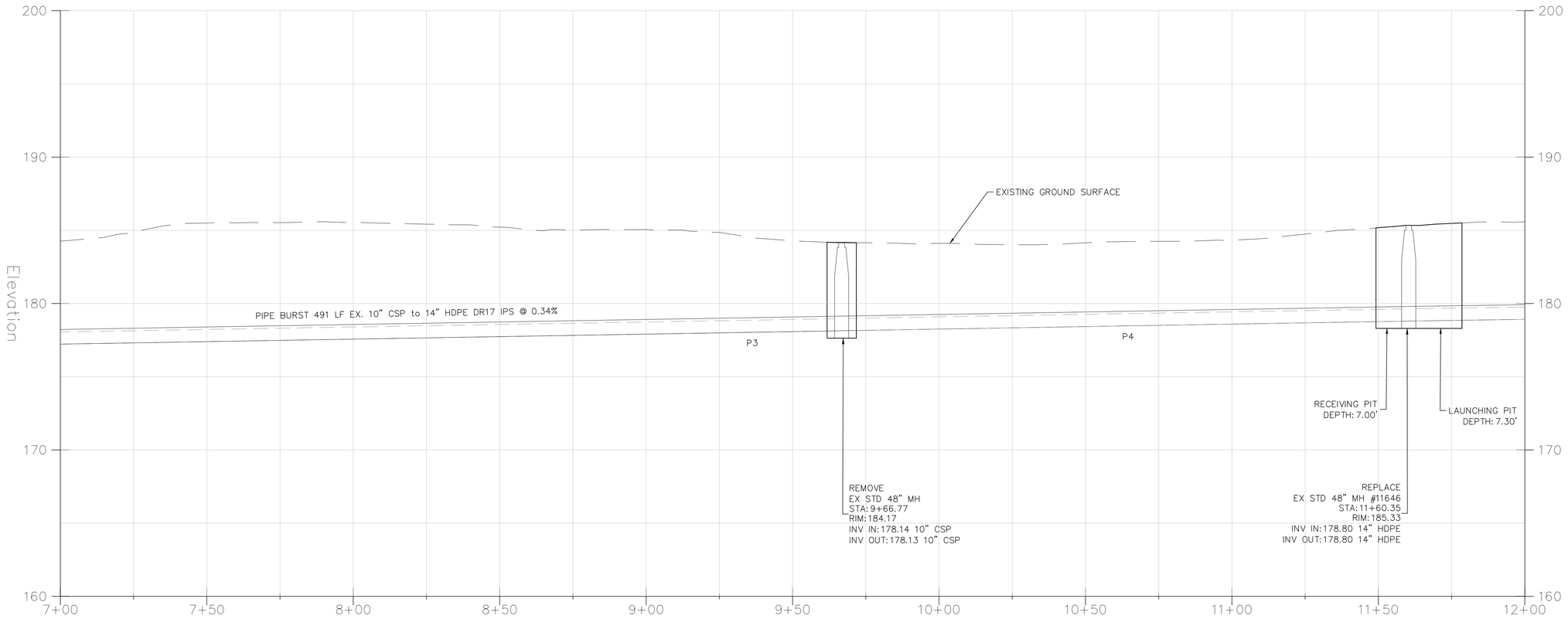
FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG	DESIGNER: SG	CHECKED: DG	APPROVED: DG

PROJECT 7207
SHEET 06 OF 16

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REGISTERED PROFESSIONAL ENGINEER
65,625PE
OREGON
JANUARY 10, 2006
DOUGLAS MICHAEL GRESHAM
EXPIRES 6-30-27
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NO.	REVISION	BY	DATE
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2	ISSUED FOR BID	SG	05/20

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PLAN AND PROFILE STA 7+00 TO STA 12+00

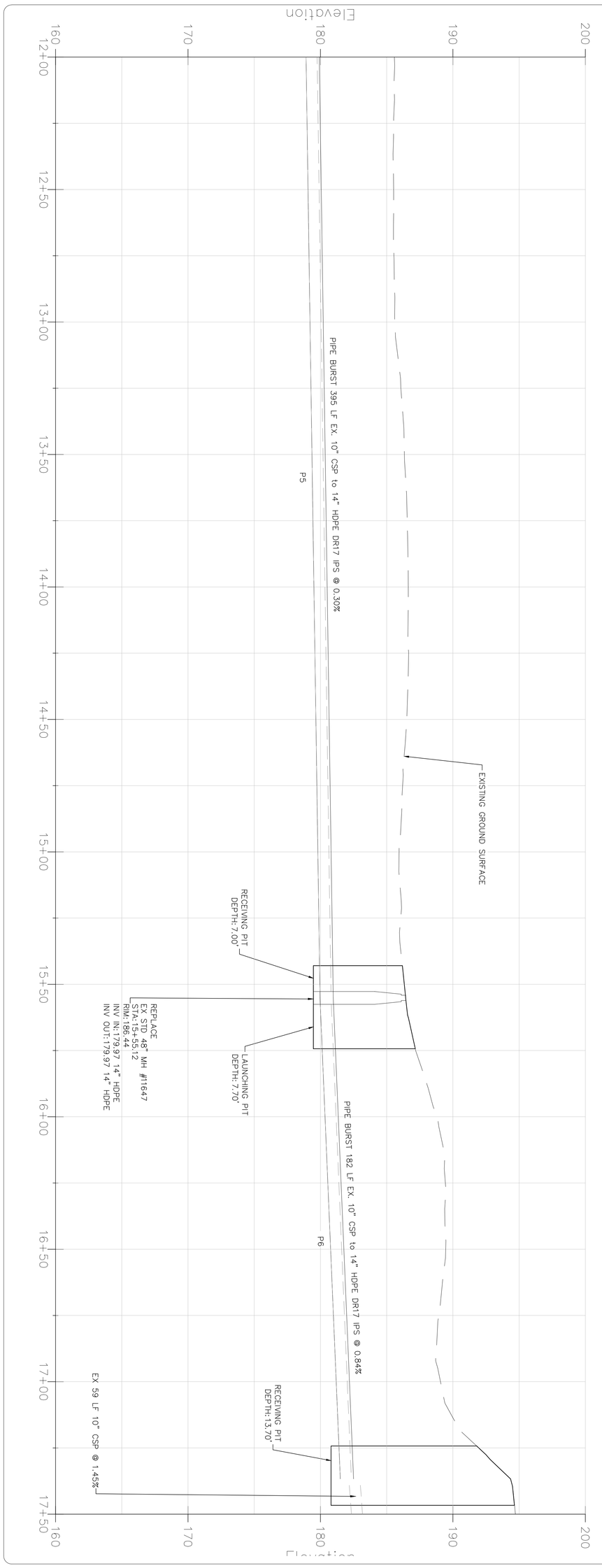
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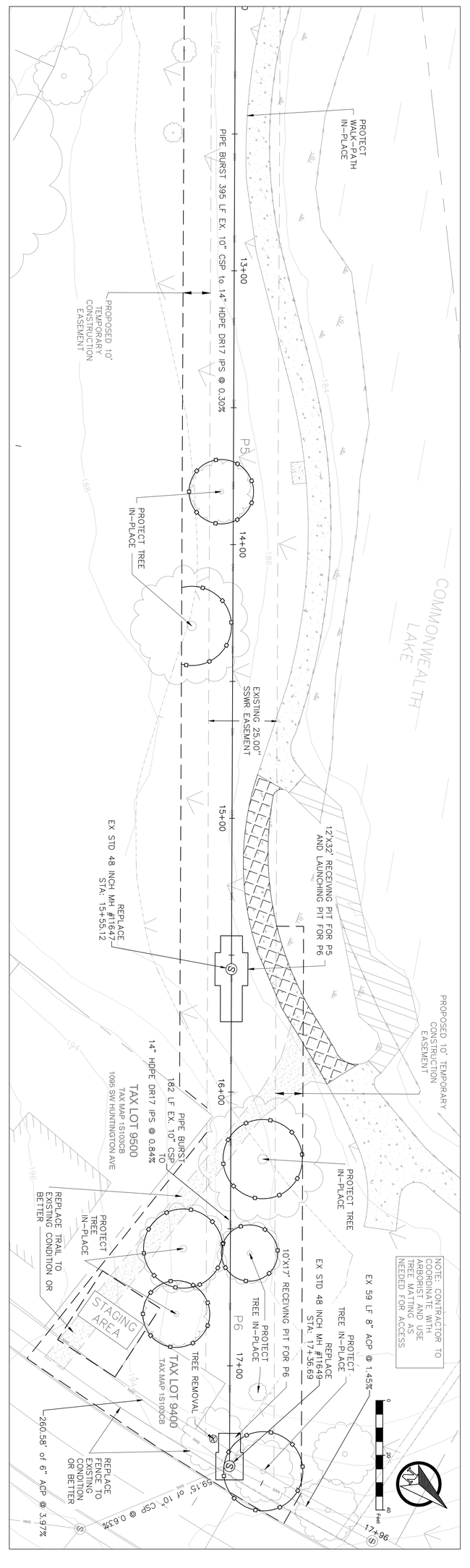
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PROJECT 7207
SHEET 07 OF 16

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PROJECT	7207
SHEET	08
OF	16

DRAFTER: SG	
DESIGNER:SG	
CHECKED: DG	
APPROVED: DG	

FOOTHILL DRIVE SANITARY SEWER UPGRADE

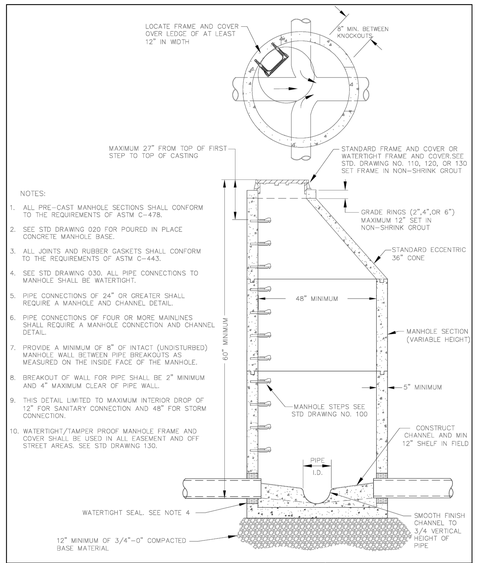
PLAN AND PROFILE STA 12+00 TO STA 17+96

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REGISTERED PROFESSIONAL ENGINEER OREGON JULY 10, 2009 MICHAEL L. GRUSHKA

