



***BID AND CONTRACT DOCUMENTS
AND SPECIFICATIONS
FOR***

REDONDO CREEK AT 16TH AVE S CULVERT REPLACEMENT

**PROJECT # 34293
RFB # 24-004**

***City of Federal Way
Public Works Department
33325 8th Avenue South
Federal Way, WA 98003***

**BID AND CONTRACT DOCUMENTS AND SPECIFICATIONS
FOR
REDONDO CREEK AT 16TH AVE S CULVERT REPLACEMENT**

PROJECT # 34293

RFB # 24-004

Bids Accepted Until 9:00 a.m., June 21, 2024
City of Federal Way
33325 8th Avenue South
Federal Way, WA 98003

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293 / RFB #24-004**

RFB-i

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***** Official bid documents, plan holder's list, and addenda (if applicable) are available on [BXWA.com](https://www.bxwa.com) *****

The registrant identified below certifies that they prepared or under their direct supervision prepared the specifications and content in these documents noted below in accordance with the rules and regulations governing engineering practice in the State of Washington (WAC 196-23-020[4]).

Division 02: Roadway Excavation and Embankment (2-03: Roadway Excavation and Embankment, as related to stream channel; 2-09 Structure Excavation, as related to dewatering)

Division 8: Miscellaneous Construction (8-30: Water Crossings, 8-31: Temporary Stream Division, 8-32: Log Structures)



GeoEngineers, Inc.
1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402

CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT PROJECT
PROJECT #34293 / RFB #24-008

RFB-1

CFW RFB VERSION 2021-DEC

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The registrant identified below certifies that they prepared or under their direct supervision prepared the specifications and content in these documents noted below in accordance with the rules and regulations governing engineering practice in the State of Washington (WAC 196-23-020[4]).

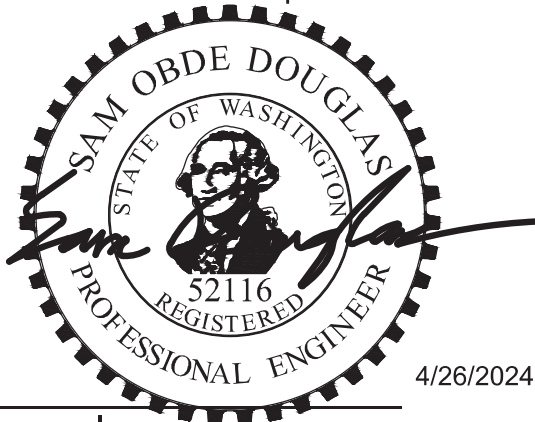
Division 01: General Requirements (1-10: Temporary Traffic Control)

Division 02: Earthwork (2-01: Clearing, Gurbbing, and Roadside Cleanup; 2-02: Removal of Structures and Obstructions; 2-03: Roadway Excavation and Embankment, except not as related to stream channel; 2-09: Structure Excavation, except as related to dewatering)

Division 07: Drainage Structures, Storm Sewers, Sanitary Sewers, Water Mains, and Conduits

Division 8: Miscellaneous Construction (8-01 – Erosion Control and Water Pollution Control, 8-02: Roadside Restoration;, 8-33: Potholing and Resolution of Utility Conflicts)

Appendix B: Special Provisions and Project Drawings for Bid Schedule B – Lakehaven Water and Sewer District Improvements.



4/26/2024

KPG Psomas, Inc.
3131 Elliott Avenue, Suite 400
Seattle, Washington 98121

CITY OF FEDERAL WAY

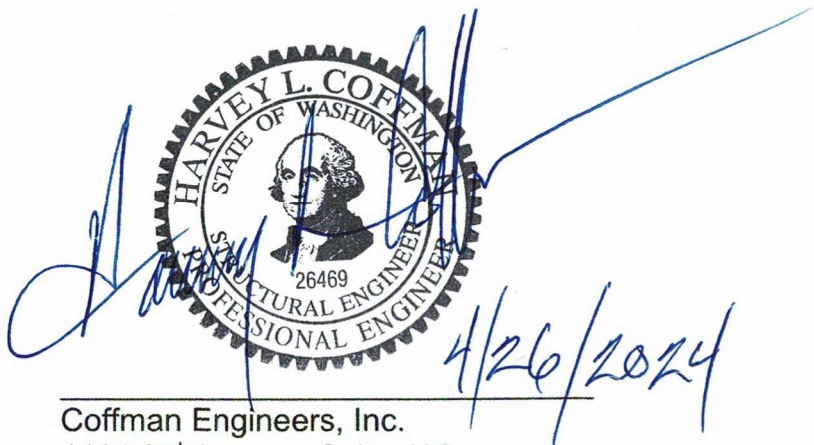
REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT PROJECT
PROJECT #34293 / RFB #24-008

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CFW RFB VERSION 2021-DEC

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The registrant identified below certifies that they prepared or under their direct supervision prepared the specifications and content in these documents noted below in accordance with the rules and regulations governing engineering practice in the State of Washington (WAC 196-23-020[4]).
Division 06: Structures



Coffman Engineers, Inc.
1101 2nd Avenue, Suite 400
Seattle, Washington 98101

CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT PROJECT
PROJECT #34293 / RFB #24-008

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The contract plans and specifications for this Project have been reviewed and approved by:



Public Works Director / Deputy Public Works Director

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT PROJECT
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ADVERTISEMENT FOR BIDS
REDONDO CREEK AT 16TH AVE S CULVERT REPLACEMENT

SUBMITTAL OF SEALED BIDS: Notice is hereby given that the City of Federal Way will receive sealed bids through June 21, 2024 at 9:00 a.m. at the City Hall Finance Department at 33325 8th Avenue South, Federal Way, Washington 98003. Proposals received after said date and time will not be considered. All timely bids will be opened and read publicly aloud in the City Hylebos conference Room, City Hall 33325 8th Avenue South, Federal Way, Washington 98003 at 9:05 a.m. on June 21, 2024.

This project shall consist of: Replacement of the existing failing undersized culverts where Redondo Creek is crossed by a utility access road that extends northeast from Redondo Way South with a larger, fish passable culvert, including construction of temporary and permanent soldier piles and temporary utility relocation and coordination.

The City anticipates awarding this project to the successful bidder and intends to give Notice to Proceed as soon as the Contract and all required documents are executed in full. Regardless of the date of award or Notice to Proceed, the Contractor must complete all work within 112 working days.

BID DOCUMENTS: Plans, Specifications, Addenda, and plan holders list are available on-line through Builders Exchange of Washington at www.bxwa.com. Click on: "Posted Projects," "Public Works," and "City of Federal Way." It is recommended that Bidders "Register" in order to receive automatic e-mail notification of future addenda and to place themselves on the "Bidders List." Bidders that do not register will need to periodically check on-line for addenda issued on this project. Contact Builders Exchange of Washington at (425) 258-1303 if you require assistance with access or registration. An informational copy of plans, specifications, and addenda are available for viewing only at the City of Federal Way Finance Department.

QUESTIONS: Any questions must be directed to John Mulkey, P.E., Senior Civil Engineer, by email at john.mulkey@federalwaywa.gov, or by letter addressed to same. Questions must be received by the City no later than 5:00 p.m. three business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of bids.

OTHER PROVISIONS: All bids and this Project shall be governed by the Contract, as defined by the Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction 2024 (Standard Specifications), which is incorporated by this reference as though set forth in full.

All bid proposals shall be in accordance with the Contract and all bid proposals shall be accompanied by a bid deposit or bond in the amount required in the Contract. Forfeiture of the proposal bond or deposit to the City shall be in accordance with the Contract.

The recipient, in accordance with Title VI of the Civil Rights Act of 1964, (78 Stat. 252, 42 U.S.C. 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color or national origin in consideration for an award. The City encourages minority and women-owned firms to submit bids consistent with the City's policy to ensure that such firms are afforded the maximum practicable opportunity to compete for and obtain public contracts.

The City of Federal Way reserves the right to reject any and all bids, waive any informalities or minor irregularities in the bidding, and determine which bid or bidder meets the criteria set forth in the bid documents.

DATES OF PUBLICATION:

Daily Journal of Commerce
Federal Way Mirror

Publish May 31, 2024 and June 7, 2024
Publish May 31, 2024 and June 7, 2024

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
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INSTRUCTIONS TO BIDDERS & CHECKLISTS

(1) ADVERTISEMENT FOR BIDS AND CONTRACT DOCUMENTS

The Advertisement for Bids and Contract Documents contain bidder instructions that must be complied with.

(2) EXAMINATION OF BID AND CONTRACT DOCUMENTS – BIDDER RESPONSIBILITIES

The submission of a bid shall constitute an acknowledgment upon which the City may rely that the bidder has thoroughly examined and is familiar with the bid and Contract Documents, the Project site, the availability of materials and labor, publically available information, and has reviewed and inspected all applicable federal, state, and local statutes, regulations, ordinances and resolutions dealing with or related to the equipment and/or services to be provided herein. The failure or neglect of a bidder to examine such documents, statutes, regulations, ordinances or resolutions shall in no way relieve the bidder from any obligations with respect to the bidder's bid or the contract documents. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any contract documents, statutes, regulations, ordinances or resolutions. Bidders shall visit delivery and service locations(s) as required. Bidders shall become familiar with and verify any environmental factors, which may impact current or future prices for this requirement.

(3) INTERPRETATION OF BID AND CONTRACT DOCUMENTS

No oral clarifications, interpretations, or representation will be made to any bidder as to the meaning of the bid or Contract Documents. Bidders shall not rely upon any oral statement or conversation they may have with City's employees, agents, representatives, consultants, or design professionals regarding the Contract Documents, whether at the pre-bid meeting or otherwise and no oral communications will be binding upon the City. Any questions must be directed to John Mulkey, P.E., Senior Civil Engineer, by email at john.mulkey@federalwaywa.gov, or by letter addressed to same. The questions must be received by the City no later than 5:00 p.m. three business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their bids. Any interpretation deemed necessary by the City will be in the form of an Addendum to the bid documents and when issued will be sent as promptly as is practical to all parties to whom the bid documents have been issued. All such Addenda shall become part of the bid.

(4) BID PRICE

The bid price shall include everything necessary for the completion of the Contract and the Work including, but not limited to, furnishing all materials, equipment, tools, freight charges, facilities and all management, superintendence, labor and service, except as may be provided otherwise in the Contract Documents. All Washington State sales tax and all other government taxes, assessments and charges shall be included in the various Bid item prices as required by law. The offer shall remain in effect ninety (90) days after the bid opening.

(5) POSTPONEMENT OF BID OPENING

The City reserves the right to postpone the date and time for the opening of bids by Addendum at any time prior to the bid opening date and time announced in these documents.

(6) REJECTION OF BIDS

The City reserves the right to reject any bid for any reason including, but not limited to, the reasons listed in Special Provisions Section 1-02.13. The City further reserves the right to reject any portion of any bid and/or to reject all bids. In consideration for the City's review and evaluation of its bid, the bidder waives and releases any claims against the City arising from any rejection of any or all bids. If, in the opinion of the City, there is reason to believe that collusion exists among bidders, none of the bids of the participants in such collusion will be considered.

(7) RECYCLED PRODUCTS

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
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The Contractor shall use recycled paper for proposals and for any printed or photocopied material created pursuant to a contract with the City whenever practicable and use both sides of paper sheets for reports submitted to the City whenever practicable.

(8) BIDDER'S CHECKLIST

The bidder's attention is especially called to the following forms, which must be executed in full as required. Failure to comply may result in rejection of any bid not so complying.

- Bid Proposal**: The Bid Proposal shall be completed and fully executed, including filling in the total bid amount.
- Bid Bond**: This form is to be executed by the bidder (and the surety company as appropriate, depending upon the option selected by the bidder).
- Subcontractor List**: The Subcontractor List shall be filled in by the bidder.
- Contractor Certification – Wage Law Compliance**: This form shall be filled in and fully executed by the bidder.
- Proposal for Incorporating Recycled Materials**: This form shall be filled in and executed by the bidder.
- Apprenticeship Plan**: This form shall be filled in by the bidder.

(9) CONTRACT CHECKLIST

The following documents are to be executed and delivered to the City after the Bid is awarded:

- Public Works Contract**: The successful bidder will fully execute and deliver to the City the Public Works Contract ("Contract") from these Bid Documents.
- Certificate of Insurance**: The successful bidder will provide a Certificate of Insurance evidencing the insurance requirement set forth in the Contract.
- Performance/Payment Bond**: The successful bidder will provide a fully executed Performance/Payment Bond as appropriate.
- Contractor's Retainage Option**: The successful bidder will fully execute and deliver to the City the Contractor's Retainage Option.
- Contractor's Retainage Bond**: If the retainage bond option is chosen, then the successful bidder will fully execute and deliver to the City the Contractor's Retainage Bond.
- Business License**: The successful bidder will provide a copy of a current Business License with the City of Federal Way.

NOTE: All entries shall be written in ink or typed. Unit prices for all items, all extensions, and total amount of bid shall be shown. Enter unit prices in numerical figures only, in dollars and cents to two (2) decimal places (including for whole dollar amounts). All figures must be clearly legible. Bids with illegible figures in the unit price column will be regarded as nonresponsive. Where conflict occurs between the unit price and the total amount specified for any item, the unit price shall prevail, and totals shall be corrected to conform thereto. The Bidder shall complete this entire Bid Form or this bid may be considered non-responsive. The City may correct obvious mathematical errors. The City of Federal Way reserves the right to reject any and all bids, waive any informalities or minor irregularities in the bidding, and determine which bid or bidder meets the criteria set forth in the bid documents.