EXPIRES: 06-30-27
APPROVED BY:



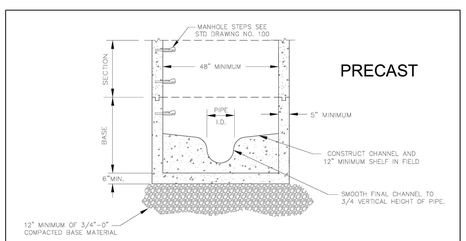
NOTES:

1. ALL PRE-CAST MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
2. SEE STD DRAWING 020 FOR POURED IN PLACE CONCRETE MANHOLE BASE.
3. ALL JOINTS AND RUBBER GASKETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-443.
4. SEE STD DRAWING 030. ALL PIPE CONNECTIONS TO MANHOLE SHALL BE WATERTIGHT.
5. PIPE CONNECTIONS OF 24" OR GREATER SHALL REQUIRE A MANHOLE AND CHANNEL DETAIL.
6. PIPE CONNECTIONS OF FOUR OR MORE MAINLINES SHALL REQUIRE A MANHOLE CONNECTION AND CHANNEL DETAIL.
7. PROVIDE A MINIMUM OF 8" OF INTACT (UNDISTURBED) MANHOLE WALL BETWEEN PIPE BREAKOUTS AS MEASURED ON THE INSIDE FACE OF THE MANHOLE.
8. BREAKOUT OF WALL FOR PIPE SHALL BE 2" MINIMUM AND 4" MAXIMUM CLEAR OF PIPE WALL.
9. THIS DETAIL LIMITED TO MAXIMUM INTERIOR DROP OF 12" FOR SANITARY CONNECTION AND 48" FOR STORM CONNECTION.
10. WATERTIGHT/TAMPER PROOF MANHOLE FRAME AND COVER SHALL BE USED IN ALL EASEMENT AND OFF STREET AREAS. SEE STD DRAWING 130.

STANDARD MANHOLE

DRAWING NO. 010 — REVISED 10-31-19

CleanWater Services



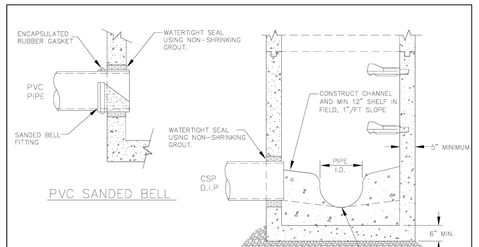
NOTES:

1. ALL MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478 AND APPLICABLE PROVISIONS OF STANDARD MANHOLE, DRAWING NO. 010.
2. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND A SLUMP OF 2" TO 4".

PRE-CAST/POURED IN PLACE MANHOLE BASE

DRAWING NO. 020 — REVISED 10-31-19

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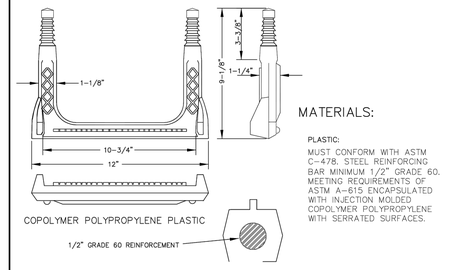
NOTES:

1. ALL PRE-CAST MANHOLE SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478 AND APPLICABLE PROVISIONS OF STANDARD DRAWING NO. 010.
2. ALTERNATE METHODS TO BE APPROVED BY CITY/DISTRICT.
3. BOOTS TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS/SPECIFICATIONS.

MANHOLE CONNECTIONS

DRAWING NO. 030 — REVISED 10-31-19

CleanWater Services



MATERIALS:

PLASTIC:
MUST CONFORM WITH ASTM C-478. STEEL REINFORCING BAR MINIMUM 1/2" GRADE 60. MEETING REQUIREMENTS OF ASTM A-615 ENCAPSULATED WITH INJECTION MOLDED COPOLYMER POLYPROPYLENE WITH SERRATED SURFACES.

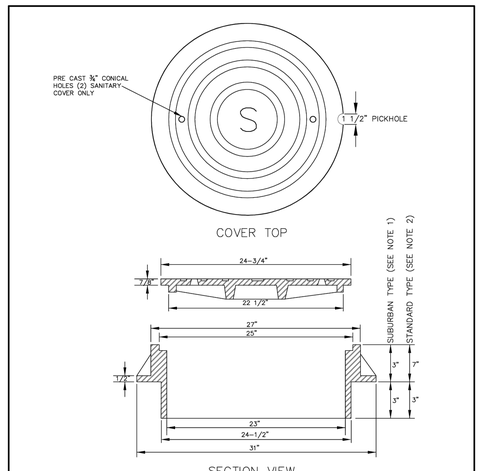
NOTES:

1. ALL STEPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-478.
2. MANHOLE STEPS MUST BE TIGHT AND FIRMLY EMBEDDED.
3. ALL STEPS WITHIN A MANHOLE SHALL BE OF THE SAME DESIGN, TYPE, AND SIZE. (MIXING OF UNMATCHED STEPS IS NOT PERMITTED).
4. STEPS ADJUSTED OR ADDED SHALL BE EPOXIED IN HOLES THAT ARE FREE OF MOISTURE AND DEBRIS. (EPOXY TO MEET ASTM C881).

MANHOLE STEP

DRAWING NO. 100 — REVISED 10-31-19

CleanWater Services



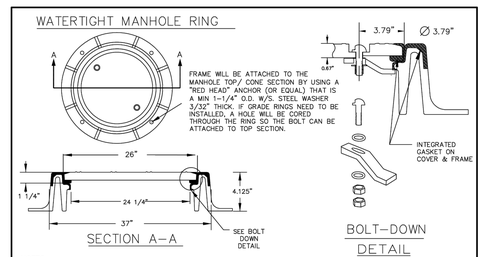
NOTES:

1. SUBURBAN TYPE FOR USE IN TRAFFIC AREAS OF LOCAL AND NEIGHBORHOOD STREETS.
2. STANDARD TYPE FOR USE IN TRAFFIC AREAS OF COLLECTOR AND ARTERIAL STREETS.
3. COVER AND FRAME SHALL BE GRAY CAST IRON ASTM A-48 CLASS 30.
4. COVER AND FRAME TO BE MACHINED TO A TRUE BEARING ALL AROUND.
5. 1 1/2" PICKHOLE IN LID FOR LIFTING HOOK.

SUBURBAN AND STANDARD MANHOLE FRAME AND COVER SANITARY

DRAWING NO. 110 — REVISED 10-31-19

CleanWater Services



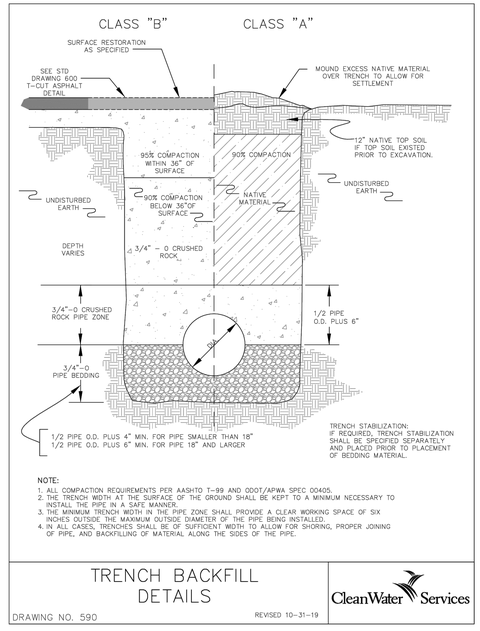
NOTES:

1. COMPOSITE WATERTIGHT/TAMPER PROOF MANHOLE FRAME AND COVER SHALL BE USED IN ALL EASEMENT AND OFF STREET AREAS.
2. THE WATERTIGHT MANHOLE COVER FRAME SHALL BE GMI 2600 SERIES COMPOSITE FRAME AND COVER MANUFACTURED BY TITUS INDUSTRIAL GROUP, INC. OR ITS EQUAL.
3. THE LOCKING MECHANISM SHALL BE A TWISTLIFT® MANUFACTURED BY TITUS INDUSTRIAL GROUP, INC.OR ITS EQUAL.
4. THE TWISTLIFT® COMPOSITE ACCESS COVER LOCK IS DESIGNED AS A SECURITY BOLT REQUIRING A SPECIAL TOOL TO OPERATE THE QUARTER TURN BOLT AND LIFT THE COVER FROM THE FRAME. IT FUNCTIONS WITH EITHER THE STANDARD CAM LOCK QUARTER TURN PADDLE, OR THE EXTENDED "SURCHARGE" PADDLE.
5. THE BOLT SHALL BE MACHINED FROM 316 STAINLESS STEEL.
6. THE BOLT FEATURES A DOMED HEAD WITH 3 EQUALLY SPACED 'J' SLOTS RUNNING HORIZONTALLY AROUND THE BOLT HEAD.
7. STANDARD BOLT SIZES ARE 14 MM COARSE THREAD WITH A FLAT MACHINED ON TWO SIDES TO ENGAGE PADDLE.
8. THE PADDLE IS DIE CAST FROM 304 STAINLESS STEEL AND ALSO AVAILABLE IN BOTH STANDARD CAM LOCK DESIGN, OR EXTENDED SURCHARGE CONFIGURATION.
9. THE BOLT AND PADDLE WILL BE ASSEMBLED USING TWO STAINLESS STEEL 14 MM NUTS, THE BOTTOM NUT IS A STANDARD NUT THAT WILL BE TORQUE TO 35 FT. LBS. TO GIVE THE DESIRED TENSION ON THE BOLT. A SECOND NYLOCK™ LOCK NUT IS USED AS A JAM NUT, AND TORQUE TO 90 FT. LBS. STAINLESS STEEL WASHERS ARE USED TO PROVIDE CONSISTENT TURNING RESISTANCE.
10. A 5/16 STAINLESS STEEL SET SCREW, SET IN A THREADED HOLE IN THE COVER PROVIDES FOR A STOP AT ¼ TURN OF OPERATION.
11. THE BOLT WILL BE OPERATED BY MEANS OF A SPECIALLY MADE OPENING KEY CONSISTING OF A SPECIAL SOCKET ATTACHED TO A "T" HANDLE USED TO BOTH TURN THE BOLT, AND LIFT OUT THE COVER.
12. ONE SET OF REPLACEMENT OPENING KEYS WILL BE PROVIDED TO CLEAN WATER SERVICES AT TIME OF INSTALLATION.
13. THE BOLT HEAD IS PROTECTED BY A WEATHER RESISTANT PLASTIC DEBRIS CAP. THE CAP IS INCLUDED WITH EACH LOCK.
14. SEE LOCAL JURISDICTION REQUIREMENTS FOR USE IN TRAFFIC AREAS.