SCHEDULE A: CULVERT REPLACEMENT (All unit prices shall include applicable sales tax (Roadway Improvements))						
Item No.	Spec. Div.	Bid Item Description	Unit	Plan Qty	Unit Price	Amount
A01	1-09	MOBILIZATION	LS	1	\$	\$
A02	1-10	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	\$	\$
A03	1-10	FLAGGERS	HR	1792	\$	\$
A04	1-10	PORTABLE CHANGEABLE MESSAGE SIGN	HR	4,000	\$	\$
A05	1-05	STRUCTURE SURVEYING	LS	1	\$	\$
A06	1-05	ROADWAY SURVEYING	LS	1	\$	\$
A07	1-05	AS-BUILT SURVEY AND RECORD DRAWINGS	LS	1	\$	\$
A08	1-07	CONTRACTOR DESIGNED WORK ACCESS	LS	1	\$	\$
A09	1-07	SPCC PLAN	LS	1	\$	\$
A10	2-01	CLEARING AND GRUBBING	LS	1	\$	\$
A11	2-01	ROADSIDE CLEANUP	FA	1	\$5,000.00	\$5,000.00
A12	2-01	TREE REMOVAL	EA	50	\$	\$
A13	2-02	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1	\$	\$
A14	2-03	QUARRY SPALLS	TN	60	\$	\$
A15	2-03	ROADWAY EXCAVATION, INCL. HAUL	CY	100	\$	\$
A16	2-03	CHANNEL EXCAVATION INCL. HAUL	CY	727	\$	\$

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
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A17	2-03	UNSUITABLE FOUNDATION EXCAVATION INCL. HAUL	CY	140	\$	\$
A18	2-03	GRAVEL BORROW	TN	800	\$	\$
A19	2-03	COMMON BORROW	CY	100	\$	\$
A20	2-03	EMBANKMENT COMPACTOIN	CY	100	\$	\$
A21	2-09	SHORING OR EXTRA EXCAVATION CLASS B FOR STORM DRAIN PIPE	SF	210	\$	\$
A22	2-09	TRENCH SAFETY SYSTEMS	LS	1	\$	\$
A23	2-09	STRUCTURE EXCAVATION INCL. HAUL	CY	1,100	\$	\$
A24	2-09	DEWATERING	LS	1	\$	\$
A25	2-09	CONTROL DENSITY FILL	CY	60	\$	\$
A26	4-04	BALLAST	TN	50	\$	\$
A27	4-04	CRUSHED SURFACING BASE COURSE	TN	100	\$	\$
A28	4-04	SHOULDER FINISHING	MILE	0.01	\$	\$
A29	4-04	MAINTENANCE ROCK	TN	10	\$	\$
A30	8-30	STREAMBED SEDIMENT	TN	200	\$	\$
A31	8-30	STREAMBED SAND	TN	100	\$	\$
A32	8-30	STREAMBED COBBLES 12 IN.	TN	410	\$	\$
A33	8-30	STREAMBED BOULDER TYPE 1	EA	840	\$	\$
A34	8-30	STREAMBED BOULDER TYPE 2	EA	250	\$	\$
A35	8-30	STREAMBED BOULDER TYPE 3	EA	230	\$	\$
A36	8-30	STREAMBED BOULDER TYPE 1 (CHANNEL EDGE)	EA	160	\$	\$
A37	8-30	STREAMBED BOULDER TYPE 2 (CHANNEL EDGE)	EA	70	\$	\$

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REDONDO CREEK AT 16TH AVE S
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A38	2-09	SHORING OR EXTRA EXCAVATION CL. A	LS	1	\$	\$
A39	6-16	FURNISHING SOLDIER PILE – W18X97	LF	216	\$	\$
A40	6-16	FURNISHING SOLDIER PILE – W18X130	LF	515	\$	\$
A41	6-16	FURNISHING SOLDIER PILE – W14X102	LF	990	\$	\$
A42	6-16	TIMBER LAGGING	SF	3,200	\$	\$
A43	6-16	SHAFT – 24” DIAMETER	LF	950	\$	\$
A44	6-16	SHAFT – 30” DIAMETER	LF	690	\$	\$
A45	6-16	PREFABRICATED DRAINAGE MAT	SY	114	\$	\$
A46	6-16	CONCRETE FACIA PANEL	SF	1,030	\$	\$
A47	6-16	REMOVING SOLDIER PILE SHAFT OBSTRUCTIONS	FA	1	\$25,000.00	\$25,000.00
A48	6-20	CONTRACTOR DESIGNED BURIED STRUCTURE NO. 1	LS	1	\$	\$
A49	7-04	CLASS IV REINF CONC. STORM SEWER PIPE 12 IN. DIAM.	LF	40	\$	\$
A50	7-05	CONNECTION TO DRAINAGE STRUCTURE	EA	1	\$	\$
A51	8-33	POTHOLING	FA	1	\$5,000.00	\$5,000.00
A52	8-33	RESOLUTION OF UTILITY CONFLICTS	FA	1	\$5,000.00	\$5,000.00
A53	8-01	ESC LEAD	DAY	112	\$	\$
A54	8-01	SILT FENCE	LF	100	\$	\$
A55	8-01	BIOFILTER BAGS	EA	20	\$	\$
A56	8-01	HIGH VISIBILITY FENCE	LF	300	\$	\$
A57	8-01	BIODEGRADABLE EROSION CONTROL BLANKET	SY	300	\$	\$
A58	8-01	COMPOST SOCK	LF	350	\$	\$

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A59	8-02	FINE COMPOST	CY	100	\$	\$
A60	8-02	ARBORIST MULCH	CY	60	\$	\$
A61	8-02	SEEDED LAWN	SY	450	\$	\$
A62	8-02	PS ACER MACROPHYLLUM /BIG LEAF MAPLE; 5 GAL.CONT.	EA	20	\$	\$
A63	8-02	PS THUJA PLICATA/ WESTERN RED CEDAR; 5 GAL. CONT.	EA	22	\$	\$
A64	8-02	PS SALIX SITCHENSIS/ SITKA WILLOW; LIVE STAKE	EA	55	\$	\$
A65	8-02	PS HALODISCUS DISCOLOR/ OCEANSPRAY; 1 GAL. CONT.	EA	53	\$	\$
A66	8-02	PS SYMPHORICARPOS ALBUS/ SNOWBERRY; 1 GAL. CONT.	EA	82	\$	\$
A67	8-02	PS RUBUS PARVIFLORUS/ THIMBLEBERRY; 1 GAL. CONT.	EA	82	\$	\$
A68	8-02	PS RUBUS SPECTABILIS/ SALMONBERRY; 1 GAL. CONT.	EA	82	\$	\$
A69	8-02	PS POLYSTICHUM MUNITUM/ SWORDFERN; 1 GAL. CONT.	EA	150	\$	\$
A70	8-02	PS GAULTHERIA SHALLON/ SALAL; 1 GAL. CONT.	EA	150	\$	\$
A71	8-02	PS FRAGARIA VESCA/ WOODLAND STRAWBERRY; 1 GAL. CONT.	EA	150	\$	\$
A72	8-02	WORK ACCESS LANDSCAPE RESTORATION	FA	1	\$8,000.00	\$8,000.00
A73	8-31	TEMPORARY STREAM DIVERSION	LS	1	\$	\$
A74	8-31	FISH EXCLUSION ASSISTANCE	FA	1	\$5,000.00	\$5,000.00
A75	8-32	TYPE 1 LOG STRUCTURE	EA	2	\$	\$
A76	8-32	TYPE 2 LOG STRUCTURE	EA	3	\$	\$
A77	8-32	TYPE 3 LOG STRUCTURE	EA	6	\$	\$
TOTAL – SCHEDULE A						\$

CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
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SCHEDULE B: LAKEHAVEN WATER AND SEWER IMPROVEMENTS*All unit prices shall NOT include applicable sales tax.**Sales tax should be applied to the subtotal for this bid schedule.*

Item No.	Spec. Div.	Bid Item Description	Unit	Plan Qty	Unit Price	Amount
B01	1-05	MATERIAL TESTING	LS	1	\$	\$
B02	1-05	UTILITY POTHOLE	EA	4	\$	\$
B03	1-05	AS-BUILT SURVEY AND RECORD DRAWINGS (MIN. BID OF \$5,000.00)	LS	1	\$	\$
B04	2-02	REMOVE DI WATER MAIN (6-INCH & 8-INCH)	LF	100	\$	\$
B05	2-09	SHORING OR EXTRA EXCAVATION CLASS B	SF	700	\$	\$
B06	2-09	CONTROLLED DENSITY FILL	CY	3	\$	\$
B07	7-09	MINOR CHANGE FOR WATER IMPROVEMENTS	EST	1	\$10,000.00	\$10,000.00
B08	7-09	CLASS 52 DUCTILE IRON PIPE FOR WATER MAIN, 8-INCH DIAMETER	LF	85	\$	\$
B09	7-09	STEEL CASING, 16-INCH DIAMETER	LF	35	\$	\$
B10	7-09	ADDITIONAL DUCTILE IRON FITTINGS*	LBS	190	\$	\$
B11	7-09	CONNECT TO EXISTING WATER MAIN 8-INCH DIAMETER	EA	2	\$	\$
B12	7-09	REMOVAL AND REPLACEMENT OF UNSUITABLE FOUNDATION MATERIAL*	CY	10	\$	\$
B13	7-09	THRUST COLLAR	1	EA	\$	\$
B14	7-09 & 7-17	CRUSHED SURFACING TOP COURSE FOR TRENCH BACKFILL*	TN	100	\$	\$
B15	7-10	TEMPORARY WATER SERVICE AND CONSTRUCTION SEQUENCING	LS	1	\$	\$
B16	7-17	SPLIT STEEL CASING, 16-INCH DIAMETER	LF	25	\$	\$
B17	7-17	TEMPORARY SANITARY SEWER CASING SUPPORT	LS	1	\$	\$
B18	7-17	SANITARY SEWER MANHOLE REMOVAL AND TEMPORARY FLOW SYSTEM	LS	1	\$	\$
B19	7-17	MANHOLE 48 IN. DIAMETER TYPE 1	EA	1	\$	\$

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B20	7-17	TEMPORARY BYPASS SEWER PUMPING	LS	1	\$	\$
B21	7-17	MINOR CHANGE FOR SEWER IMPROVEMENTS	1	EST	\$10,000.00	\$10,000.00
SUBTOTAL – SCHEDULE B						\$
SALES TAX (10.2%)						\$
TOTAL – SCHEDULE B						\$

BID SUMMARY	
ITEM	BID AMOUNT
SCHEDULE A: CULVERT REPLACEMENT	\$
SCHEDULE B: LAKEHAVEN WATER AND SEWER IMPROVEMENTS	\$
TOTAL BID AMOUNT <i>(including Washington State sales tax, all other government taxes, assessments and charges)</i>	\$

The documents incorporated by reference, as if fully set forth, are the Advertisement for Bids, the Instructions to Bidders and Checklists, the Contractor's Bid Proposal (including all forms and supplemental information listed on the Bidders Checklist), the Contract Documents (including Project Plans, Specifications, and all Appendices, Amendments, and Supplemental Reports & Information), the Contract Provisions (including all forms and supplemental information listed on the Contract Checklist), the version of the Washington State Standard Specifications for Road, Bridge, and Municipal Construction identified herein, and any other documents provided to bidders and/or referenced in or referred to by the Contract Documents.

Pursuant to and in compliance with the Advertisement for Bids for the Project, and other documents relating thereto, the undersigned has carefully examined all of the bid and contract documents, considered conditions which may affect the delivery, supply and maintenance for the Project, and hereby proposes to furnish all labor, materials and perform all work as required in strict accordance with the contract documents, for the referenced bid amount, inclusive of Washington State sales tax and all other government taxes, assessments and charges as required by law.

NON-COLLUSION AFFIDAVIT

By signing this proposal, the undersigned acknowledges that the person(s), firm, association, or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this project.

To report rigging activities, call 1-800-424-9071. The U.S. Department of Transportation (USDOT) operates the toll-free hotline Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the hotline to report such activities. The hotline is part of USDOT's continuing effort to identify and investigate highway construction contract fraud and

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abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

CONFLICTS OF INTEREST, GRATUITIES, & NON-COMPETITIVE PRACTICES

By signing this proposal, the undersigned agrees as follows:

- (1) That it has no direct or indirect pecuniary or proprietary interest, that it shall not acquire any interest which conflicts in any manner or degree with the work, services, equipment or materials required to be performed and/or provided under this contract and that it shall not employ any person or agent having any such interests. In the event that the Contractor or its agents, employees or representatives hereafter acquires such a conflict of interest, it shall immediately disclose such interest to the City and take action immediately to eliminate the conflict or to withdraw from this contract, as the City may require; and
- (2) That no person or selling agency except bona fide employees or designated agents or representatives of the Contractor have been employed or retained to solicit or secure this contract with an agreement or understanding that a commission, percentage, brokerage, or contingent fee would be paid; and
- (3) That no gratuities in the form of entertainment, gifts or otherwise, were offered or given by the Contractor or any of its agents, employees or representatives, to any official, member or employee of the City or other governmental agency with a view toward securing this contract or securing favorable treatment with respect to the awarding or amending, or the making of any determination with respect to the performance of this contract.

AFFIDAVIT OF ELIGIBILITY

The Contractor certifies that it is properly licensed and registered under the laws of the State of Washington and has not been determined to have been in violation of RCW 50.12.070(1)(b), RCW 51.16.070(1)(b), or RCW 82.32.070(2) within the last two years. The Contractor further certifies that it has not been determined, within the last one year, to have committed any combination of two of the following violations or infractions within a five year period: (1) Violated RCW 51.48.020(1) or 51.48.103; or (2) Committed an infraction or violation under Chapter 18.27 RCW.

CERTIFICATION OF LAWFUL EMPLOYMENT

The Contractor hereby certifies that it has complied with all provisions of the Immigration and Nationality Act now or as herein after amended, 8 U.S.C. 1101 et. Seq., and that all employees, including subcontractor employees, are lawfully permitted to perform work in the United States as provided in this agreement with the City of Federal Way.

Receipt of the following Addendums is hereby acknowledged:

Addendum No. ____	Date Issued: _____
Addendum No. ____	Date Issued: _____
Addendum No. ____	Date Issued: _____

The undersigned individual represents and warrants that he or she is dully authorized to execute the bid and all bid documents on behalf of any partnership, joint venture or corporation.

By: _____
Signature

Printed Name

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Title

Subscribed and sworn to before me this _____ day of _____, 20____.

Signature of Notary

Printed name of Notary

Notary Public in and for the State of Washington

My commission expires: _____

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***** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com *****

BID BOND

REDONDO CREEK AT 16TH AVE S CULVERT REPLACEMENT

OPTION 1: BID BOND DEPOSIT

Attached is a deposit in the form of a certified check, cashier's check, or cash in the amount of \$ _____, which amount is not less than five percent (5%) of the total bid.

Principal – Signature of Authorized Official *Date*

Title

—OR—

OPTION 2: BID BOND

KNOW ALL PERSONS BY THESE PRESENTS that we, _____, as Principal, and _____, as Surety, are held and firmly bound unto the City of Federal Way, as Obligee, in the sum of five (5) percent of the total amount of the bid proposal for the payment of which the Principal and the Surety bond themselves, their heirs and executors, administrators, successors and assigns, jointly and severally, by these presents.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for the above-mentioned Project according to the terms of the proposal or bid made by the Principal therefore, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said proposal or bid and award and shall give bond for the faithful performance thereof, with Surety or Sureties approved by the Obligee; or if the Principal shall in case of failure so to do, pay and forfeit to the Obligee the penal amount of the deposit specified in the call for bids, then this obligation shall be null and void; otherwise, it shall be, and remain in full force and effect, and the Surety shall forthwith pay and forfeit to the Obligee as penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS ____ DAY OF _____, 20____.

Principal – Signature of Authorized Official

Surety – Attorney in Fact
(Attach Power of Attorney)

Title

Name and Address of Local Office/Agent of Surety Company is:

SUBCONTRACTOR LIST



Subcontractor List

Prepared in compliance with RCW 39.30.060 as amended

To Be Submitted with the Bid Proposal

Project Name _____

Failure to list subcontractors with whom the bidder, if awarded the contract, will directly subcontract for performance of the work of structural steel installation, rebar installation, heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical, as described in Chapter 19.28 RCW or naming more than one subcontractor to perform the same work will result in your bid being non-responsive and therefore void.

Subcontractor(s) with whom the bidder will directly subcontract that are proposed to perform the work of structural steel installation, rebar installation, heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical as described in Chapter 19.28 RCW must be listed below. The work to be performed is to be listed below the subcontractor(s) name.

To the extent the Project includes one or more categories of work referenced in RCW 39.30.060, and no subcontractor is listed below to perform such work, the bidder certifies that the work will either (i) be performed by the bidder itself, or (ii) be performed by a lower tier subcontractor who will not contract directly with the bidder.

Subcontractor Name _____
Work to be performed _____

Subcontractor Name _____
Work to be performed _____

Subcontractor Name _____
Work to be performed _____

Subcontractor Name _____
Work to be performed _____

Subcontractor Name _____
Work to be performed _____

* Bidder's are notified that it is the opinion of the enforcement agency that PVC or metal conduit, junction boxes, etc, are considered electrical equipment and therefore considered part of electrical work, even if the installation is for future use and no wiring or electrical current is connected during the project.

DOT Form 271-015
Revised 06/2020

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CONTRACTOR WAGE LAW COMPLIANCE CERTIFICATION

FAILURE TO RETURN THIS CERTIFICATION AS PART OF THE BID PROPOSAL PACKAGE WILL MAKE THIS BID NONRESPONSIVE AND INELIGIBLE FOR AWARD.

I hereby certify, under penalty of perjury under the laws of the State of Washington, on behalf of the firm identified below that, to the best of my knowledge and belief, this firm has **NOT** been determined by a final and binding citation and notice of assessment issued by the Washington State Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of Chapters 49.46, 49.48, and 49.52 RCW within three (3) years prior to the date of the Request for Bids.

Bidder Name: _____
Print Full Legal Name of Firm

By: _____
Signature of Authorized Person

_____ *Print Name of Person Making Certifications for Firm*

Title: _____
Title of Person Signing Certificate

Place: _____
Print City and State Where Signed

Date: _____

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PROPOSAL FOR INCORPORATING RECYCLED MATERIALS



APWA-WA Division 1 Committee

rev. 1/8/2016

Proposal for Incorporating Recycled Materials into the Project

In compliance with a new law that went into effect January 1, 2016 (SHB1695), the Bidder shall propose below, the total percent of construction aggregate and concrete materials to be incorporated into the Project that are recycled materials. Calculated percentages must be within the amounts allowed in Section 9-03.21(1)E, Table on Maximum Allowable Percent (By Weight) of Recycled Material, of the Standard Specifications.

Proposed total percentage: _____ percent.

Note: Use of recycled materials is highly encouraged within the limits shown above, but does not constitute a Bidder Preference, and will not affect the determination of award, unless two or more lowest responsive Bid totals are exactly equal, in which case proposed recycling percentages will be used as a tie-breaker, per the APWA GSP in Section 1-03.1 of the Special Provisions. Regardless, the Bidder's stated proposed percentages will become a goal the Contractor should do its best to accomplish. Bidders will be required to report on recycled materials actually incorporated into the Project, in accordance with the APWA GSP in Section 1-06.6 of the Special Provisions.

Bidder: _____

Signature of Authorized Official: _____

Date: _____

PUBLIC WORKS CONTRACT

THIS PUBLIC WORKS CONTRACT ("Contract") is dated effective this ____ day of _____, 20__ and is made by and between the City of Federal Way, a Washington municipal corporation ("City or Owner"), and _____, a _____ ("Contractor"), for the project known as _____ (the "Project").

A. The City desires to retain an independent contractor to furnish all labor and materials necessary to perform work necessary to complete the Project; and

B. The Contractor has the requisite skill and experience to perform such work.

NOW, THEREFORE, the parties ("Parties") agree to the following terms and conditions:

1. SERVICES BY CONTRACTOR

Contractor shall perform all Work and furnish all tools, materials, supplies, equipment, labor and other items incidental thereto necessary for the construction and completion of the Project. Contractor shall perform the Work in a manner consistent with accepted practices for other properly licensed contractors and in accordance with and as described in the Contract Documents, which Work shall be completed to the City's satisfaction, within the time period prescribed by the City and pursuant to the direction of the Mayor or his or her designee.

2. TERM

2.1 This Contract shall commence on the effective date of this Contract and continue until the Project is formally accepted as complete by the City Council, Notice of Project Completion is filed with State agencies, and all bonds for the Project are released by the City.

2.2 The Contractor must complete the Work in accordance with the number of Working Days for the Project as identified in the Contract Documents. With regard to obtaining Substantial Completion and the Completion Date by the Contractor, time is of the essence. In the event the Work is not substantially completed within the time specified in the Contract Documents, Contractor agrees to pay to the City liquidated damages in the amount set forth in the Contract Documents. The parties acknowledge that delays inconvenience the public and cost taxpayers undue sums of money, adding time needed for administration, inspection, and supervision of the Project and diverting City resources from other projects and obligations.

2.3 If the Contractor is unreasonably delayed by others, notification shall be made in writing to the Engineer in accordance with the Contract Documents. Any request for a time extension or additional compensation (including expectancy or consequential damages) allegedly resulting from such delay shall be made in accordance with the procedures of the Contract Documents. Failure to follow the notice procedures in the Contract Documents is a full and complete waiver of Contractor's right to additional time, money, damages, or other relief (including expectancy or consequential damages) as a result of the event or condition giving rise to such request.

3. COMPENSATION

3.1 In consideration of the Contractor performing the Work, the City agrees to pay the Contractor an amount not to exceed _____ and ____/100 Dollars (\$ _____), which amount shall constitute full and complete payment by the City ("Total Compensation"). The Contractor shall be solely responsible for the payment of any taxes imposed by any lawful jurisdiction as a result of the performance and payment of this Contract.

3.2 The City shall pay the Contractor for Work performed under this Contract as detailed in the Bid Proposal, which is incorporated herein and made a part hereof by this reference, and as detailed in the Contract Documents. The City shall have the right to withhold payment to the Contractor for any of the Work not completed in a satisfactory manner, in the City's sole and absolute discretion, which shall be withheld until such time as Contractor modifies or repairs the Work so that the Work is acceptable to the City. Payment to the Contractor for partial estimates, final estimates, and retained percentages shall be subject to controlling laws.

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3.3 In addition to the requirements set forth in the Contract Documents, the Contractor shall maintain Project cost records by cost codes and shall contemporaneously segregate and separately record, at the time incurred, all costs (1) directly associated with each work activity, (2) directly or indirectly resulting from any event, occurrence, condition, or direction for which Contractor seeks an adjustment in Contract price Contract time, or related to any other Claim or protest. Any work performed for which Contractor intends to seek an adjustment in Contract Price or Contract Time, or related to any other Claim or protest, shall be recorded on the same day the work is performed and kept separate so as to distinguish it from Contract Work.

4. INDEPENDENT CONTRACTOR

4.1 It is the intention and understanding of the Parties that the Contractor shall be an independent contractor and that the City shall be neither liable nor obligated to pay Contractor sick leave, vacation pay or any other benefit of employment, nor to pay any social security or other tax which may arise as an incident of employment. The Contractor shall not conduct itself as nor claim to be an officer or employee of the City. The Contractor shall pay all income and other taxes due. Industrial or any other insurance that is purchased for the benefit of the City, regardless of whether such may provide a secondary or incidental benefit to the Contractor, shall not be deemed to convert this Agreement to an employment contract. It is recognized that Contractor may or will be performing professional services during the Term for other parties; provided, however, that such performance of other services shall not conflict with or interfere with Contractor's ability to perform the Services. Contractor agrees to resolve any such conflicts of interest in favor of the City. Nothing contained in this Contract shall create a contractual or direct relationship with or a cause of action in favor of a Subcontractor or third party against the City, or by the Contractor against the Engineer, or against any of their agents, employees, engineers, or consultants.

4.2 If the Contractor is a sole proprietorship or if this is a contract with an individual, the contractor agrees to notify the City and complete any required form if the Contractor retired under a State of Washington retirement system and agrees to indemnify any losses the City may sustain through the Contractor's failure to do so.

5. INDEMNIFICATION

5.1 Contractor Indemnification.

5.1.1 The Contractor shall indemnify, defend, and hold the City, its elected officials, officers, employees, agents, consultants, and volunteers (collectively "the Indemnified Parties") harmless from any costs or losses, and pay and damages or judgments, related to any claim brought by any person employed in any capacity by the Contractor or subcontractor or supplier (of any tier) performing the Work, with respect to the payment of wages, salaries, or other compensation or benefits including but not limited to benefits such as medical, health, retirement, vacation, sick leave, etc.

5.1.2. To the fullest extent permitted by law, the Contractor shall defend, release, indemnify, and hold harmless the City and the Indemnified Parties for, from, and against any and all claims, demands, losses, costs, damages, suits, actions, expenses, fines, penalties, response costs, and liabilities (including costs and all attorney and expert fees and internal personnel costs of investigation) of whatsoever kind or nature to the extent arising from, resulting from, connected with, or incident to the Contractor's performance or failure to perform this Contract or the Work or its breach of this Contract; provided, however, that if the provisions of RCW 4.24.155 apply to the Work and any injuries to persons or property arising out of the performance of this Contract are caused by or result from the concurrent negligence of the Contractor or its subcontractors, agents, employees, or anyone for whom they are legally liable, and an Indemnified Party, the indemnification and defense obligations under this Section 5.1.2 apply only to the extent of the negligence of the Contractor, its subcontractors, agents, employees, and anyone for whom they are legally liable.

5.1.3 Contractor specifically assumes potential liability for actions brought by the Contractor's own employees or former employees against any Indemnified Party, and for that purpose Contractor waives any immunity that may be granted to it under the Washington State Industrial Insurance Act, Title 51 RCW. Contractor's indemnification shall not be limited in any way by any limitation on the amount of damages, compensation or benefits payable to or by any third party under workers' compensation acts, disability benefit

acts or any other benefits acts or programs. Provided, however, the Contractor's waiver of immunity by the provisions of this paragraph extends only to claims against the Contractor by any Indemnified party, and does not include, or extend to, any claims by the Contractor's employee directly against the Contractor. The Contractor recognizes that this waiver was specifically entered into.

5.2 Contractor Release. Any deviation, alteration, variation, addition, or omission in the Work by Contractor from the Contract Documents shall preclude Contractor from bringing any Claim or request for additional time or compensation on the basis of an alleged defect or error in the Contract Documents related to or arising, in any way, from that deviation, alteration, variation, addition, or omission. The Contractor further warrants that any alteration, variation, deletion, or omission fully complies with or exceeds all requirements of the Contract Documents and assumes all risk thereof.

5.3 Survival. The provisions of this Section shall (1) survive the expiration or termination of this Contract with respect to any event occurring prior to such expiration or termination, final payment hereunder, and any applicable statute of repose with respect to claims, fines, costs or damages brought or made against any Indemnified Party; (2) shall not be limited by RCW 4.16326(g); and (3) are in addition to any other rights or remedies which the City and/or any of the Indemnified Parties may have by law or under this Contract.

5.4 Offset. In the event of any claim or demand made against any Indemnified Party hereunder, the City may, in its sole discretion, reserve, retain or apply any monies due to the Contractor under the Contract or any other agreement or contract with the City for the purpose of resolving such claims; provided, however, that the City may, in the City's sole discretion, release such funds if the Contractor provides the City with adequate assurance of the protection of the City's and the other Indemnified Parties interests.

5.5 The Contractor shall ensure that each Subcontract includes a provision requiring each Subcontractor to indemnify and defend the City and the Indemnified Parties in the same manner, to the same extent, and for the same duration as Contractor agrees to indemnify and defend the City and the Indemnified Parties in this Section 5.