WATERTIGHT MANHOLE FRAME AND COVER

DRAWING NO. 130 — REVISED 10-31-19

CleanWater Services



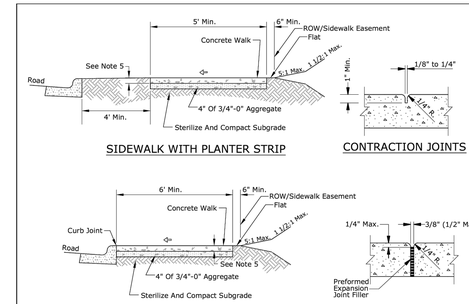
NOTE:

1. ALL COMPACTION REQUIREMENTS PER AASHTO T-99 AND ODOT/APWA SPEC 00405.
2. THE TRENCH WIDTH AT THE SURFACE OF THE GROUND SHALL BE KEPT TO A MINIMUM NECESSARY TO INSTALL THE PIPE IN A SAFE MANNER.
3. THE MINIMUM TRENCH WIDTH IN THE PIPE ZONE SHALL PROVIDE A CLEAR WORKING SPACE OF SIX INCHES OUTSIDE THE MAXIMUM OUTSIDE DIAMETER OF THE PIPE BEING INSTALLED.
4. IN ALL CASES, TRENCHES SHALL BE OF SUFFICIENT WIDTH TO ALLOW FOR SHORING, PROPER JOINING OF PIPE, AND BACKFILLING OF MATERIAL ALONG THE SIDES OF THE PIPE.

TRENCH BACKFILL DETAILS

DRAWING NO. 590 — REVISED 10-31-19

CleanWater Services



LEGEND:

Slope 1.5% Max Design
Slope 2% Max Finish Grade

GENERAL NOTES:

1. Use Oregon Commercial Grade Concrete Per Section 00440.
2. Panel Dimensions To Be Nominal 5 Feet Or As Directed By Engineer. Broom Finish All Panels.
3. Place Expansion Joints Adjacent To Driveway Approaches, Utility Vaults, Drainage Inlets, Curb Ramps, Curb Joints And At Spacing Not To Exceed 100 Feet.
4. Trowel Surfaces At Curb Joints With A Minimum 1/4" Radius.
5. Place 4" Thick Sidewalk Unless Noted Otherwise. Place 6" Thick Sidewalk At Driveways, Bus Stops, Emergency Accesses, And Other Locations Directed By The Engineer.
6. Extend Drain Blockouts In Curbs To Back Of Sidewalk With 3" Dia. Plastic Pipe At 2% Max. Slope. Install Construction Joint Over Pipe.
7. At Each CG-30 And CG-48 Inlet Location, Place A 10 Ft. Long #4 Bar Centered Between Back Of The Inlet Structure And Back Of Walk. Install Joints And Rebar At Direction Of Engineer.
8. Design Slopes May Be Exceeded To Fit Existing Conditions, Not To Exceed Finish Grade Slope.
9. Sidewalk Adjacent To Curb Requires County Engineer Approval.

P.C. CONCRETE SIDEWALK DETAIL

WASHINGTON COUNTY DEPARTMENT OF LAND USE & TRANSPORTATION ENGINEERING SECTION

PLOT STAMP: 07/02/25 9:26A MELISSAWH
CAD: 2110.DWG

EFFECTIVE DATE: 07/01/2025 — WASH. CO. # 2110

REGISTERED PROFESSIONAL ENGINEER
65,625PE
OREGON
JANUARY 10, 2006
DOUGLAS MICHAEL CRESHAM
EXPIRES 6-30-27
APPROVED BY

NO.	REVISION	BY	DATE
2	ISSUED FOR BID	SG	05/20
1	90% DRAWINGS	SG	03/26

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Hillsboro, OR 97123
(503) 681-3600
www.cleanwaterservices.org

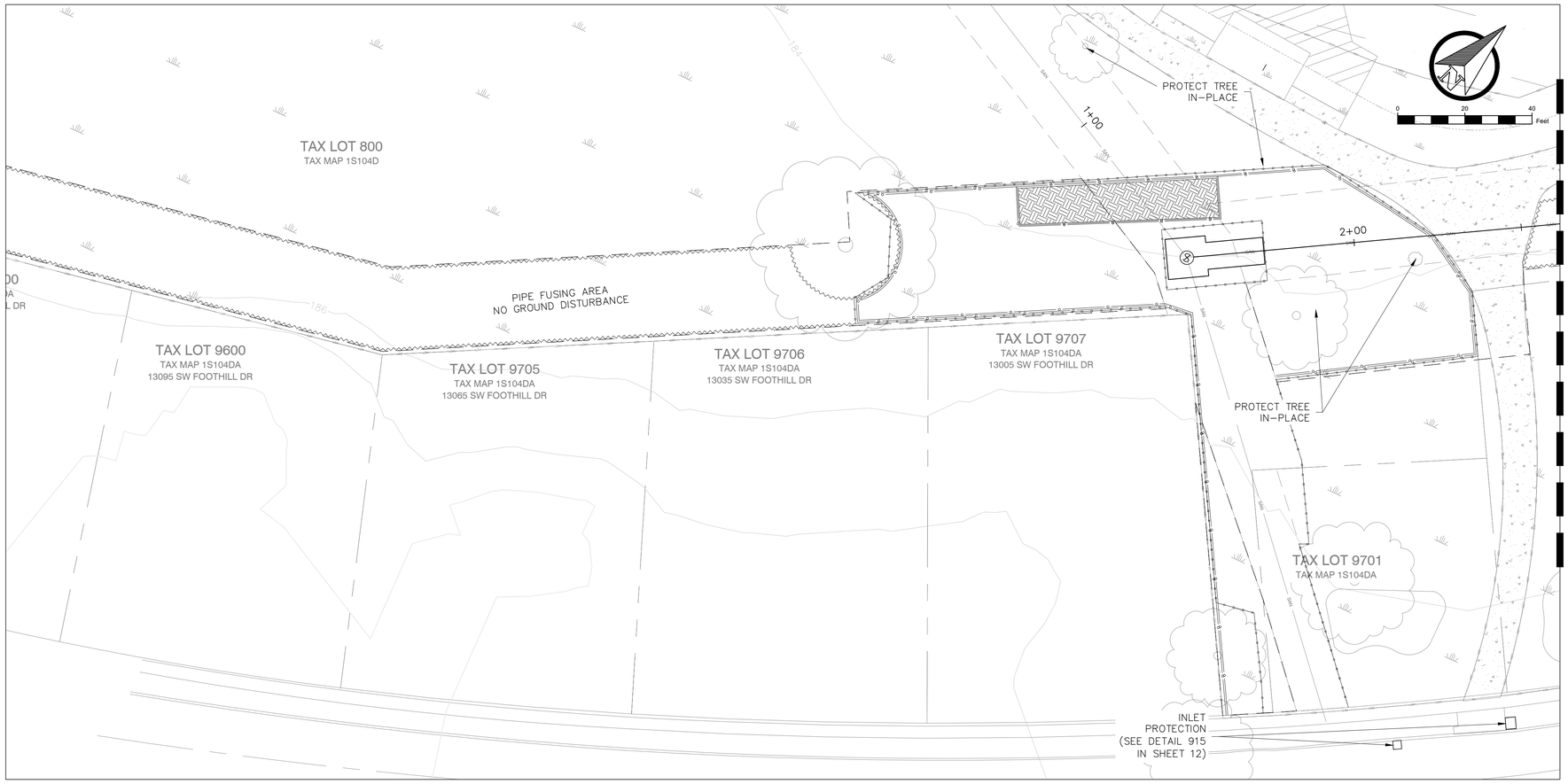
STANDARD DETAILS

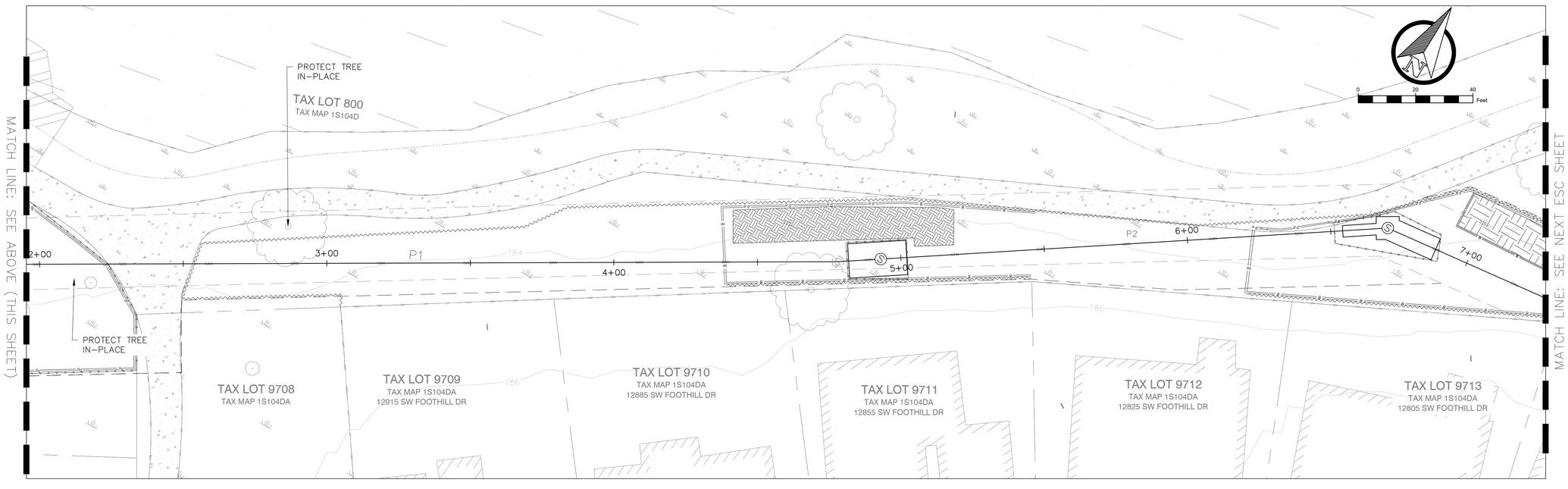
FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG	DESIGNER: SG	CHECKED: DG	APPROVED: DG

PROJECT 7207 — SHEET 09 OF 16

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LEGEND

- PROPOSED STOCKPILE LOCATION
- EXISTING WETLAND
- ORANGE CONSTRUCTION FENCE/ SEDIMENT FENCE
- STRAW WATTLES
- CHAIN LINK FENCE
- DRAINAGE FLOW DIRECTION
- EXISTING SANITARY SEWER EASEMENT
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT

EROSION CONTROL AND RESTORATION NOTES:

1. INSTALL 4 FT ORANGE CONSTRUCTION/ SEDIMENT FENCE AT LOCATIONS SHOWN ON THE PLAN WITHOUT INTERRUPTING PARK ACCESS TO PARK USERS.
2. INSTALL DOUBLE LINE OF STRAW WATTLES PER CWS DWG NO. 880, SHEET ESC DETAILS.
3. GROUND SURFACE GRADE SHALL BE RESTORED TO THE EXISTING GRADE.
4. STOCKPILE SOIL SHALL BE PLACED IN STABLE LOCATION. STOCKPILE SHOULD BE COVERED DURING WET WEATHER CONDITIONS WITH PLASTICS SHEETING AS PER CWS DWG NO. 810, SHEET ESC DETAILS.
5. UPON COMPLETION OF SANITARY SEWER REHABILITATION VIA PIPE BURSTING, ALL DISTURBED AREAS INCLUDING STREETS, SIDEWALKS, DRIVEWAYS, LAWNS, AND LANDSCAPING SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER. CONTRACTOR WILL COORDINATE BETWEEN DISTRICT AND THPRD TO VERIFY CONDITIONS ARE MET.

REGISTERED PROFESSIONAL ENGINEER
65,625PE
OREGON
JANUARY 10, 2006
DOUGLAS MICHAEL CRESHAM
EXPIRES 6-30-27
APPROVED BY

NO.	REVISION	BY	DATE
2	ISSUED FOR BID	SG	05/20
1	90% DRAWINGS	SG	03/26

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Hillsboro, OR 97123
(503) 681-3600
www.cleanwaterservices.org

EROSION CONTROL AND GRADING PLAN

FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG	
DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

PROJECT 7207
SHEET 10 OF 16

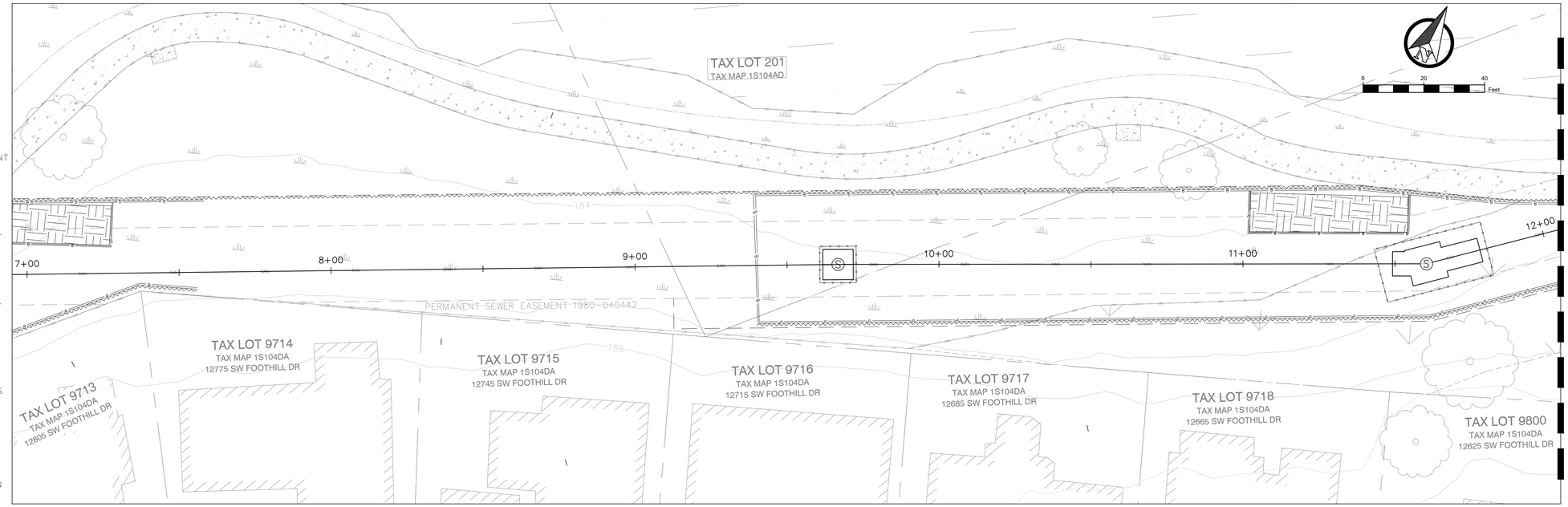
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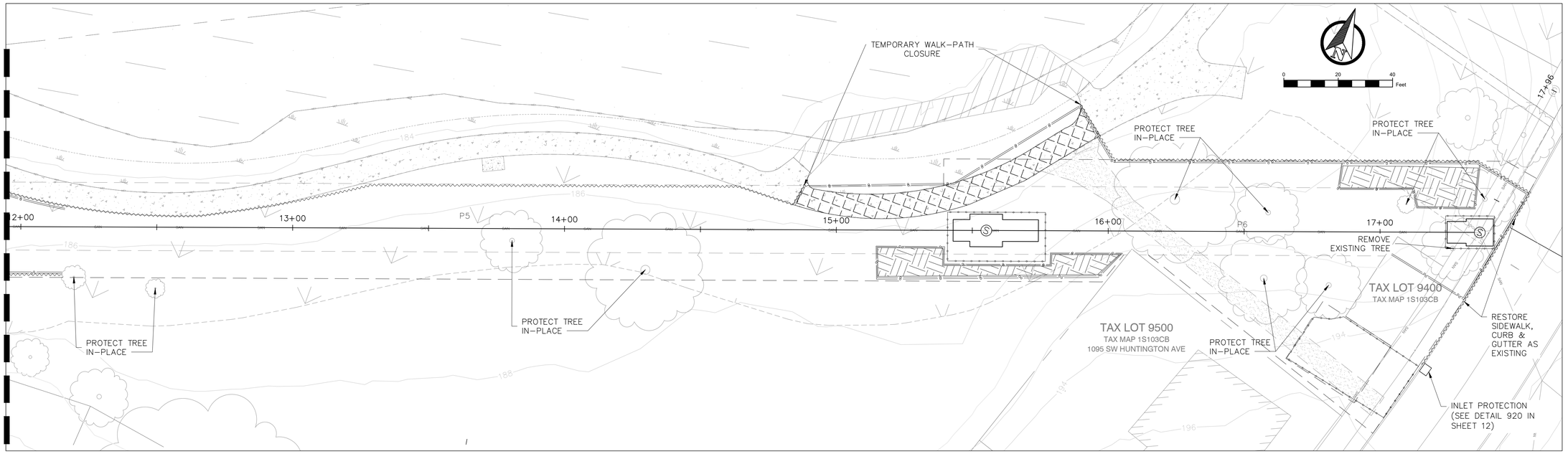
LEGEND

- PROPOSED STOCKPILE LOCATION
- EXISTING WETLAND
- ORANGE CONSTRUCTION FENCE/ SEDIMENT FENCE
- STRAW WATTLES
- CHAIN LINK FENCE
- DRAINAGE FLOW DIRECTION
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2. INSTALL DOUBLE LINE OF STRAW WATTLES PER CWS DWG NO. 880, SHEET ESC DETAILS.
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4. STOCKPILE SOIL SHALL BE PLACED IN STABLE LOCATION. STOCKPILE SHOULD BE COVERED DURING WET WEATHER CONDITIONS WITH PLASTICS SHEETING AS PER CWS DWG NO. 810, SHEET ESC DETAILS.
5. UPON COMPLETION OF SANITARY SEWER REHABILITATION VIA PIPE BURSTING, ALL DISTURBED AREAS INCLUDING STREETS, SIDEWALKS, DRIVEWAYS, LAWNS, AND LANDSCAPING SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER. CONTRACTOR WILL COORDINATE BETWEEN DISTRICT AND THPRD TO VERIFY CONDITIONS ARE MET.





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EROSION CONTROL AND GRADING PLAN

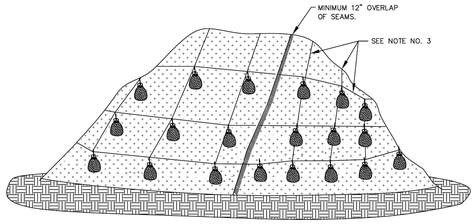
FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG	DESIGNER: SG	CHECKED: DG	APPROVED: DG

PROJECT 7207
SHEET 11 OF 16

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FOR FURTHER INFORMATION
ON DESIGN CRITERIA SEE
CHAPTER 4 OF CLEAN WATER
SERVICES EROSION PREVENTION
AND SEDIMENT CONTROL
PLANNING AND DESIGN MANUAL.



PLASTIC SHEETING

NOTES:

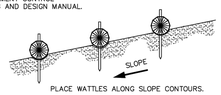
1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. PERIMETER SEDIMENT CONTROL BMP TO BE INSTALLED A MIINIMUM OF 3' FROM TOE OF STOCKPILE.
3. COVERING MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR APPROVED EQUAL ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.
4. PLASTIC TO EXTEND MINIMUM 1' BEYOND TOE OF SLOPE.
5. AS APPROPRIATE, BMP'S SHALL BE INSTALLED TO CONVEY WATER DISCHARGE FROM STOCKPILE AREAS.