6. OWNERSHIP OF DOCUMENTS

All originals and copies of work product, including plans, sketches, layouts, designs, design specifications, records, files, computer disks, magnetic media, all finished or unfinished documents or material which may be produced or modified by Contractor while performing the Work, whether or not required to be furnished to the City, shall become the property of the City, shall be delivered to the City at its request, and may be used by the City without restriction.

7. PATENTS, COPYRIGHTS, AND RIGHTS IN DATA

7.1 Any patentable result or material suitable for copyright arising out of this Contract shall be owned by and made available to the City for public use, unless the City shall, in a specific case where it is legally permissible, determine that it is in the public interest that it not be so owned or available.

7.2 The Contractor agrees that the ownership of any plans, drawings, designs, specifications, computer programs, technical reports, operating manuals, calculations, notes and other work submitted or which is specified to be delivered under this Contract, whether or not complete (referred to in this subsection as "Subject Data"), is hereby irrevocably transferred and assigned to the City and shall be vested in the City or such other local, state or federal agency, if any, as may be provided by separate contract with the City. The Contractor shall execute and deliver such instruments and take such other action(s) as may be requested by the City to perfect or protect the City's rights to such Subject Data and work product, and to perfect the assignments and transfers contemplated in Sections 6 and 7.

7.3 All such Subject Data furnished by the Contractor pursuant to this Contract, other than documents exclusively for internal use by the City, shall carry such notations on the front cover or a title page (or in such case of maps, in the same block) as may be requested by the City. The Contractor shall also place their endorsement on all Subject Data furnished by them. All such identification details shall be subject to approval by the City prior to printing.

7.4 The Contractor shall ensure that substantially the foregoing paragraphs in Sections 6 and 7 are included in each subcontract for the work on the Project.

8. GENERAL PROVISIONS

8.1 Entire Contract. The Contract Documents contain all of the agreements of the Parties with respect to any matter covered or mentioned in this Contract and no prior agreements or understandings pertaining to any such matters shall be effective for any purpose. In entering into this Contract, neither party has relied upon any statement, estimate, forecast, projection, representation, warranty, action or agreement of the other party except for those expressly contained in the Contract Documents.

8.2 Documents. The documents incorporated by reference, as if fully set forth in this Contract, are the Advertisement for Bids, the Instructions to Bidders and Checklists, the Contractor's Bid Proposal (including all forms and supplemental information listed on the Bidders Checklist), the Contract Documents (including Project Plans, Specifications, and all Appendices, Amendments, and Supplemental Reports & Information), the Contract Provisions (including all forms and supplemental information listed on the Contract Checklist), the version of the Washington State Standard Specifications for Road, Bridge, and Municipal Construction identified herein, and any other documents provided to bidders and/or referenced in or referred to by the Contract Documents.

8.3 Modification. No provisions of this Contract, including this provision, may be amended or added to except by agreement in writing signed by the Parties or their respective successors in interest in accordance with the Contract Documents.

8.4 Change Orders. In addition to its rights under the Contract Documents, the City may unilaterally issue a Change Order at any time making changes within the general scope of the Contract, without invalidating the Contract and without providing notice to sureties. The City's issuance of a unilateral Change Order shall not be construed as a waiver of any rights afforded the City, including its right to reject a prior protest or request for change or Claim due to untimeliness or the Contractor's failure to fully comply with the requirements of the Contract Documents, or to void the unilateral Change Order due to unilateral mistake, misrepresentation, or fraud.

8.5 Total Cost Method / Claims. In no event shall a Total Cost Method or a modified Total Cost Method be used by the Contractor to calculate any adjustments to the Contract price. For the purpose of this provision, any cost method, or variety of cost methods, using the difference between the actual cost of the Work and the Bid or Contract price of the Work to calculate any additional compensation or money owed to the Contractor shall be considered a Total Cost Method. In addition, the City shall not be responsible for, and the Contractor shall not be entitled to, any compensation for unallowable costs. Unallowable costs include, but are not limited to: (i) interest or attorneys' fees, except as mandated by statute; (ii) Claim preparation or filing costs; (iii) the costs of preparing notices or protests; (iv) lost profits, lost income, or lost earnings; (v) costs for idle equipment when such equipment is not at the Site, has not been employed in the Work, or is not scheduled to be used at the Site; (vi) claims consulting costs; (vii) expert fees and costs; (viii) loss of other business; and/or (ix) any other special, consequential, expectancy, incidental, or indirect damages incurred by the Contractor, Subcontractors, or suppliers.

8.6 Warranties and Guarantees. In addition to the requirements of the Contract Documents, the Contractor warrants that all portions of the Work that will be covered by a manufacturer's or supplier's guarantee or warranty shall be performed in such a manner so as to preserve all rights under such guarantees or warranties. If the City attempts to enforce a claim based upon a manufacturer's or supplier's guarantee or warranty and such manufacturer or supplier refuses to honor such guarantee or warranty based, in whole or in part, on a claim of defective installation by the Contractor or a Subcontractor, the Contractor shall be responsible for any resulting loss or damage, and repairs, incurred by the City as a result of the manufacturer's or supplier's refusal to honor such guarantee or warranty. This obligation survives termination of this Contract.

8.7 Full Force and Effect. Any provision of this Contract, which is declared invalid, void or illegal, shall in no way affect, impair, or invalidate any other provision hereof and such other provisions shall remain in full force and effect.

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8.8 Assignment. The Contractor shall not transfer or assign, in whole or in part, any or all of its obligations and rights hereunder without the prior written consent of the City. In the event the City consents to any such assignment or transfer, such consent shall in no way release the Contractor from any of its obligations or liabilities under this Contract.

8.9 Successors In Interest. Subject to the preceding Subsection, this Contract shall be binding upon and inure to the benefit of the Parties' successors in interest, heirs and assigns.

8.10 Time Limitation and Venue. For the convenience of the parties to the Contract it is mutually agreed by the parties that any claims, causes of action, or disputes which the Contractor has against the City arising from the Contract shall be brought within the following time period: (i) 180 calendar days from the date of Substantial Completion for those claims, causes of action, or disputes arising prior to the date of Substantial Completion, and (ii) 180 calendar days from the date of Final Acceptance of the Contract by the City for those claims, causes of action, or dispute arising after the date of Substantial Completion. It is further agreed that the venue for any claim, cause of action, or dispute related to this Contract shall be King County, Washington, which shall have exclusive jurisdiction over any such case, controversy, or dispute. The parties understand and agree that the Contractor's failure to bring suit within the time period provided, shall be a complete bar to any such claims or causes of action. It is further mutually agreed by the parties that when any claims, causes of action, or disputes which the Contractor asserts against the City arising from the Contract are filed with the City or initiated in court, the Contractor shall permit the City to have timely access to any records deemed necessary by the City to assist in evaluating the claims, action, or dispute.

8.11 No Waiver. Failure of the City to declare any breach or default immediately upon occurrence thereof, or delay in taking any action in connection with, shall not waive such breach or default. Failure of the City to declare one breach or default does not act as a waiver of the City's right to declare another breach or default.

8.12 Sole Authority/Discretion/Judgment. Where the Contract Documents provide the City or its Engineer with "sole" authority, discretion, or judgment, such authority, discretion, or judgment shall be considered unconditional and absolute.

8.13 Governing Law. This Contract shall be made in and shall be governed by and interpreted in accordance with the laws of the State of Washington.

8.14 Authority. Each individual executing this Contract on behalf of the City and Contractor represents and warrants that such individuals are duly authorized to execute and deliver this Contract on behalf of the Contractor or City.

8.15 Engineer. The Engineer is the City's representative who directly supervises the engineering and administration of a construction Contract. The Engineer's authorities, duties, and responsibilities are limited to those specifically identified in the Contract Documents. Designation of an individual or entity as the Engineer for the Project is solely to identify the representative of the City as the entity to act as the Engineer as described in the Contract Documents. Using the term "engineer" does not imply that such entity or person is a licensed professional engineer or an engineering company and does not import any additional obligations upon the actions of the Engineer that may govern licensed professional engineers when performing engineering services.

The Engineer for this Project is designated as: John Mulkey, P.E., Senior Civil Engineer

8.16 Notices. Any notices required to be given to Contractor or to the Engineer shall be delivered to the Parties at the addresses set forth below. Any notices may be delivered personally to the addressee of the notice or may be deposited in the United States mail, postage prepaid, to the address set forth herein. Any notice so posted in the United States mail shall be deemed received three (3) days after the date of mailing.

CONTRACTOR: Company
 Attn: Individual to receive notices
 Street Address

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City, State, Zip

ENGINEER: City of Federal Way
Attn: John Mulkey, P.E. Senior Civil Engineer
33325 8th Ave S
Federal Way, WA 98003

8.17 Captions. The respective captions of the Sections of this Contract are inserted for convenience of reference only and shall not be deemed to modify or otherwise affect in any respect any of the provisions of this Contract.

8.18 Performance. Time is of the essence of this Contract and each and all of its provisions in which performance is a factor. Adherence to completion dates is essential to the Contractor's performance of this Contract.

8.19 Compliance with Ethics Code. If a violation of the City's Ethics Resolution No. 91-54, as amended, occurs as a result of the formation and/or performance of this Contract, this Contract may be rendered null and void, at the City's option.

9. PERFORMANCE/PAYMENT BOND

Pursuant to RCW 39.08.010, the Contractor's payment and performance bonds must be conditioned upon: (i) faithful performance of all of the provisions of the Contract, including warranty obligations; (ii) the payment of all laborers, mechanics, Subcontractors, and Suppliers, and all persons who supply such persons with provisions or supplies in carrying out the Work; and (iii) payment of any taxes, liabilities, increases, or penalties incurred on the Project under Titles 50, 51, and 82 RCW which may be due on (a) projects referred to in RCW 60.28.011(1)(b), and (b) projects for which the bond is conditioned on the payment of such taxes, liabilities, increases, or penalties. Contractor's obligations under this Contract shall not be limited to the dollar amount of the bond.

DATED the day and year set forth above.

CITY OF FEDERAL WAY:

CONTRACTOR:

Jim Ferrell, Mayor
33325 8th Avenue South
Federal Way, WA 98003-6325

Signature of Authorized Individual

ATTEST:

Printed Name of Authorized Individual

Stephanie Courtney, CMC, City Clerk

Street Address

APPROVED AS TO FORM:

City, State, Zip

J. Ryan Call, City Attorney

NOTARY OF CONTRACTOR'S SIGNATURE:

CITY OF FEDERAL WAY

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STATE OF WASHINGTON)
) ss.
COUNTY OF _____)

On this day personally appeared before me _____, to me known to be the _____ of _____ that executed the within and foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that he or she was authorized to execute said instrument and that the seal affixed, if any, is the corporate seal of said corporation.

GIVEN under my hand and official seal this _____ day of _____, 20__.

Notary's signature _____
Notary's printed name _____
Notary Public in and for the State of Washington.
My commission expires _____

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293 / RFB #24-004**

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SAMPLE CONTRACT CHANGE ORDER

PROJECT NUMBER

AGREEMENT NUMBER

CHANGE ORDER NUMBER

EFFECTIVE DATE

PROJECT TITLE

CONTRACTOR

SUMMARY OF PROPOSED CHANGES:

This Change Order covers the work changes summarized below:

The time provided for completion in the Contract is

- Unchanged
- Increased by ___ Working Day(s)
- Decreased by ___ Working Day(s)

This Document shall become an Amendment to the Contract and all provisions of the Contract not amended herein will apply to this Change Order.

Will this change affect expiration or extent of Insurance coverage?
If "Yes" Will the Policies Be Extended?

Yes No
 Yes No

MODIFICATIONS TO UNIT PRICES:

<u>ITEM NO.</u>	<u>ITEM</u>	<u>QTY</u>	<u>PREVIOUS UNIT PRICE</u>	<u>REVISED UNIT PRICE</u>	<u>ADD OR DELETE</u>
-----------------	-------------	------------	----------------------------	---------------------------	----------------------

THESE ITEMS ARE APPROXIMATE OR ESTIMATED QUANTITIES INVOLVED IN THIS CHANGE:

<u>ITEM NO.</u>	<u>ITEM</u>	<u>QTY</u>	<u>UNIT PRICE</u>	<u>ADD OR DELETE</u>
-----------------	-------------	------------	-------------------	----------------------

TOTAL NET CONTRACT:

DEPARTMENT RECAP TO DATE:

ORIGINAL CONTRACT AMOUNT	\$ _____
PREVIOUS CHANGE ORDERS	\$ _____
THIS CHANGE ORDER	\$ _____
NEW CONTRACT AMOUNT	\$ _____

STATEMENT:

Payment for the above work will be in accordance with applicable portions of the standard specifications, and with the understanding that all materials, workmanship and measurements shall be in accordance with the provisions of the standard specifications, the contract plans, and the special provisions governing the types of construction. The execution of this Change Order shall constitute full satisfaction and a waiver of any and all claims by the

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Contractor arising out of, or relating in any way to, the Work identified, to be performed, or deleted pursuant to Change Order except as specifically described in this Change Order.

CONTRACTOR'S SIGNATURE

DATE

PUBLIC WORKS DIRECTOR

DATE

*Contract Change Order
provided for Contractor's
reference. Change orders
executed during the project
will use this form.*

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***** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com *****

CERTIFICATE OF INSURANCE

*Contractor's Certificate of
Insurance to be inserted
here during Contract
Execution*

CITY OF FEDERAL WAY

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*** Official bid documents, plan holder's list, and addenda (if applicable) are available on [BXWA.com](https://www.bxwa.com) ***

PERFORMANCE AND PAYMENT BOND
REDONDO CREEK AT 16TH AVE S CULVERT REPLACEMENT

The City of Federal Way ("City") has awarded to _____ ("Principal"), a contract for the construction of the above referenced project, and said Principal is required to furnish a bond for performance of all obligations under the Contract and for payment in accord with Chapter 39.08 Revised Code of Washington (RCW) and (where applicable) Chapter 60.28 RCW.