PLASTIC SHEETING

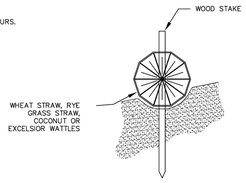
DRAWING NO. 810 REVISED 10-31-19

CleanWater Services

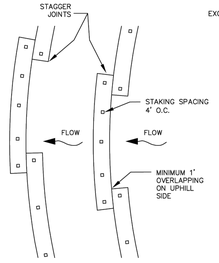
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PROFILE



SECTION



PLAN VIEW

NOTES:

1. STAKING SPECIFICATIONS:
   a. 1"X2" WOODEN STAKES
   b. ADDITIONAL STAKES MAY BE INSTALLED ON DOWNHILL SIDE OF WATTLES, ON STEEP SLOPE OR HIGHLY EROSIVE SOILS.
2. SPACING IN ACCORDANCE WITH DETAIL 940.
3. REMOVE ALL ROCKS, CLODS, VEGETATION OR OTHER OBSTRUCTIONS SO THAT THE INSTALLED WATTLES WILL HAVE DIRECT CONTACT WITH THE SOIL.
4. INSTALL THE WATTLES IN A 2" DEEP TRENCH, INSURING THAT NO GAPS EXIST BETWEEN THE SOIL AND THE BOTTOM OF THE WATTLE. THE ENDS OF ADJACENT WATTLES SHALL BE OVERLAPPED 1 FT. MINIMUM TO PREVENT SEDIMENT PASSING THROUGH THE FIELD JOINT.

WATTLES

DRAWING NO. 880 REVISED 10-31-19

CleanWater Services

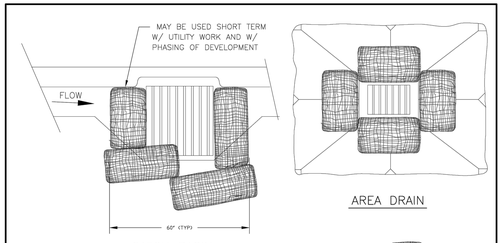
NOTES:

1. WHEN RAINFALL AND RUNOFF OCCURS, A KNOWLEDGEABLE AND EXPERIENCED PERSON IN THE PRINCIPLES, PRACTICES, INSTALLATION, AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS WHO WORKS FOR THE PERMITTEE MUST PROVIDE DAILY INSPECTIONS OF THE EROSION AND SEDIMENT CONTROLS AND DISCHARGE OUTFALLS.
2. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND CREATION OF BARE GROUND FROM OCTOBER 1 THROUGH MAY 31ST EACH YEAR.
3. DURING WET WEATHER PERIOD, TEMPORARY STABILIZATION OF THE SITE MUST OCCUR AT THE END OF EACH WORK DAY.
4. SEDIMENT CONTROLS MUST BE INSTALLED AND MAINTAINED ON ALL DOWN GRADIENT SIDES OF THE CONSTRUCTION SITE AT ALL TIMES DURING CONSTRUCTION. THEY MUST REMAIN IN PLACE UNTIL PERMANENT VEGETATION OR OTHER PERMANENT COVERING OF EXPOSED SOIL IS ESTABLISHED.
5. ALL ACTIVE INLETS MUST HAVE SEDIMENT CONTROLS INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
6. SIGNIFICANT AMOUNTS OF SEDIMENT THAT LEAVES THE SITE MUST BE CLEANED UP WITHIN 24 HOURS AND PLACED BACK ON THE SITE AND STABILIZED OR PROPERLY DISPOSED. THE CAUSE OF THE SEDIMENT RELEASE MUST BE FOUND AND PREVENTED FROM CAUSING A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN UP OF SEDIMENT SHALL BE PREFORMED ACCORDING TO THE OREGON DEPARTMENT OF STATE LANDS REQUIRED TIME FRAME.
7. SEDIMENT MUST NOT BE INTENTIONALLY WASHED INTO STORM SEWERS, DRAINAGE WAYS, OR WATER BODIES.
8. SEDIMENT MUST BE REMOVED FROM BEHIND ALL SEDIMENT CONTROL MEASURES WHEN IT HAS REACHED A HEIGHT OF 1/3-RD THE BARRIER HEIGHT AND PRIOR TO THE CONTROL MEASURES REMOVAL.
9. CLEANING OF ALL STRUCTURES WITH SUMPS MUST OCCUR WHEN THE SEDIMENT RETENTION CAPACITY HAS BEEN REDUCED BY 50% AND AT COMPLETION OF PROJECT.
10. ANY USE OF TOXIC OR OTHER HAZARDOUS MATERIALS MUST INCLUDE PROPER STORAGE, APPLICATION, AND DISPOSAL.
11. THE PERMITTEE MUST PROPERLY MANAGE HAZARDOUS WASTES, USED OILS, CONTAMINATED SOILS, CONCRETE WASTE, SANITARY WASTE, LIQUID WASTE, OR OTHER TOXIC SUBSTANCES DISCOVERED OR GENERATED DURING CONSTRUCTION.
12. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS. NUTRIENT RELEASES FROM FERTILIZERS TO SURFACE WATERS MUST BE MINIMIZED. TIME RELEASE FERTILIZERS SHOULD BE USED AND CARE SHOULD BE MADE IN APPLICATION OF FERTILIZERS WITHIN ANY WATER WAY RIPARIAN ZONE.
13. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH CURRENT CLEAN WATER SERVICES STANDARDS AND STATE, AND FEDERAL REGULATIONS.
14. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. UNLESS OTHERWISE APPROVED, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
15. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMPS THAT MUST BE INSTALLED ARE GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMPS MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
16. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE PLACE NO LATER THAN SEPTEMBER 1ST; THE TYPE AND PERCENTAGES OF SEED IN THE MIX ARE AS IDENTIFIED ON THE PLANS OR AS SPECIFIED BY THE DESIGN ENGINEER.
17. WATERTIGHT TRUCKS MUST BE USED TO TRANSPORT SATURATED SOILS FROM THE CONSTRUCTION SITE. AN APPROVED EQUIVALENT IS TO DRAIN THE SOIL ON SITE AT A DESIGNATED LOCATION USING APPROPRIATE BMPS; SOIL MUST BE DRAINED SUFFICIENTLY FOR MINIMAL SPILLAGE.
18. ALL PUMPING OF SEDIMENT LADEN WATER MUST BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP (I.E. FILTER BAG).
19. THE ESC PLAN MUST BE KEPT ONSITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE WATER SYSTEM, ROADWAY, OR OTHER PROPERTIES.
20. THE ESC MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED TO MAINTAIN COMPLIANCE WITH ALL REGULATIONS.
21. WRITTEN ESC LOGS ARE SUGGESTED TO BE MAINTAINED ONSITE AND AVAILABLE TO DISTRICT INSPECTORS UPON REQUEST.
22. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMPS MUST BE USED, WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING, OR OTHER APPROVED MEASURES.
23. ALL EXPOSED SOILS MUST BE COVERED, AT END OF BUSINESS DAY, DURING WET WEATHER PERIOD, FROM OCTOBER 1 - MAY 31.

STANDARD EROSION CONTROL NOTES FOR SITES LESS THAN 1 ACRE

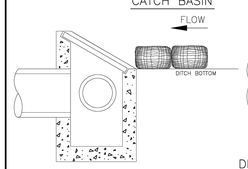
DRAWING NO. 945 REVISED 10-31-19

CleanWater Services

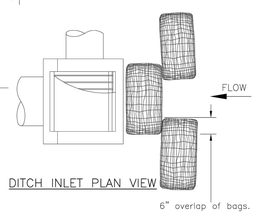


AREA DRAIN

CATCH BASIN



DITCH INLET



DITCH INLET PLAN VIEW

NOTES:

1. ADDITIONAL MEASURES MUST BE CONSIDERED DEPENDING ON SOIL TYPES.
2. BIO-FILTER BAGS SHOULD BE STAKED WHERE APPLICABLE USING (2) 1"x2" WOODEN STAKES OR APPROVED EQUAL PER BAG.
3. WHEN USING 30" BIO-BAGS TO PROTECT A CATCH BASIN YOU HAVE 4 BAGS AND THEY SHALL BE OVERLAPPED BY 6".

FOR FURTHER INFORMATION
ON DESIGN CRITERIA SEE
CHAPTER 4 OF CLEAN WATER
SERVICES EROSION PREVENTION
AND SEDIMENT CONTROL
PLANNING AND DESIGN MANUAL.