The Principal, and _____ ("Surety"), a corporation organized under the laws of the State of _____ and licensed to do business in the State of Washington as surety and named in the current list of "Surety Companies Acceptable in Federal Bonds" as published in the Federal Register by the Audit Staff Bureau of Accounts, U.S. Treasury Dept., are jointly and severally held and firmly bound to the City of Federal Way, in the sum of _____ US Dollars (\$ _____) Total Contract Amount, subject to the provisions herein.

This bond shall become null and void, if and when the Principal, its heirs, executors, administrators, successors, or assigns shall:

- 1) Well and faithfully perform all of the Principal's obligations under the Contract and fulfill all terms and conditions of all duly authorized modifications, additions, and changes to said Contract that may hereafter be made, at the time and in the manner therein specified; and if such performance obligations have not been fulfilled, this bond shall remain in force and effect; and
- 2) Pay all persons in accordance with Chapters 39.08, 39.12, and 60.28 RCW including all workers, laborers, mechanics, subcontractors, and materialmen, and all person who shall supply such contractor or subcontractor with provisions and supplies for the carrying on of such work, and all taxes incurred on said Contract under Titles 50 and 51 RCW and all taxes imposed on the Principal under Title 82 RCW; and if such payment obligations have not been fulfilled, this bond shall remain in full force and effect.

The Surety for value received agrees that no change, extension of time, alteration or addition to the terms of the Contract, the specifications accompanying the Contract, or to the work to be performed under the Contract shall in any way affect its obligation on this bond, and waives notice of any change, extension of time, alteration or addition to the terms of the Contract or the work performed. The Surety agrees that modifications and changes to the terms and conditions of the Contract that increase the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this bond and notice to Surety is not required for such increased obligation.

This bond shall be signed by duly authorized officers and will only be accepted if accompanied by a fully executed, original power of attorney for the office executing on behalf of the surety.

PRINCIPAL:

SURETY:

Principal Signature *Date*

Surety Signature *Date*

Printed Name

Printed Name

Title

Title

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LOCAL OFFICE/AGENT OF SURETY:

Name

Street Address

City, State, Zip

Telephone

BOND NO.: _____

APPROVED AS TO FORM: _____
J. Ryan Call, City Attorney

CONTRACTOR'S RETAINAGE OPTION

IDENTIFICATION AND DESCRIPTION

Project Title: _____

RFB No: _____

Contractor: _____

GENERAL REQUIREMENTS

1. In accordance with applicable State Statutes, a contract retainage not to exceed five percent of the moneys earned by the contractor will be reserved by the City.
2. All investments selected are subject to City approval.
3. The final disposition of the contract retainage will be made in accordance with applicable State Statutes.

CONTRACTOR'S INSTRUCTIONS

Pursuant to RCW 60.28.011, I hereby notify the City of Federal Way of my instructions for the retainage withheld under the terms of this contract:

- Option 1:** Retained in a fund by the City of Federal Way. No interest will be paid to the contractor.
- Option 2:** Deposited in an interest bearing account in a bank, mutual savings bank, or savings and loan association. Interest paid to the contractor. Contractor shall have the bank (or other) execute a separate "City of Federal Way Retainage Bank Acceptance Agreement" upon contract award. The City will provide the agreement to the Contractor if this option is selected.
- Option 3:** Placed in escrow with a bank or trust company. Contractor shall execute, and have escrow account holder execute a separate "City of Federal Way Construction Retainage Escrow Agreement" upon contract award. The City will provide the agreement to the Contractor if this option is selected. All investments are subject to City approval. The cost of the investment program, and risk thereof, is to be borne entirely by the contractor.
- Option 4:** Contractor shall submit a "Retainage Bond" on City-provided form included in these Contract Documents.

Contractor Signature

Date

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
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RETAINAGE BOND TO CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S CULVERT REPLACEMENT

KNOW ALL PERSONS BY THESE PRESENTS that we, the undersigned, _____, as principal ("Principal"), and _____, a Corporation organized and existing under the laws of the State of _____, as a surety Corporation, and qualified under the laws of the State of Washington to become surety upon bonds of Contractors with Municipal Corporations, as surety ("Surety"), are jointly and severally held and firmly bonded to the City of Federal Way ("City") in the penal sum of: _____ (\$ _____) for the payment of which sum we bind ourselves and our successors, heirs, administrators or personal representatives, as the case may be.

A. This obligation is entered into in pursuant to the statutes of the State of Washington and the ordinances, regulations, standards and policies of the City, as now existing or hereafter amended or adopted.

B. Pursuant to proper authorization, the Mayor is authorized to enter into a certain contract with the Principal, providing for the above-referenced Project, which contract is incorporated herein by this reference ("Contract"), and

C. Pursuant to State law, Chapter 60.28 RCW, the City is required to reserve from the monies earned by the Principal pursuant to the contract, a sum not to exceed five percent (5%), said sum to be retained by the City as a trust fund for the protection and payment of any person or persons, mechanic, subcontractor or material men who shall perform any labor upon such contract or the doing of such work, and all persons who shall supply such person or persons or subcontractors with provisions and supplies for the carrying on of such work, and the State with the respect to taxes imposed pursuant to Title 82 RCW which may be due from said Principal. Every person performing labor or furnishing supplies towards completion of said improvement or work shall have a lien on said monies so reserved, provided that such notice of the lien of such claimant shall be given in the manner and within the time provided in RCW 39.08.030 as now existing and in accordance with any amendments that may hereafter be provided thereto; and

D. State law further provides that with the consent of the City, the Principal may submit a bond for all or any portion of the amount of funds retained by the public body in a form acceptable to the public body conditioned upon such bond any proceeds therefrom being made subject to all claims and liens and in the same manner and priority as set forth retained percentages pursuant to Chapter 60.28 RCW; and

E. The Principal has accepted, or is about to accept, the Contract, and undertake to perform the work therein provided for in the manner and within the time set forth, for the amount of \$ _____; and

F. The City is prepared to release any required retainage money previously paid by the Principal prior to acceptance and successful operation and fulfillment of all other terms of said contract upon being indemnified by these presents,

NOW, THEREFORE, if the Principal shall perform all the provisions of the Contract in the manner and within the time period prescribed by the City, or within such extensions of time as may be granted under the Contract, and shall pay all laborers, mechanics, subcontractors and material men or women, and all persons who shall supply the Principal or subcontractors with provisions and supplies for the carrying on of said work, and if the Principal shall pay to the State all taxes imposed pursuant to Title 82 RCW which may be due from such Principal as a result of this contract then and in the event this obligation shall be void; but otherwise it shall be and remain in full force and effect.

And the Surety, for value received, hereby further stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alterations or additions to the terms of the Contract or to the Work.

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**REDONDO CREEK AT 16TH AVE S
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The Surety hereby agrees that modifications and changes may be made in the terms and provisions of the Contract without notice to Surety, and any such modifications or changes increasing the total amount to be paid the Principal shall automatically increase the obligation of the Surety on this Retainage Bond in a like amount, such increase, however, not to exceed twenty-five percent (25%) of the original amount of this bond without consent of the Surety.

Within forty-five (45) days of receiving notice that the Principal has defaulted on all or part of the terms of the Contract, the Surety shall make written commitment to the City that it will either: (a) cure the default itself within a reasonable time period, or (b) tender to the City, the amount necessary for the City to remedy the default, including legal fees incurred by the City, or (c) in the event that Surety's evaluation of the dispute is not complete or in the event the Surety disputes the City's claim of default, the Surety shall notify the City of its finding and its intent, if any, to interplead. The Surety shall then fulfill its obligations under this bond, according to the option it has elected. Should Surety elect option (a) to cure the default, the penal sum of the Bond shall be reduced in an amount equal to the costs actually incurred by the Surety in curing the default. If the Surety elects option (b), then upon completion of the necessary work, the City shall notify the Surety of its actual costs. The City shall return, without interest, any overpayment made by the Surety and the Surety shall pay to the City any actual costs which exceed the City estimate, limited to the bond amount. Should the Surety elect option (c), the Parties shall first complete participation in mediation, described in the below paragraph, prior to any interplead action.

In the event a dispute should arise between the Parties to this Bond with respect to the City's declaration of default by the Principal, the Parties agree to participate in at least four hours of mediation to resolve said dispute. The Parties shall proportionately share in the cost of the mediation. The mediation shall be administered by Judicial Dispute Resolution, LLC, 1425 Fourth Avenue, Suite 300, Seattle, Washington 98101. The Surety shall not interplead prior to completion of the mediation.

The parties have executed this instrument under their separate seals this ____ day of _____, 20____, the name and corporate seal of each corporate party hereto affixed, and these presents duly signed by its undersigned representatives pursuant to authority of its governing body.

CORPORATE SEAL:

PRINCIPAL:

By: _____

Title: _____

Address: _____

CORPORATE SEAL:

SURETY:

By: _____

*Attorney-in-Fact
(Attach Power of Attorney)*

Title: _____

Address: _____

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293 / RFB #24-004**

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CERTIFICATES AS TO CORPORATE SEAL

I hereby certify that I am the (Assistant) Secretary of the Corporation named as Principal in the within bond; that _____, who signed the said bond on behalf of the Principal, was _____ of said Corporation; that I know his or her signature thereto is genuine, and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary of Principal

I hereby certify that I am the (Assistant) Secretary of the Corporation named as Surety in the within bond; that _____, who signed the said bond on behalf of the Surety, was _____ of the said Corporation; that I know his or her signature thereto is genuine, and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

Secretary of Surety

APPROVED AS TO FORM:

J. Ryan Call, City Attorney

INTRODUCTION TO THE SPECIAL PROVISIONS

(January 4, 2024 APWA GSP, Option A)

The work on this project shall be accomplished in accordance with the *Standard Specifications for Road, Bridge and Municipal Construction, 2024 edition*, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter “Standard Specifications”). The Standard Specifications, as modified or supplemented by these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision either supplements, modifies or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The GSPs are labeled under the headers of each GSP, with the effective date of the GSP and its source. For example:

(March 8, 2013 APWA GSP)

(April 1, 2013 WSDOT GSP)

(May 1, 2013 CFW GSP) City of Federal Way Special Provision

Project specific special provisions are labeled without a date as such:

*(*****)*

Also incorporated into the Contract Documents by reference are:

- *Manual on Uniform Traffic Control Devices for Streets and Highways*, currently adopted edition, with Washington State modifications, if any
- *Standard Plans for Road, Bridge and Municipal Construction*, WSDOT Manual M21-01, current edition
- City of Federal Way Public Works Development Standards
- National Electric Code, current edition

Contractor shall obtain copies of these publications, at Contractor’s own expense.

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**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293**

CFW SPECIAL PROVISIONS VER. 2024.01B

***** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com *****

DIVISION 1

GENERAL REQUIREMENTS

DESCRIPTION OF WORK

(March 13, 1995 WSDOT GSP)

This Contract provides for the improvement of the Redondo Creek at 16th Ave S Culvert Replacement projects and other work, all in accordance with the attached Contract Plans, these Contract Provisions and the Standard Specifications.

1-01.3 Definitions

(January 19, 2022 APWA GSP)

Delete the heading **Completion Dates** and the three paragraphs that follow it, and replace them with the following:

Dates

Bid Opening Date

The date on which the Contracting Agency publicly opens and reads the Bids.

Award Date

The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive Bidder for the Work.

Contract Execution Date

The date the Contracting Agency officially binds the Agency to the Contract.

Notice to Proceed Date

The date stated in the Notice to Proceed on which the Contract time begins.

Substantial Completion Date

The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

Physical Completion Date

The day all of the Work is physically completed on the project. All documentation required by the Contract and required by law does not necessarily need to be furnished by the Contractor by this date.

Completion Date

The day all the Work specified in the Contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of this date.

Final Acceptance Date

The date on which the Contracting Agency accepts the Work as complete.

Supplement this Section with the following:

All references in the Standard Specifications, Amendments, or WSDOT General Special Provisions, to the terms "Department of Transportation", "Washington State Transportation Commission", "Commission", "Secretary of Transportation", "Secretary", "Headquarters", and "State Treasurer" shall be revised to read "Contracting Agency."

CITY OF FEDERAL WAY

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REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293

CFW SPECIAL PROVISIONS VER. 2024.01B

*** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com ***

All references to the terms “State” or “state” shall be revised to read “Contracting Agency” unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to “State Materials Laboratory” shall be revised to read “Contracting Agency designated location.”

All references to “final contract voucher certification” shall be interpreted to mean the Contracting Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

Additive

A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

Alternate

One of two or more units of work or groups of bid items, identified separately in the Bid Proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

Business Day

A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

Contract Bond

The definition in the Standard Specifications for “Contract Bond” applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

Contract Documents

See definition for “Contract.”

Contract Time

The period of time established by the terms and conditions of the Contract within which the Work must be physically completed.

Notice of Award

The written notice from the Contracting Agency to the successful Bidder signifying the Contracting Agency’s acceptance of the Bid Proposal.

Notice to Proceed

The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract time begins.

Traffic

Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

1-02 BID PROCEDURES AND CONDITIONS

1-02.1 Prequalification of Bidders

Delete this Section and replace it with the following:

1-02.1 Qualifications of Bidder

(January 24, 2011 APWA GSP)

Before award of a public works Contract, a bidder must meet at least the minimum qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works project.

1-02.2 Plans and Specifications

(June 27, 2011 APWA GSP)

Delete this section and replace it with the following:

Information as to where Bid Documents can be obtained or reviewed can be found in the Call for Bids (Advertisement for Bids) for the work.