INLET PROTECTION
TYPE 4

DRAWING NO. 915 REVISED 10-31-19

CleanWater Services

REGISTERED PROFESSIONAL ENGINEER
65,625PE
OREGON
JANUARY 10, 2006
DOUGLAS MICHAEL GRESHAM
EXPIRES 6-30-27
APPROVED BY

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1	90% DRAWINGS	SG	03/26

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STANDARD EROSION CONTROL AND GRADING DETAILS

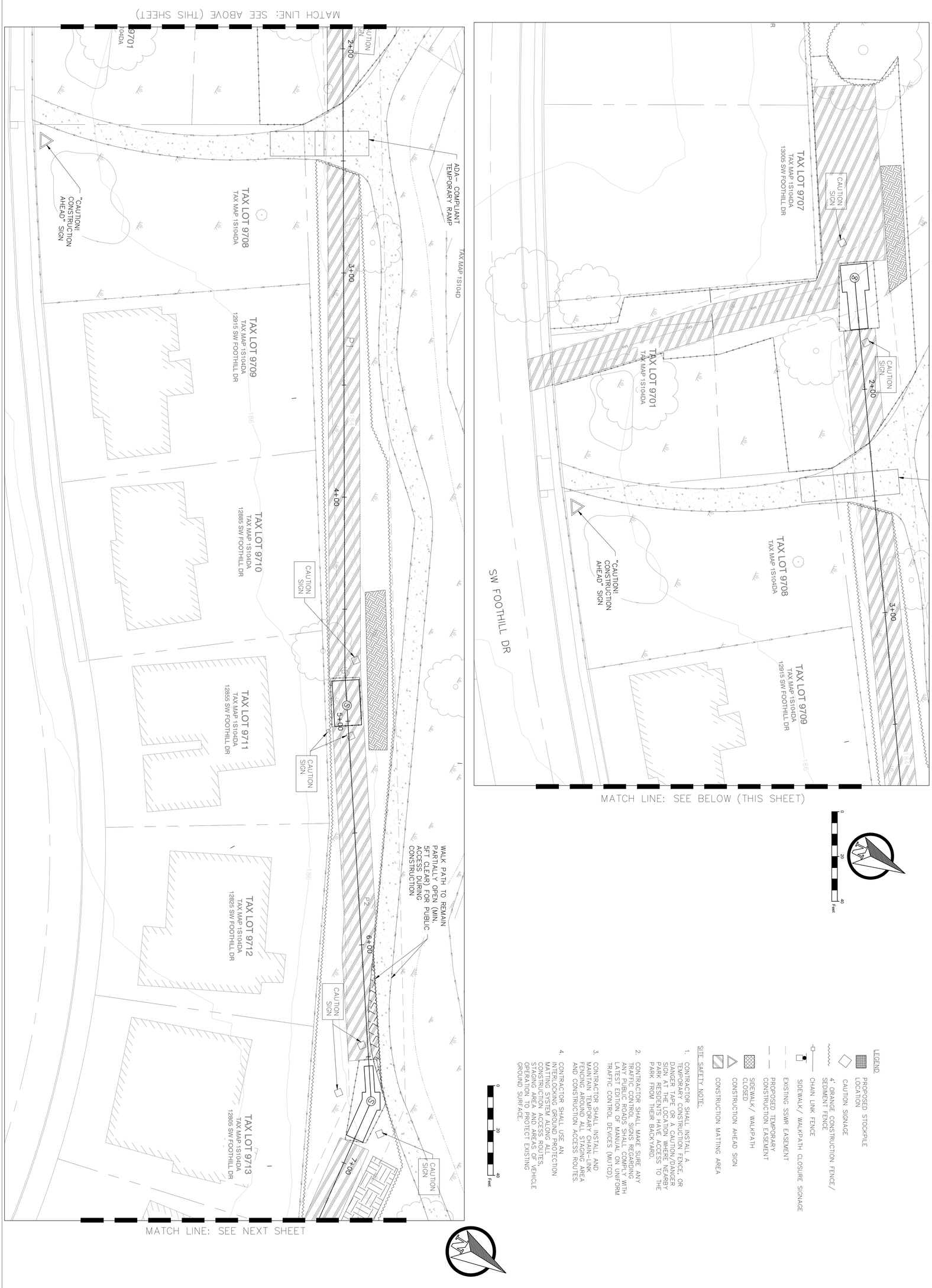
FOOTHILL DRIVE SANITARY SEWER UPGRADE

DRAFTER: SG
DESIGNER: SG
CHECKED: DG
APPROVED: DG

PROJECT 7207
SHEET 12 OF 16

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LEGEND

- PROPOSED STOCKPILE LOCATION
- CAUTION SIGNAGE
- 4' ORANGE CONSTRUCTION FENCE/ SEDIMENT FENCE
- CHAIN LINK FENCE
- SIDEWALK/ WALKPATH CLOSURE SIGNAGE
- EXISTING SSWR EASEMENT
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- SIDEWALK/ WALKPATH CLOSED
- CONSTRUCTION AHEAD SIGN
- CONSTRUCTION MATTING AREA

SITE SAFETY NOTE:

1. CONTRACTOR SHALL INSTALL A TEMPORARY CONSTRUCTION FENCE, OR DANGER TAPE OR A CAUTION/DANGER SIGN AT THE LOCATION WHERE NEARBY PARK RESIDENTS HAVE ACCESS TO THE PARK FROM THEIR BACKYARD.
2. CONTRACTOR SHALL MAKE SURE ANY TRAFFIC CONTROL SIGNS REGARDING TEMPORARY WALKWAY PATH CLOSURE COMPLY WITH LATEST EDITION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY CHAIN LINK FENCING AROUND ALL STAGING AREA AND CONSTRUCTION ACCESS ROUTES.
4. CONTRACTOR SHALL USE AN INTERLOCKING GROUND PROTECTION MATTING SYSTEM ALONG ALL CONSTRUCTION ACCESS ROUTES, STAGING AREA, OF VEHICLE OPERATING AREA AND PROTECT EXISTING GROUND SURFACE

0 20 40 Feet

PROJECT	
7207	
SHEET	
13	
OF	
16	

DRAFTER: SG	
DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

FOOTHILL DRIVE SANITARY SEWER UPGRADE

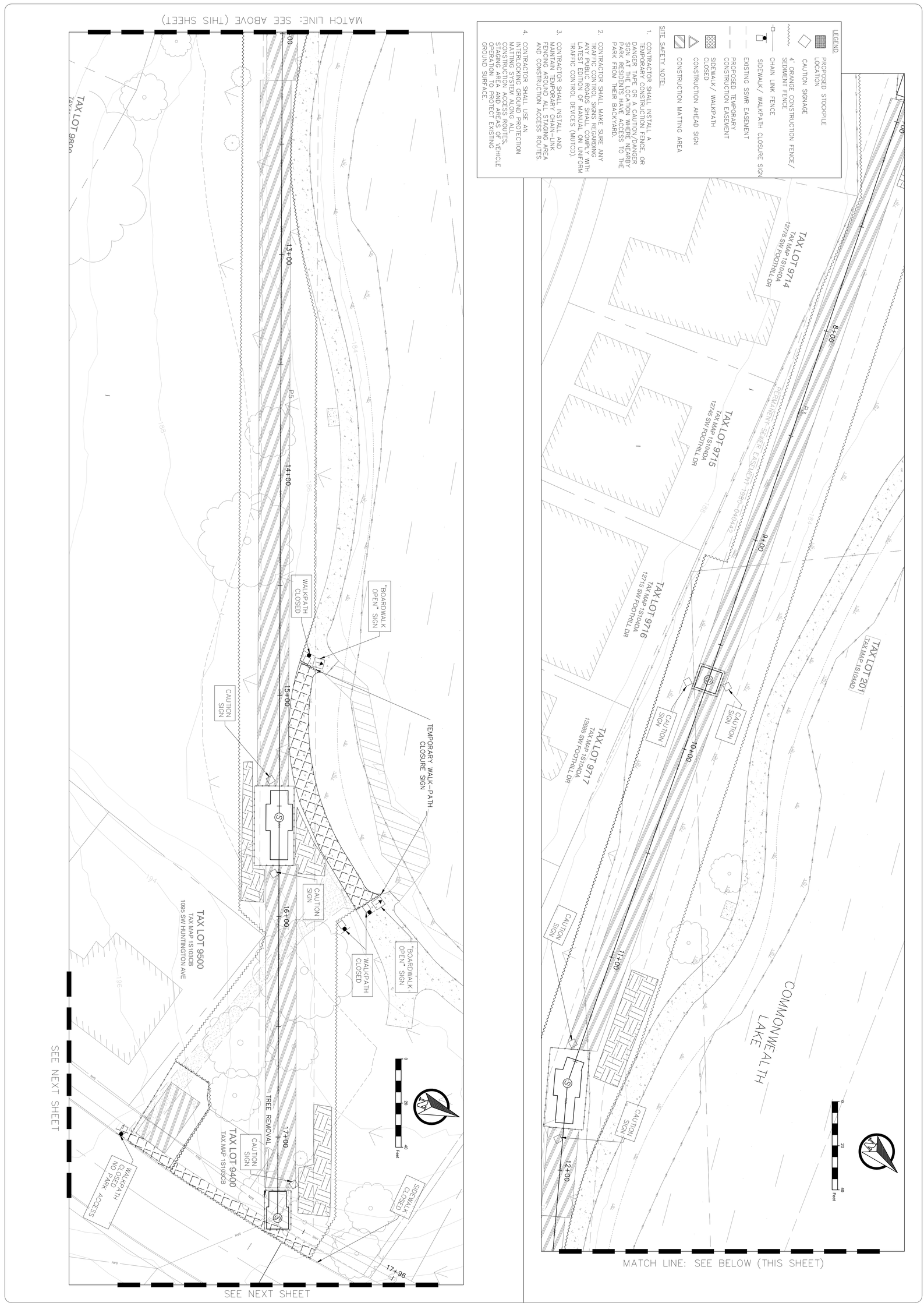
SITE SAFETY AND TRAFFIC CONTROL PLAN

Clean Water Services
Our commitment is clear.
2550 SW Hillsboro Hwy
Hillsboro, OR 97123
(503) 681-3600
www.cleanwaterservices.org

NO.	REVISION	BY	DATE
2	ISSUED FOR BID	SG	05/20
1	90% DRAWINGS	SG	03/26

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 10, 2009
GREG DAE
EXPIRES: 6-30-27
APPROVED BY

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PROJECT	7207
SHEET	14
OF	16

DRAFTER: SG	
DESIGNER: SG	
CHECKED: DG	
APPROVED: DG	

FOOTHILL DRIVE SANITARY SEWER UPGRADE

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1	90% DRAWINGS	SG	03/26

REGISTERED PROFESSIONAL ENGINEER
OREGON
JANUARY 10, 2006
GAUTAM SHARMA
EXPIRES: 6-30-27
APPROVED BY

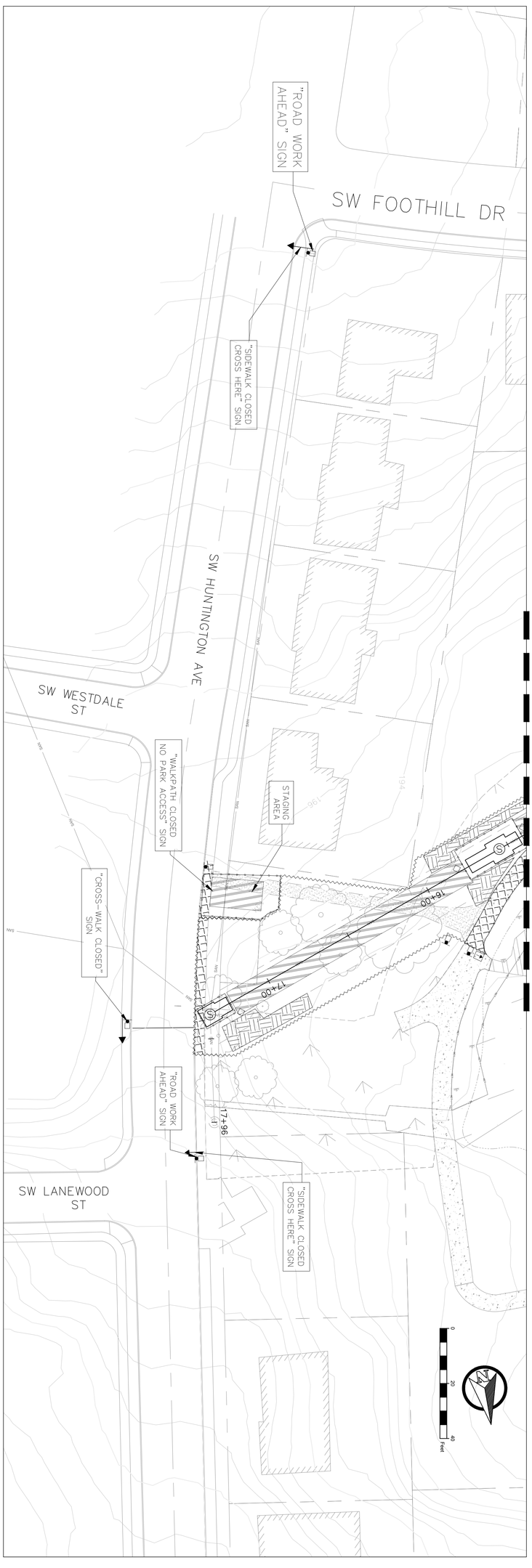
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LEGEND

- PROPOSED STOCKPILE LOCATION
- CAUTION SIGNAGE
- 4" ORANGE CONSTRUCTION FENCE/ SEDIMENT FENCE
- CHAIN LINK FENCE
- SIDEWALK/ WALKPATH CLOSURE SIGN
- EXISTING SSWR EASEMENT
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT
- SIDEWALK/ WALKPATH CLOSED
- CONSTRUCTION AHEAD SIGN
- CONSTRUCTION MATTING AREA

SITE SAFETY NOTE:

1. CONTRACTOR SHALL INSTALL A TEMPORARY CONSTRUCTION FENCE, OR DRUM BARRICADES WITH DANGER SIGN, AT THE LOCATION WHERE NEARBY PARK RESIDENTS HAVE ACCESS TO THE PARK FROM THEIR BACKYARD.
2. CONTRACTOR SHALL MAKE SURE ANY TRAFFIC CONTROL SIGNS REGARDING ANY PUBLIC ROADS SHALL COMPLY WITH LATEST EDITION OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY CHAIN-LINK FENCING AROUND STAGING AREA AND CONSTRUCTION ACCESS ROUTES.
4. CONTRACTOR SHALL USE AN INTERLOCKING RUBBER ROAD PROTECTION MATTING SYSTEM ALONG ALL CONSTRUCTION ACCESS ROUTES, STAGING AREA AND AREAS OF VEHICLE OPERATION TO PROTECT EXISTING GROUND SURFACE.



PROJECT	7207
SHEET	15
OF	16

DRAFTER:	SG
DESIGNER:	SG
CHECKED:	DG
APPROVED:	DG

FOOTHILL DRIVE SANITARY SEWER UPGRADE

SITE SAFETY AND TRAFFIC CONTROL PLAN

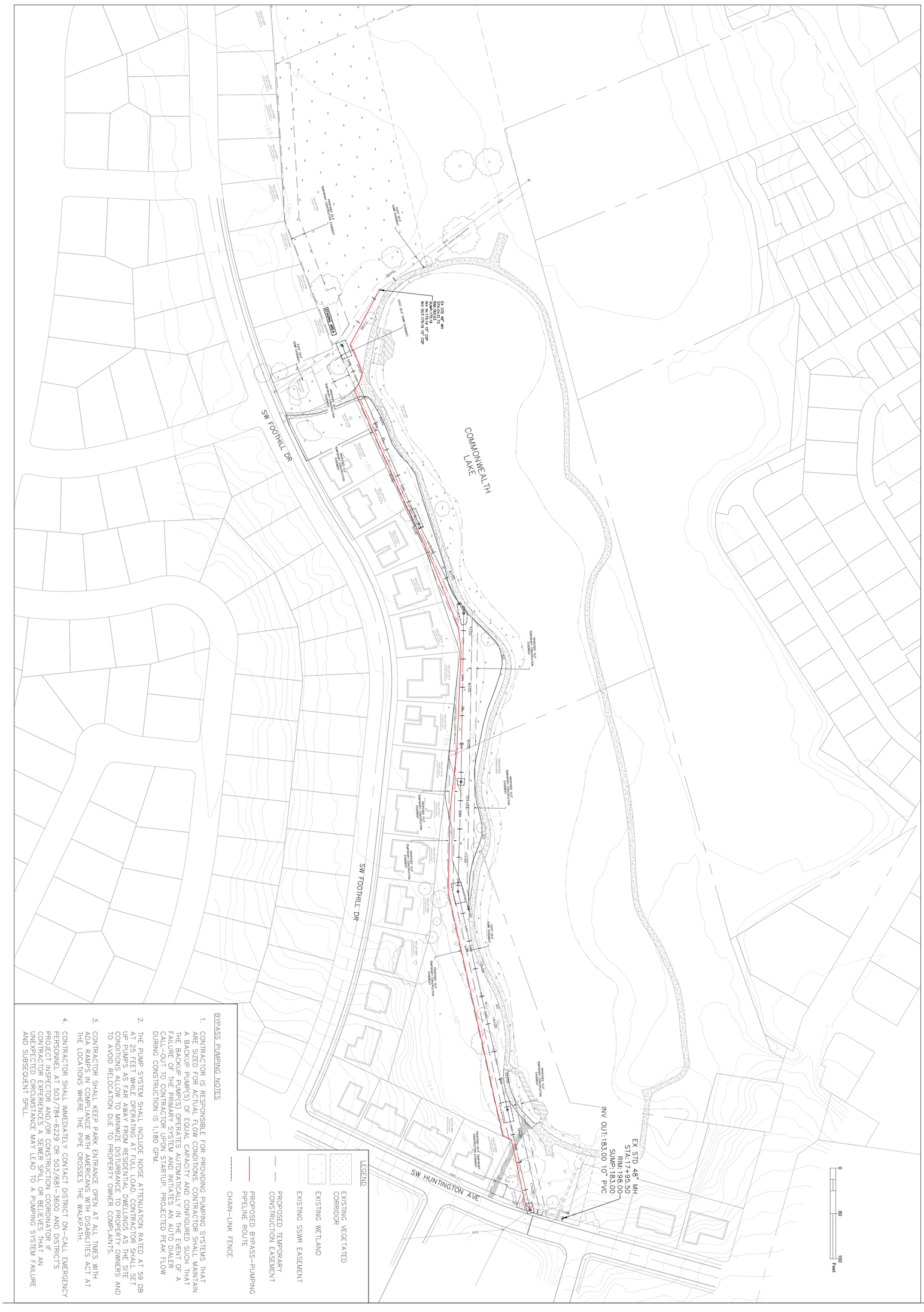
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APPROVED BY:

REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 10, 2006
GAUTAM S. GHAG
EXPIRES: 6-30-27

File: C:\Users\GautamS\9 - AUTOCAD\7207 Foothill Dr\Production Drawings\100\7207 - BYPASS PUMPING PLAN.dwg TAB:BP



BYPASS PUMPING NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR PROVIDING PUMPING SYSTEMS THAT ARE SIZED FOR ACTUAL FLOW CONDITIONS. CONTRACTOR SHALL MAINTAIN A BACKUP PUMP(S) OF EQUAL CAPACITY AND CONFIGURED SUCH THAT THE BACKUP PUMP(S) OPERATES AUTOMATICALLY IN THE EVENT OF A FAILURE OF THE PRIMARY PUMPING SYSTEM. THE PUMPING SYSTEM SHALL INCLUDE AN AUTO DIALER CALLOUT TO CONTRACTOR'S PHONE AND INTRUSION ALARM. CONTRACTOR SHALL TEST ALL ALARMS AND

ASBESTOS PROGRAM GUIDANCE DOCUMENT



How to Remove Nonfriable Asbestos Cement Pipe

A Guide for General Contractors to Meet DEQ Rules

State of Oregon
Department of Environmental Quality

Asbestos Program
700 NE Multnomah St.
Suite 600
Portland, OR 97232
Phone: 503-229-5696
800-452-4011
Fax: 503-229-6124
Contact: Hillarie Sales

www.oregon.gov/DEQ

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

The Oregon Department of Environmental Quality regulates the removal, handling, and disposal of asbestos-containing materials during renovation and demolition projects. Asbestos-containing material means any material containing more than one percent asbestos. Nonfriable asbestos material is asbestos-containing material that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure or by the forces expected to act on the material in the course of demolition, renovation, transportation or disposal. This document provides guidance for removing nonfriable asbestos cement pipe.

Disclaimer

Asbestos is a hazardous air pollutant that is known to cause cancer. There is no safe level of exposure. DEQ recommends hiring a DEQ-licensed asbestos abatement contractor to perform any asbestos removal projects, including nonfriable projects. If asbestos-containing material is not handled properly, it can become friable and release asbestos fibers into the air. Friable asbestos abatement projects must be performed by a DEQ-licensed asbestos abatement contractor, with a limited exception. Homeowners may perform an asbestos abatement project in the single unit private residence that they live in. They must handle and dispose of all asbestos-containing material in compliance with DEQ rules.

This guidance document provides information only and does not fully address, and must not be interpreted in any way as fully addressing, all products and/or materials that may contain asbestos or all procedures that may be used to safely remove asbestos-containing material. DEQ assumes no liability or responsibility for injuries, illnesses, health issues, or other related problems arising from any untrained person attempting to remove and dispose of asbestos without using a DEQ-licensed asbestos abatement contractor. If you undertake an asbestos removal project that is not performed by a DEQ-licensed asbestos abatement contractor, you assume all risks and liabilities that result from such a project.