After award of the Contract, Plans and specifications will be issued to the Contractor at no cost as detailed below:

To Prime Contractor	No. of Sets	Basis of Distribution
Reduced Plans (11" x 17")	1	Furnished automatically upon award.
Contract Provisions	1	Furnished automatically upon award.
Large Plans (e.g., 22" x 34")	1	Furnished only upon request.

Additional Plans and Contract Provisions may be obtained by the Contractor from the source stated in the Call for Bids, at the Contractor's own expense.

1-02.4 Examination of Plans, Specifications, and Site Work

(June 27, 2011 APWA GSP)

1-02.4(1) General

(December 30, 2022 APWA GSP, Option B)

The first sentence of the ninth paragraph, beginning with "Prospective Bidder desiring...", is revised to read:

Prospective Bidders desiring an explanation or interpretation of the Bid Documents, shall request the explanation or interpretation in writing by close of business three (3) business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

1-02.4(2) Subsurface Information

(January 19, 2022 APWA GSP)

The third and fourth sentences in the first paragraph are revised to read:

The Summary of Geotechnical Conditions and the boring logs, if and when included as an appendix to the Special Provisions, shall be considered as part of the Contract. The boring logs and associated data, if and when included as an appendix to the Special Provisions, shall be considered as part of the Contract.

1-02.5 Proposal Forms
(July 31, 2017 APWA GSP)

Delete this section and replace it with the following:

The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal form that call for, but are not limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder's name, address, telephone number, and signature; the bidder's UBDE/DBE/M/WBE commitment, if applicable; a State of Washington Contractor's Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

The Contracting Agency reserves the right to arrange the proposal forms with alternates and additives, if such be to the advantage of the Contracting Agency. The bidder shall bid on all alternates and additives set forth in the Proposal Form unless otherwise specified.

1-02.6 Preparation of Proposal
(January 4, 2024 APWA GSP, OPTION B)

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.
5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

Delete the last two paragraphs, and replace them with the following:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form, provided by the Contracting Agency. Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

A bid by a corporation shall be executed in the corporate name, by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign).

A bid by a partnership shall be executed in the partnership name, and signed by a partner. A copy of the partnership agreement shall be submitted with the Bid Form if any DBE requirements are to be satisfied through such an agreement.

A bid by a joint venture shall be executed in the joint venture name and signed by a member of the joint venture. A copy of the joint venture agreement shall be submitted with the Bid Form if any DBE requirements are to be satisfied through such an agreement.

CITY OF FEDERAL WAY

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**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293**

(June 4, 2020 WSDOT GSP, OPTION 9)

Item number 1 in the fifth paragraph of Section 1-02.6 is revised to read:

1. Subcontractors who will perform the work of structural steel installation, rebar installation, heating, ventilation, air conditioning and plumbing as described in RCW 18.106 and electrical as described in RCW 19.28, and

Add the following new section:

1-02.6(1) Recycled Materials Proposal

(January 4, 2016 APWA GSP)

The Bidder shall submit with the Bid, its proposal for incorporating recycled materials into the project, using the form provided in the Contract Provisions.

1-02.7 Bid Deposit

(March 8, 2013 APWA GSP)

Supplement this section with the following:

Bid bonds shall contain the following:

1. Contracting Agency-assigned number for the project;
2. Name of the project;
3. The Contracting Agency named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder's officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;
6. The signature of the surety's officer empowered to sign the bond and the power of attorney.

If so stated in the Contract Provisions, bidder must use the bond form included in the Contract Provisions.

If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.

1-02.10 Withdrawing, Revising, or Supplementing Proposal

(July 23, 2015 APWA GSP)

Delete this section, and replace it with the following:

After submitting a physical Bid Proposal to the Contracting Agency, the Bidder may withdraw, revise, or supplement it if:

1. The Bidder submits a written request signed by an authorized person and physically delivers it to the place designated for receipt of Bid Proposals, and
2. The Contracting Agency receives the request before the time set for receipt of Bid Proposals, and
3. The revised or supplemented Bid Proposal (if any) is received by the Contracting Agency before the time set for receipt of Bid Proposals.

If the Bidder's request to withdraw, revise, or supplement its Bid Proposal is received before the time set for receipt of Bid Proposals, the Contracting Agency will return the unopened Proposal package to the Bidder. The Bidder must then submit the revised or supplemented package in its entirety. If the Bidder does not submit a revised or supplemented package, then its bid shall be considered withdrawn.

Late revised or supplemented Bid Proposals or late withdrawal requests will be date recorded by the Contracting Agency and returned unopened. Mailed, emailed, or faxed requests to withdraw, revise, or supplement a Bid Proposal are not acceptable.

1-02.14 Disqualification of Bidders
(May 17, 2018 APWA GSP, OPTION B)

Delete this section and replace it with the following:

A Bidder will be deemed not responsible if the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1), as amended; or does not meet Supplemental Criteria 1-7 listed in this Section.

Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1), and Supplemental Criteria 1-2. Evidence that the Bidder meets Supplemental Criteria 3-7 shall be provided by the Bidder as stated later in this Section.

1. **Delinquent State Taxes**

A. Criterion: The Bidder shall not owe delinquent taxes to the Washington State Department of Revenue without a payment plan approved by the Department of Revenue.

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder does not owe delinquent taxes to the Washington State Department of Revenue, or if delinquent taxes are owed to the Washington State Department of Revenue, the Bidder must submit a written payment plan approved by the Department of Revenue, to the Contracting Agency by the deadline listed below.

2. **Federal Debarment**

A. Criterion: The Bidder shall not currently be debarred or suspended by the Federal government.

B. Documentation: The Bidder shall not be listed as having an "active exclusion" on the U.S. government's "System for Award Management" database (www.sam.gov).

3. **Subcontractor Responsibility**

A. Criterion: The Bidder's standard subcontract form shall include the subcontractor responsibility language required by RCW 39.06.020, and the Bidder shall have an established procedure which it utilizes to validate the responsibility of each of its subcontractors. The Bidder's subcontract form shall also include a requirement that each of its subcontractors shall have and document a similar procedure to determine whether the sub-tier subcontractors

with whom it contracts are also “responsible” subcontractors as defined by RCW 39.06.020.

- B. Documentation: The Bidder, if and when required as detailed below, shall submit a copy of its standard subcontract form for review by the Contracting Agency, and a written description of its procedure for validating the responsibility of subcontractors with which it contracts.

4. **Claims Against Retainage and Bonds**

- A. Criterion: The Bidder shall not have a record of excessive claims filed against the retainage or payment bonds for public works projects in the three years prior to the bid submittal date, that demonstrate a lack of effective management by the Bidder of making timely and appropriate payments to its subcontractors, suppliers, and workers, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

- B. Documentation: The Bidder, if and when required as detailed below, shall submit a list of the public works projects completed in the three years prior to the bid submittal date that have had claims against retainage and bonds and include for each project the following information:

- Name of project
- The owner and contact information for the owner;
- A list of claims filed against the retainage and/or payment bond for any of the projects listed;
- A written explanation of the circumstances surrounding each claim and the ultimate resolution of the claim.

5. **Public Bidding Crime**

- A. Criterion: The Bidder and/or its owners shall not have been convicted of a crime involving bidding on a public works contract in the five years prior to the bid submittal date.

- B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder and/or its owners have not been convicted of a crime involving bidding on a public works contract.

6. **Termination for Cause / Termination for Default**

- A. Criterion: The Bidder shall not have had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

- B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date; or if Bidder was terminated, describe the circumstances. .

7. **Lawsuits**

- A. **Criterion:** The Bidder shall not have lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency

- B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, or shall submit a list of all lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date, along with a written explanation of the circumstances surrounding each such lawsuit. The Contracting Agency shall evaluate these explanations to determine whether the lawsuits demonstrate a pattern of failing to meet of terms of construction related contracts

As evidence that the Bidder meets the Supplemental Criteria stated above, the apparent low Bidder must submit to the Contracting Agency by 12:00 P.M. (noon) of the second business day following the bid submittal deadline, a written statement verifying that the Bidder meets the supplemental criteria together with supporting documentation (sufficient in the sole judgment of the Contracting Agency) demonstrating compliance with the Supplemental Criteria. The Contracting Agency reserves the right to request further documentation as needed from the low Bidder and documentation from other Bidders as well to assess Bidder responsibility and compliance with all bidder responsibility criteria. The Contracting Agency also reserves the right to obtain information from third-parties and independent sources of information concerning a Bidder's compliance with the mandatory and supplemental criteria, and to use that information in their evaluation. The Contracting Agency may consider mitigating factors in determining whether the Bidder complies with the requirements of the supplemental criteria.

The basis for evaluation of Bidder compliance with these mandatory and supplemental criteria shall include any documents or facts obtained by Contracting Agency (whether from the Bidder or third parties) including but not limited to: (i) financial, historical, or operational data from the Bidder; (ii) information obtained directly by the Contracting Agency from others for whom the Bidder has worked, or other public agencies or private enterprises; and (iii) any additional information obtained by the Contracting Agency which is believed to be relevant to the matter.

If the Contracting Agency determines the Bidder does not meet the bidder responsibility criteria above and is therefore not a responsible Bidder, the Contracting Agency shall notify the Bidder in writing, with the reasons for its determination. If the Bidder disagrees with this determination, it may appeal the determination within two (2) business days of the Contracting Agency's determination by presenting its appeal and any additional information to the Contracting Agency. The Contracting Agency will consider the appeal and any additional information before issuing its final determination. If the final determination affirms that the Bidder is not responsible, the Contracting Agency will not execute a contract with any other Bidder until at least two business days after the Bidder

determined to be not responsible has received the Contracting Agency's final determination.

Request to Change Supplemental Bidder Responsibility Criteria Prior To Bid: Bidders with concerns about the relevancy or restrictiveness of the Supplemental Bidder Responsibility Criteria may make or submit requests to the Contracting Agency to modify the criteria. Such requests shall be in writing, describe the nature of the concerns, and propose specific modifications to the criteria. Bidders shall submit such requests to the Contracting Agency no later than five (5) business days prior to the bid submittal deadline and address the request to the Project Engineer or such other person designated by the Contracting Agency in the Bid Documents.

1-03 AWARD AND EXECUTION OF CONTRACT

1-03.1 Consideration of Bids

(December 30, 2022 APWA GSP)

Revise the first paragraph to read:

After opening and reading proposals, the Contracting Agency will check them for correctness of extensions of the prices per unit and the total price. If a discrepancy exists between the price per unit and the extended amount of any bid item, the price per unit will control. If a minimum bid amount has been established for any item and the bidder's unit or lump sum price is less than the minimum specified amount, the Contracting Agency will unilaterally revise the unit or lump sum price, to the minimum specified amount and recalculate the extension. The total of extensions, corrected where necessary, including sales taxes where applicable and such additives and/or alternates as selected by the Contracting Agency, will be used by the Contracting Agency for award purposes and to fix the Awarded Contract Price amount and the amount of the contract bond.

1-03.1(1) Identical Bid Totals

(December 30, 2022 APWA GSP)

Revise this section to read:

After opening Bids, if two or more lowest responsive Bid totals are exactly equal, then the tie-breaker will be the Bidder with an equal lowest bid, that proposed to use the highest percentage of recycled materials in the Project, per the form submitted with the Bid Proposal. If those percentages are also exactly equal, then the tie-breaker will be determined by drawing as follows: Two or more slips of paper will be marked as follows: one marked "Winner" and the other(s) marked "unsuccessful." The slips will be folded to make the marking unseen. The slips will be placed inside a box. One authorized representative of each Bidder shall draw a slip from the box. Bidders shall draw in alphabetic order by the name of the firm as registered with the Washington State Department of Licensing. The slips shall be unfolded and the firm with the slip marked "Winner" will be determined to be the successful Bidder and eligible for Award of the Contract. Only those Bidders who submitted a Bid total that is exactly equal to the lowest responsive Bid, and with a proposed recycled materials percentage that is exactly equal to the highest proposed recycled materials amount, are eligible to draw.

1-03.3 Execution of Contract
(January 4, 2024 APWA GSP, Option B)

Revise this section to read:

Within 3 calendar days of Award date (not including Saturdays, Sundays, and Holidays), the successful Bidder shall provide the information necessary to execute the Contract to the Contracting Agency. The Bidder shall send the contact information, including the full name, email address, and phone number, for the authorized signer and bonding agent to the Contracting Agency.

Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for signature by the successful bidder on the first business day following award. The number of copies to be executed by the Contractor will be determined by the Contracting Agency.

Within 10 calendar days after the award date, the successful bidder shall return the signed Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18, and a satisfactory bond as required by law and Section 1-03.4, the Transfer of Coverage form for the Construction Stormwater General Permit with sections I, III, and VIII completed when provided. Before execution of the contract by the Contracting Agency, the successful bidder shall provide any pre-award information the Contracting Agency may require under Section 1-02.15.

Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency nor shall any work begin within the project limits or within Contracting Agency-furnished sites. The Contractor shall bear all risks for any work begun outside such areas and for any materials ordered before the contract is executed by the Contracting Agency.

If the bidder experiences circumstances beyond their control that prevents return of the contract documents within the calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of 5 additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

1-03.4 Contract Bond
(July 23, 2015 APWA GSP)

Delete the first paragraph and replace it with the following:

The successful bidder shall provide executed payment and performance bond(s) for the full contract amount. The bond may be a combined payment and performance bond; or be separate payment and performance bonds. In the case of separate payment and performance bonds, each shall be for the full contract amount. The bond(s) shall:

1. Be on Contracting Agency-furnished form(s);
2. Be signed by an approved surety (or sureties) that:
 - a. Is registered with the Washington State Insurance Commissioner, and
 - b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,

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3. Guarantee that the Contractor will perform and comply with all obligations, duties, and conditions under the Contract, including but not limited to the duty and obligation to indemnify, defend, and protect the Contracting Agency against all losses and claims related directly or indirectly from any failure:
 - a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform and comply with all contract obligations, conditions, and duties, or
 - b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;
4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the project under titles 50, 51, and 82 RCW; and
5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the bond; and
6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond(s) must be signed by the president or vice president, unless accompanied by written proof of the authority of the individual signing the bond(s) to bind the corporation (i.e., corporate resolution, power of attorney, or a letter to such effect signed by the president or vice president).