Before you start

All applicable asbestos abatement rules found in Oregon Administrative Rules 340, Division 248 must be followed. If you have questions, contact asbestos program staff (see contact information below).

If the project is taking place in a school (K-12), you must comply with the Asbestos Hazard Emergency Response Act regulations from the U.S. Environmental Protection Agency. Contact the EPA's regional office at 800-424-4372 for current regulations and policy information.

Oregon Occupational Safety and Health also has rules for working safely with asbestos-containing materials. Please be certain that you comply with Oregon OSHA regulations if you are performing any asbestos removal or the renovation and maintenance of buildings and structures that contain asbestos. Contact Oregon OSHA at 503-378-3272 or toll-free at 800-922-2689 for current rule and policy information.

How to determine if a material contains asbestos

The only way to determine if a material contains asbestos is to take a sample and have it analyzed by a laboratory. Alternatively, you may presume the material contains asbestos and treat it accordingly.

Asbestos Program Guidance

What is asbestos cement pipe?

Asbestos cement pipe, or AC pipe, was used widely in the mid-1900's in potable water distribution systems and in sewer lines. Since the lifetime of AC pipe is approximately 70 years, many projects to update this infrastructure involve removal of this product. The cement acts as a binder that holds the asbestos fibers within a solid matrix. This prevents asbestos fibers from being released easily, unless mishandled, damaged, or in badly weathered condition. When kept intact, AC pipe is considered nonfriable.

Removing nonfriable AC pipe

The removal of nonfriable asbestos-containing materials in good condition is exempt from some DEQ rules. You **do not** need to be a DEQ-licensed asbestos abatement contractor or a DEQ-certified asbestos worker to perform nonfriable asbestos removal. When removing AC pipe, the pipe must remain intact.

Notification

File a DEQ nonfriable notification form, known as an ASN-6 form, for removal of nonfriable asbestos materials and pay the appropriate fee. The DEQ Business Office must receive the notification form at least five days before the start date of the nonfriable asbestos abatement project. In emergency situations, DEQ may grant a waiver of the five-day waiting period. For more information contact asbestos program staff.

Regulated Area

The regulated area must be established by the person performing the asbestos abatement project. It includes the work area and any adjoining area where asbestos-containing waste material generated from the project site is securely packaged and stored. The regulated area must restrict access to authorized personnel only, and be demarcated with prominent warning signs along the perimeter that state, in bold, all-capital letters and separated as shown here:

DANGER

ASBESTOS

MAY CAUSE CANCER

ASBESTOS CAUSES DAMAGE TO LUNGS

AUTHORIZED PERSONNEL ONLY

Safety Tips

Even under the best conditions, these projects are physically demanding and potentially dangerous. Oregon OSHA provides guidance for required safety equipment (Personal Protective Equipment or PPE) to perform asbestos removal. The following are some of the challenges to consider:

- Breathing through a respirator is difficult and places extra stress on the heart and lungs.
- Coveralls can be hot and hard to move around in.
- Work may involve ladders since some materials are located in high areas.
- Goggles and safety glasses reduce visibility and field of vision.
- Care must be taken around electric wires because water will be used to keep asbestos materials wet.
- The work area will be slick from wetting and may be a slipping or tripping hazard.

Options for removing nonfriable AC pipe

AC pipe must be removed, handled and disposed of in a manner that keeps the material intact to be

State of Oregon
Department of Environmental Quality

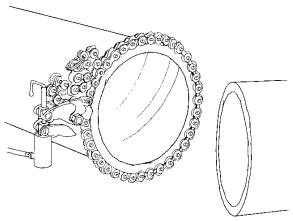
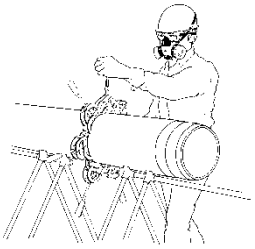
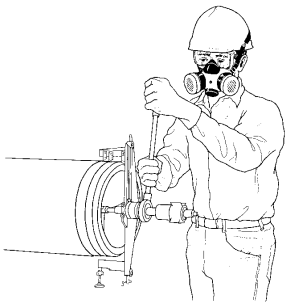
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considered nonfriable. The method of removal cannot crumble, pulverize or reduce the material to dust. Sanding, sawing, grinding, chipping or use of power tools is not allowed. The pipe must be kept adequately wet during removal, packaging and disposal. Wetting minimizes asbestos fibers from being released.

Here are some examples of proper methods to remove AC pipe:

	**1. Snap cutters** Snap cutters, also called "squeeze-and-pop" equipment, use cutting wheels mounted in a chain wrapper around the pipe barrel. Hydraulic pressure, applied by means of a remote, pneumatically or manually operated pump, squeezes the cutting wheels into the pipe wall until the cut is made.
	**2. Carbide-tipped blade cutters** Blade cutters are frame adjustable to the circumference of the pipe and have a number of self-tracking rollers that align one or more carbide-tipped cutting blades. Due to the relatively low mechanical input and clean cutting action, hand operated blade cutters do not produce significant amounts of airborne asbestos dust.
	**3. Manual field lathes** Manual field lathes are designed to end-trim and re-machine rough pipe barrels to factory-machined end profiles. The lathe consists of an adjustable, self-aligning arbor inserted into the pipe bore (which acts as a mandrel upon which the turning handle operates), a screw-fed turning frame, carbide machining blades and manual (hand or ratchet) turning handles.
	**4. Wet tapping AC pipe** Pressure or "wet" tapping for service connections is performed in the trench while the pipe is under pressure. The equipment (manual driven) is affixed to the pipe by means of a chain yoke. A combination boring-and-inserting bar drills and taps the pipe wall and inserts a corporation stop or pipe plug. The pressure chamber, which protects against water leakage, also catches the asbestos-cement chips, so this is essentially a dust-free operation.

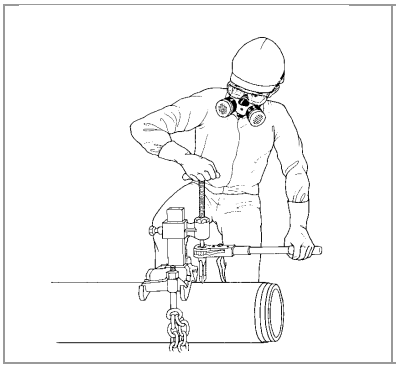
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Asbestos Program Guidance



5. Dry tapping AC pipe

Non-pressure or "dry" tapping for service connections may be performed in or out of the trench. The equipment is affixed to the pipe by means of a chain yoke. Separate drills and taps or a combination tool is used to drill and tap the pipe wall. Corporation stops or other connections may then be affixed to the pipe.

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Waste Disposal

AC pipe waste must be kept adequately wet and packaged in leak-tight containers such as two six-mil plastic bags with the asbestos hazard label, or within similar leak-tight packaging with the asbestos hazard label that states the following in bold, all-capital letters and separated as shown here:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE
ASBESTOS FIBERS

Prior to transport, each of the asbestos-containing waste packages must have a label attached with the name of the generator (person doing the removal) and the address from where the AC pipe was removed. The waste packages must be labeled prior to removal from the regulated area.

The AC pipe waste must be disposed of at a landfill permitted to accept asbestos waste and must be accompanied by a completed waste shipment report, known as an ASN-4, at the time of disposal. Contact the landfill prior to delivering the AC pipe waste. Landfills can be more stringent and may only accept asbestos waste by appointment.

If the material becomes friable

If the AC pipe becomes damaged or is badly weathered, it is considered friable and may release asbestos fibers. If the AC pipe becomes friable, stop work immediately, adequately wet the material and cover with six-mil plastic or equivalent, and promptly contact a DEQ-licensed asbestos abatement contractor. ***Friable asbestos materials must be removed by a DEQ-licensed asbestos contractor using certified workers.***

A DEQ friable notification form, known as an ASN-1 form, for the abatement of friable asbestos and the appropriate fee must be filed with DEQ. The DEQ Business Office must receive notification at least 10 days before the start date of the asbestos abatement project. In emergency situations, DEQ may grant a waiver of the 10-day waiting period. For more information contact asbestos program staff.

Additional information

Visit the DEQ Asbestos Program website here: https://go.usa.gov/xdG4K

Asbestos Program Guidance

Find all DEQ's asbestos requirements in Oregon Administrative Rules 340, Division 248. People handling asbestos must also follow other state and local government requirements, including requirements of Oregon OSHA.

If you have questions about the rules, contact the regional asbestos program office listed below.

If asbestos-containing material is disturbed or mishandled, it may expose workers or the public to asbestos fibers. Violations of asbestos rules and statutes may result in civil penalties.

Asbestos Program Contacts

Office	Address	Phone	Counties
Portland	700 NE Multnomah St. Suite 600 Portland, OR 97232	503-229-5982 or 800-452-4011	Clackamas, Clatsop, Columbia, Multnomah, Tillamook, Washington
Salem	4026 Fairview Industrial Dr. Salem, OR 97801	503-378-5086 or 800-349-7677	Benton, Lincoln, Linn, Marion, Polk, Yamhill
Medford	221 Steward Ave. Ste. 201 Medford, OR 97501	541-776-6107 or 877-823-3216	Jackson, Josephine, Eastern Douglas County
Coos Bay	381 N Second St. Coos Bay, OR 97420	541-269-2721, Ext. 222	Coos, Curry, Western Douglas County
Bend	475 NE Bellevue Dr. Suite 110 Bend, OR 97701	541-633-2019 or 866-863-6668	Crook, Deschutes, Harney, Hood River, Jefferson, Klamath, Lake, Sherman, Wasco
Pendleton	800 SE Emigrant Ave. Suite 330 Pendleton, OR 97801	541-278-4626 or 800-304-3513	Baker, Gilliam, Grant, Malheur, Morrow, Umatilla, Union, Wallowa, Wheeler
Lane Regional Air Protection Agency	1010 Main St. Springfield, OR 97477	541-736-1056	Lane

Alternative formats

DEQ can provide documents in an alternate format or in a language other than English upon request. Call DEQ at 800-452-4011 or email deqinfo@deq.state.or.us.

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