1-03.7 Judicial Review

(December 30, 2022 APWA GSP)

Revise this section to read:

All decision made by the Contracting Agency regarding the Award and execution of the Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted under Washington Law. Such review, if any, shall be timely filed in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction.

1-04 SCOPE OF THE WORK

1-04.1 Intent of the Contract

Supplement this section with:

The Contract work includes work indicated in both Schedule A: Culvert Replacement and Schedule B: Lakehaven Water and Sewer District Improvements. For Schedule A work, the specifications are as provided herein, and drawings that are bound separately. For Schedule B work, see the Special Provisions and drawings in Appendix B. The Contractor is fully responsible for integrating Schedule A and Schedule B work for a complete project, including work scheduling, coordination, and execution, and coordination with other utility providers. Project permits and permit conditions apply to both Schedule A and Schedule B work. The Contractor shall provide separate submittals, requests for information, pay requests, notices, all change order related correspondence, punch lists, as-built/record drawings, and other correspondence for Schedule A and Schedule B work. Numbering

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schemes for correspondence shall start with designation A or B, and then a sequential system of numbering so that separate filing systems can readily be established and maintained to provide separate final project records for the two schedules.

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

(January 8, 2021 CFW GSP)

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

1. Contract,
2. Change Orders, with those of a later date taking precedence of those of an earlier date,
3. Addenda, with those of a later date taking precedence of those of an earlier date,
4. Proposal Form,
5. Special Provisions,
6. Contract Plans,
7. Standard Specifications,
8. Contracting Agency's Standard Plans or Details (if any), and
9. *WSDOT Standard Plans for Road, Bridge, and Municipal Construction.*

1-04.4 Changes

(January 19, 2022 APWA GSP)

The first two sentences of the last paragraph of Section 1-04.4 are deleted.

1-05 CONTROL OF WORK

1-05.4 Conformity With and Deviations from Plans and Stakes

(February 6, 2023 WSDOT GSP, OPTION 1)

Section 1-05.4 is supplemented with the following:

Contractor Surveying – Structure

The Contracting Agency has provided primary survey control in the Plans.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of bridges, noise walls, retaining walls, and buried structures. Except for the survey control data to be furnished by the Contracting Agency, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans "DO NOT DISTURB" shall be protected throughout the length of the project or be replaced at the Contractors expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work by the Contractor shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.
2. Establish, by placing hubs and/or marked stakes, the location with offsets of foundation shafts and piles.
3. Establish offsets to footing centerline of bearing for structure excavation.
4. Establish offsets to footing centerline of bearing for footing forms.
5. Establish wing wall, retaining wall, and noise wall, and buried structure horizontal alignment.
6. Establish retaining wall top of wall profile grade.
7. Establish buried structure profile grade.
8. Establish elevation benchmarks for all substructure formwork.
9. Check elevations at top of footing concrete line inside footing formwork immediately prior to concrete placement.
10. Check column location and pier centerline of bearing at top of footing immediately prior to concrete placement.
11. Establish location and plumbness of column forms, and monitor column plumbness during concrete placement.
12. Establish pier cap and crossbeam top and bottom elevations and centerline of bearing.
13. Check pier cap and crossbeam top and bottom elevations and centerline of bearing prior to and during concrete placement.
14. Establish grout pad locations and elevations.
15. Establish structure bearing locations and elevations, including locations of anchor bolt assemblies.
16. Establish box girder bottom slab grades and locations.
17. Establish girder and/or web wall profiles and locations.
18. Establish diaphragm locations and centerline of bearing.

19. Establish roadway slab alignment, grades and provide dimensions from top of girder to top of roadway slab. Set elevations for deck paving machine rails.
20. Establish traffic barrier and curb profile.
21. Profile all girders prior to the placement of any deadload or construction live load that may affect the girder's profile.
22. Establish locations for marine structures including fixed and floating berthing structures, vehicle and pedestrian foundations and spans, and marine-based buildings.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

The Contractor shall submit the computed elevations at the top of bridge decks as a Type 2 Working Drawing. The elevations shall be computed at tenth points along the centerline of each girder web.

The Contractor shall ensure a surveying accuracy within the following tolerances:

	<u>Vertical</u>	<u>Horizontal</u>
1. Stationing on structures		±0.02 feet
2. Alignment on structures		±0.02 feet
3. Superstructure elevations	±0.01 feet variation from plan elevation	
4. Substructure	±0.02 feet variation from Plan grades.	

Buried structures shall be within the tolerances described in Section 6-20.3.

The Contracting Agency may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking the following items, the Contractor shall perform independent checks from different secondary control to ensure that the points staked for these items are within the specified survey accuracy tolerances:

Piles
Shafts
Footings
Columns

The Contractor shall calculate coordinates for the points associated with piles, shafts, footings, and columns. The Contracting Agency will verify these coordinates prior to issuing approval to the Contractor for commencing with the survey work. The Contracting Agency will require up to seven calendar days from the date the data is received to issuing approval.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Contracting Agency. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Payment

Payment will be made for the following bid item when included in the proposal:

"Structure Surveying", lump sum.

The lump sum contract price for "Structure Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

Payment

Payment will be made for the following bid item when included in the proposal:

"Structure Surveying", lump sum.

The lump sum contract price for "Structure Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

(*****)

Section 1-05.4 is supplemented with the following:

Contractor Surveying – Roadway

The Contracting Agency has provided primary survey control in the Plans.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the roadbed, drainage, surfacing, paving, channelization and pavement marking, illumination and signals, guardrails and barriers, and signing. Except for the survey control data to be furnished by

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the Contracting Agency, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans "DO NOT DISTURB" shall be protected throughout the length of the project or be replaced at the Contractor's expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.
2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 50 feet.
3. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart. The clearing and grubbing limits shall be 5 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise shown in the Plans.
4. Establish grading limits, placing slope stakes at centerline increments not more than 50 feet apart. Establish offset reference to all slope stakes. If Global Positioning Satellite (GPS) Machine Controls are used to provide grade control, then slope stakes may be omitted at the discretion of the Contractor
5. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures, and to pipes at a horizontal interval not greater than 25 feet.
6. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 50 feet in tangent sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot intervals in intersection radii with a radius less than 10 feet. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 12 feet. If GPS Machine Controls are used to provide grade control, then roadbed and surfacing stakes may be omitted at the discretion of the Contractor.

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7. Establish intermediate elevation benchmarks as needed to check work throughout the project.
8. Provide references for paving pins at 25-foot intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.
9. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking, illumination and signals, guardrails and barriers, and signing) provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.
10. Contractor shall determine if changes are needed to the profiles or roadway sections shown in the Contract Plans in order to achieve proper smoothness and drainage where matching into existing features, such as a smooth transition from new pavement to existing pavement. The Contractor shall submit these changes to the Engineer for review and approval 10 days prior to the beginning of work.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

The Contractor shall ensure a surveying accuracy within the following tolerances:

	<u>Vertical</u>	<u>Horizontal</u>
Slope stakes	±0.10 feet	±0.10 feet
Subgrade grade stakes set 0.04 feet below grade	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Stationing on roadway	N/A	±0.1 feet
Alignment on roadway	N/A	±0.04 feet
Surfacing grade stakes	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Roadway paving pins for surfacing or paving,	±0.01 feet	±0.2 feet (parallel to alignment)
Streambed boulder drops limited to 0.5 ft vertical	±0.01 feet	±0.05 feet (parallel to alignment)

The Contracting Agency may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking roadway alignment and stationing, the Contractor shall perform independent checks from different secondary control to ensure that the points staked are within the specified survey accuracy tolerances.

The Contractor shall calculate coordinates for the alignment. The Contracting Agency will verify these coordinates prior to issuing approval to the Contractor for commencing with the work. The Contracting Agency will require up to seven calendar days from the date the data is received.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Contracting Agency. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Stakes shall be marked in accordance with Standard Plan A10.10. When stakes are needed that are not described in the Plans, then those stakes shall be marked, at no additional cost to the Contracting Agency as ordered by the Engineer.

Payment

Payment will be made for the following bid item when included in the proposal:

"Roadway Surveying", lump sum.

The lump sum contract price for "Roadway Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

1-05.7 Removal of Defective and Unauthorized Work **(October 1, 2005 APWA GSP)**

Supplement this section with the following:

If the Contractor fails to remedy defective or unauthorized work within the time specified in a written notice from the Engineer, or fails to perform any part of the work required by the Contract Documents, the Engineer may correct and remedy such work as may be identified in the written notice, with Contracting Agency forces or by such other means as the Contracting Agency may deem necessary.

If the Contractor fails to comply with a written order to remedy what the Engineer determines to be an emergency situation, the Engineer may have the defective and unauthorized work corrected immediately, have the rejected work removed and replaced, or have work the Contractor refuses to perform completed by using Contracting Agency or other forces. An emergency situation is any situation when, in the opinion of the Engineer, a delay in its remedy could be potentially unsafe, or might cause serious risk of loss or damage to the public.

Direct or indirect costs incurred by the Contracting Agency attributable to correcting and remedying defective or unauthorized work, or work the Contractor failed or refused to perform, shall be paid by the Contractor. Payment will be deducted by the Engineer from monies due, or to become due, the Contractor. Such direct and indirect costs shall include in particular, but without limitation, compensation for additional professional services

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required, and costs for repair and replacement of work of others destroyed or damaged by correction, removal, or replacement of the Contractor's unauthorized work.

No adjustment in Contract time or compensation will be allowed because of the delay in the performance of the work attributable to the exercise of the Contracting Agency's rights provided by this section.

The rights exercised under the provisions of this section shall not diminish the Contracting Agency's right to pursue any other avenue for additional remedy or damages with respect to the Contractor's failure to perform the work as required.

1-05.10 Guarantees
(January 19, 2024 CFW GSP)

Section 1-05.10 is supplemented with the following:

All work performed by the Contractor shall maintain a warranty. The warranty period shall be established by the Contract Documents. When not specified in the Contract Documents, the warranty period shall be one year. Conducting of tests and inspections, review of specifications or plans, payment for goods or services, or acceptance by the City does not constitute waiver, modification, or exclusion of any express or implied warranty or any right under law. This warranty shall survive termination of this Contract.

The Contractor shall, at its own sole cost and expense, be responsible for correcting all defects in workmanship and material discovered within one year after acceptance of this work by the City of Federal Way. When corrections of defects are made, the Contractor shall be responsible for correcting all defects in workmanship and/or materials in the corrected work for one year after acceptance of the corrections by the Owner.

If within one year after the date of Project Acceptance by the Owner, defective and/or unauthorized Work is discovered, the Owner shall notify the Contractor in writing (either e-mail or USPS mail). The Contractor shall start work to remedy such defects within seven(7) calendar days of notice of discovery by the Owner and shall complete such work within a reasonable time. The Contractor shall either correct such Work, or if such Work has been rejected by the Engineer, remove it from the Project Site and replace it with non-defective and authorized Work, all without cost to the Owner.

In emergencies, where damage may result from delay or where loss of services may result, such corrections may be made by the Owner, in which case the cost shall be borne by the Contractor. If the Contractor does not promptly comply with the written request to correct defective and authorized Work, or if an emergency exists, the Owner reserves the right to have defective and/or unauthorized Work corrected or rejected, and replaced pursuant to the provisions of Section 1-05.7 of these Specifications. The Owner will pursue payment for the incurred costs from the project Performance and Payment Bond. The Contractor shall be liable for any costs, losses, expenses, or damages, including consequential damages suffered by the Owner resulting from defects in the Contractor's work including, but not limited to, cost of materials and labor extended by Owner in making emergency repairs and cost of engineering, inspection and supervision by the Owner or the Engineer. The Contractor shall hold the Owner harmless from any and all claims which may be made against the Owner as a result of any defective work, and the Contractor shall defend any such claims at his own expense.

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The Contractor agrees the above one year warranty shall not exclude or diminish the Owner's rights under any law to obtain damages and recover costs resulting from defective and unauthorized work discovered after one year but prior to the expiration of the legal time period set forth in RCW 4.16.040 limiting actions upon a contract in writing or liability, expressed or implied, arising out of a written agreement. This warranty may also extend beyond the one year time period pursuant to any other warranties specified in the Special Provisions, Contract Plans, other parts of the Contract Documents, or incorporated by this reference.

The Contract performance and payment bond shall remain in effect throughout the above stated warranty period.

1-05.11 Final Inspection
(October 1, 2005 APWA GSP)

Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing

1-05.11(1) Substantial Completion Date

When the Contractor considers the work to be substantially complete, the Contractor shall so notify the Engineer and request the Engineer establish the Substantial Completion Date. The Contractor's request shall list the specific items of work that remain to be completed in order to reach physical completion. The Engineer will schedule an inspection of the work with the Contractor to determine the status of completion. The Engineer may also establish the Substantial Completion Date unilaterally.

If, after this inspection, the Engineer concurs with the Contractor that the work is substantially complete and ready for its intended use, the Engineer, by written notice to the Contractor, will set the Substantial Completion Date. If, after this inspection the Engineer does not consider the work substantially complete and ready for its intended use, the Engineer will, by written notice, so notify the Contractor giving the reasons therefore.

Upon receipt of written notice concurring in or denying substantial completion, whichever is applicable, the Contractor shall pursue vigorously, diligently and without unauthorized interruption, the work necessary to reach Substantial and Physical Completion. The Contractor shall provide the Engineer with a revised schedule indicating when the Contractor expects to reach substantial and physical completion of the work.

The above process shall be repeated until the Engineer establishes the Substantial Completion Date and the Contractor considers the work physically complete and ready for final inspection.

1-05.11(2) Final Inspection and Physical Completion Date

When the Contractor considers the work physically complete and ready for final inspection, the Contractor by written notice, shall request the Engineer to schedule a final inspection. The Engineer will set a date for final inspection. The Engineer and the Contractor will then make a final inspection and the Engineer will notify the Contractor in writing of all particulars in which the final inspection reveals the work incomplete or unacceptable. The Contractor shall immediately take such corrective measures as are

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necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously, diligently, and without interruption until physical completion of the listed deficiencies. This process will continue until the Engineer is satisfied the listed deficiencies have been corrected.

If action to correct the listed deficiencies is not initiated within 7 days after receipt of the written notice listing the deficiencies, the Engineer may, upon written notice to the Contractor, take whatever steps are necessary to correct those deficiencies pursuant to Section 1-05.7.

The Contractor will not be allowed an extension of Contract time because of a delay in the performance of the work attributable to the exercise of the Engineer's right hereunder.

Upon correction of all deficiencies, the Engineer will notify the Contractor and the Contracting Agency, in writing, of the date upon which the work was considered physically complete. That date shall constitute the Physical Completion Date of the Contract, but shall not imply acceptance of the work or that all the obligations of the Contractor under the Contract have been fulfilled.

1-05.11(3) Operational Testing

It is the intent of the Contracting Agency to have at the Physical Completion Date a complete and operable system. Therefore when the work involves the installation of machinery or other mechanical equipment; street lighting, electrical distribution or signal systems; irrigation systems; buildings; or other similar work it may be desirable for the Engineer to have the Contractor operate and test the work for a period of time after final inspection but prior to the physical completion date. Whenever items of work are listed in the Contract Provisions for operational testing they shall be fully tested under operating conditions for the time period specified to ensure their acceptability prior to the Physical Completion Date. During and following the test period, the Contractor shall correct any items of workmanship, materials, or equipment which prove faulty, or that are not in first class operating condition. Equipment, electrical controls, meters, or other devices and equipment to be tested during this period shall be tested under the observation of the Engineer, so that the Engineer may determine their suitability for the purpose for which they were installed. The Physical Completion Date cannot be established until testing and corrections have been completed to the satisfaction of the Engineer.

The costs for power, gas, labor, material, supplies, and everything else needed to successfully complete operational testing, shall be included in the unit Contract prices related to the system being tested, unless specifically set forth otherwise in the Proposal.

Operational and test periods, when required by the Engineer, shall not affect a manufacturer's guaranties or warranties furnished under the terms of the Contract.

1-05.12 Final Acceptance ***(April 12, 2019 CFW GSP)***

Delete the third and fourth sentences in the first paragraph and replace it with the following:
Final acceptance date of the work shall be the date the Federal Way City Council accepts the project as complete.

Add the following new section.

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1-05.12(1) One-Year Guarantee Period
(March 8, 2013 APWA GSP)

The Contractor shall return to the project and repair or replace all defects in workmanship and material discovered within one year after Final Acceptance of the Work. The Contractor shall start work to remedy any such defects within 7 calendar days of receiving Contracting Agency's written notice of a defect, and shall complete such work within the time stated in the Contracting Agency's notice. In case of an emergency, where damage may result from delay or where loss of services may result, such corrections may be made by the Contracting Agency's own forces or another Contractor, in which case the cost of corrections shall be paid by the Contractor. In the event the Contractor does not accomplish corrections within the time specified, the work will be otherwise accomplished and the cost of same shall be paid by the Contractor.

When corrections of defects are made, the Contractor shall then be responsible for correcting all defects in workmanship and materials in the corrected work for one year after acceptance of the corrections by Contracting Agency.

This guarantee is supplemental to and does not limit or affect the requirements that the Contractor's work comply with the requirements of the Contract or any other legal rights or remedies of the Contracting Agency.

1-05.13 Superintendents, Labor and Equipment of Contractor
(August 14, 2013 APWA GSP)

Delete the sixth and seventh paragraphs of this section.

1-05.14 Cooperation with Other Contractors
(March 13, 1995 WSDOT GSP, OPTION 1)

Section 1-05.14 is supplemented with the following:

Other Contracts or Other Work

It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

1. **Puget Sound Energy (PSE)** – PSE and their Contractor(s) will be required to shutdown or de-energize their high power overhead transmission lines when the Contractor is performing tree removals and/or operating over cranes, lifts, overhead hoists or other overhead lifting equipment when under the transmission lines. The Contractor shall be responsible to coordinate schedules with PSE for these required shutdowns and provide the necessary work space for them to perform their work.
2. **AT & T** – AT & T and their Contractor(s) will be required to preserve, protect, and/or support their underground concrete encased fiber optic line(s) during construction. The Contractor shall provide the necessary work space for their work to occur and coordinate on schedules.
3. **Lakehaven Water and Sewer District** – All work associated with Lakehaven Water and Sewer District facilities is within Bid Schedule B of this Contract. As part of this work, Lakehaven Water and Sewer District ("LWSD") inspectors and staff will be

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operating water valves, testing water quality, inspecting pipe, trenching, thrust blocking, and other items noted in the Lakehaven Water and Sewer District Special Provisions in Appendix B. The Contractor is responsible for coordinating their work with LWSD inspectors and staff.

See SP 1-07.17 for additional utility information.

1-05.15 Method of Serving Notices
(January 4, 2024 APWA GSP)

Revise the second paragraph to read:

All correspondence from the Contractor shall be served and directed to the Engineer. All correspondence from the Contractor constituting any notification, notice of protest, notice of dispute, or other correspondence constituting notification required to be furnished under the Contract, must be written in paper format, hand delivered or sent via certified mail delivery service with return receipt requested to the Engineer's office. Electronic copies such as e-mails or electronically delivered copies of correspondence will not constitute such notice and will not comply with the requirements of the Contract.

Add the following new section:

1-05.16 Water and Power
(October 1, 2005 APWA GSP)

The Contractor shall make necessary arrangements, and shall bear the costs for power and water necessary for the performance of the work, unless the Contract includes power and water as a pay item.

1-05.17 As-Built Survey and Record Drawings

(**)***

Section 1-05.17 is a new section:

As-Built Survey

After construction has been completed the Contractor shall perform an as-built survey and provide the information (including point files) in a format compatible with AutoCAD 2019 or later version file to the Engineer.

The applicable tolerance limits for the as-built survey include, but are not limited to the following:

	<u>Vertical</u>	<u>Horizontal</u>
As-built sanitary and storm invert and grate elevations	± 0.01 foot	± 0.01 foot
As-built monumentation	± 0.001 foot	± 0.001 foot
As-built waterlines, inverts, valves, hydrants	± 0.10 foot	± 0.10 foot
As-built ponds/swales/water features	± 0.10 foot	± 0.10 foot
As-built buildings (fin. Floor elev.)	± 0.01 foot	± 0.10 foot
As-built gas lines, power, TV, Tel, Com	± 0.10 foot	± 0.10 foot
As-built signs, signals, etc.	N/A	± 0.10 foot

This as-built survey shall consist of the following:

- Survey of rim elevation, sump elevations, and invert elevations of all storm drainage structures installed, modified or left in place within the limits of this contract. Storm pipe diameter and material; drainage structure type, size, lid type (solid cover or grate, standard or heavy duty), and lid shape; model No. of CB water quality treatment inserts installed, flowline of open channel conveyance systems at 50-foot maximum intervals, and retaining wall footing drains, including cleanouts.
- Survey of all monuments shown on the plans or discovered within the project limits. City of Federal Way Monument Record forms shall be completed by a Professional Land Surveyor and submitted to the Project Engineer for each monument.
- Finished grade shots on all utility appurtenances within the limits of this contract, including, but not limited to vaults, handholes, valves, fire hydrants, water meters, junction boxes, signal poles, etc. Appurtenances with round covers should have one survey shot in the center of the manhole or valve cover, or at the center of the fire hydrant. Utility handholes and boxes shall have two shots on opposite corners of the cover.
- Final curb elevations, with a minimum of eight shots at each curb return. Also, final shots along all curb and gutter, block curb, integral curb and extruded curb installed in this contract (at flowline of the curbs).
- Final elevations at the front and back of walk throughout the project limits.
- Final wall elevations at the face and top of all walls installed in this contract.
- Shots of all signs, trees, illumination and signal equipment installed as part of this contract.
- Shots to delineate all channelization installed in this contract.
- Shots at 25-foot intervals along the stream channel alignment, including thalweg, low flow channel banks, limits of streambed material placement, toe and top of cut slopes, culvert and wing walls (horizontal and vertical extents).
- Provide final as-built survey of all constructed structures, including culvert (four corners of tops and bottoms of footings, walls, and underside/top of cover slab, plus interior length, width, and height, Wingwalls and retaining walls (four corners of each wall footing at top of footing, and four corners of each wall at base and top).
- Provide final as-built survey of all constructed works, including streambed at 25-foot spacing including alignment, channel banks and toes and tops of slopes, resting pools (profile and section), crest of each boulder drop, and two points to define each installed log. Also survey invert and top of pipe for each restored utility at 25-foot spacing.
- Submit as-built surveys of structures, stream, and utilities as separate drawings. in 22"x34" drawing (paper copy), pdf file, and AutoCAD file with full 3D features.

Record Drawings

Throughout construction, the Contractor shall be responsible for tracking all relevant field changes to the approved construction drawings. These changes shall be clearly identified in red ink in a comprehensive manner on one set of full size Plans. These Record Drawing shall be kept separate from other Plan sheets, and shall be clearly marked as Record Drawings. The Record Drawings shall be kept on site, and shall be available for review by the Contracting Agency at all times. The Contractor shall bring the Record Drawings to each progress meeting for review.

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Upon completion of construction, the Contractor shall submit to the City a clean set of marked-up drawings in electronic PDF format that are signed and certified by the Contractor or their surveyor. The Certification on each page of the record drawings shall state that said drawings are an accurate depiction of built conditions. City acceptance of the Record Drawings is one of the requirements for achieving Physical Completion.

The certified Record Drawings shall, at a minimum, consist of the following:

- Existing or abandoned utilities that were encountered during construction that were not shown on the approved construction drawings.
- Accurate locations of storm drainage (including invert elevations), sanitary sewer, water mains and other water appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, channelization and pavement markings, etc. Record drawings shall reflect actual dimensions, arrangement, and materials used when different than shown in the Plans. As-built survey information shall be used to confirm information shown on record drawings.
- Changes made by Change Order or Field Directive
- Changes made by the Contractor as approved by the Engineer.
- Pothole information gathered by the Contractor.

Payment

"As-Built Survey and Record Drawings", lump sum.

The lump sum contract price for "As-Built Survey and Record Drawings " shall be full pay for all labor, equipment, materials, and supervision utilized to perform the work specified, including any surveying, checking, correction of errors, preparation of record drawings, and coordination efforts. Payment will be made after AutoCAD files and record drawings are submitted to and approved by the City. No partial payments will be made.

1-05.18 Contractor's Daily Diary ***(March 22, 2023 CFW GSP)***

Section 1-05.18 is a new section:

The Contractor and subcontractors, as additional consideration for payment for this contract work, hereby agree to maintain and provide to the Owner and the Engineer a Daily Diary Record of this Work. The diary must be kept and maintained by the Contractor's designated project superintendent. Entries must be made on a daily basis and must accurately represent all of the project activities on each day.

At a minimum, the diary shall show on a daily basis:

- The day and date.
- The weather conditions, including changes throughout the day.
- A complete description of work accomplished during the day with adequate references to the Plans and Specifications so that the reader can easily and accurately identify said work in the Plans.

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- An entry for each and every changed condition, dispute or potential dispute, incident, accident, or occurrence of any nature whatsoever which might affect the Contract, Owner, or any third party in any manner.
- Listing of any materials received and stored on or off-site by the Contractor for future installation, to include the manner of storage and protection of the same.
- Listing of materials installed during each day.
- List of all subcontractors working on-site during each day.
- Listing of the number of Contractor's employees working during each day by category of employment.
- Listing of Contractor's equipment working on the site during each day. Idle equipment on the site shall be listed and designated as idle.
- Notations to explain inspections, testing, stake-out, and all other services furnished to the Contractor by the Owner or other during each day.
- Entries to verify the daily (including non-work days) inspection and maintenance of traffic control devices and condition of the traveled roadway surfaces. The Contractor shall not allow any conditions to develop that would be hazardous to the public.
- Any other information that serves to give an accurate and complete record of the nature, quantity, and quality of the Contractor's progress on each day.
- Summary of total number of working days to date, and total number of delay days to date.

The Contractor's designated project superintendent must sign the diary at the end of each working day. The Contractor must provide a copy of the diary to the Owner and the Engineer each morning for the preceding workday. All copies must be legible.

It is expressly agreed between the contractor and the owner that the daily diary maintained by the Contractor shall be the "Contractor's Book of Original Entry" for the documentation of any potential claims or disputes that might arise during this contract. Failure of the Contractor to maintain this diary in the manner described above will constitute a waiver of any such claims or disputes by the Contractor. The daily diary maintained by the Contractor does not constitute the official record of the project. The official record of the project is prepared and maintained exclusively by the engineer.

1-06.6 Recycled Materials
(January 4, 2016 APWA GSP)

Delete this section, including its subsections, and replace it with the following:

The Contractor shall make their best effort to utilize recycled materials in the construction of the project. Approval of such material use shall be as detailed elsewhere in the Standard Specifications.

Prior to Physical Completion the Contractor shall report the quantity of recycled materials that were utilized in the construction of the project for each of the items listed in Section 9-03.21. The report shall include hot mix asphalt, recycled concrete aggregate, recycled glass, steel furnace slag, and other recycled materials (e.g. utilization of on-site

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material and aggregates from concrete returned to the supplier). The Contractor's report shall be provided on DOT form 350-075 Recycled Materials Reporting.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.1 Laws to be Observed ***(October 1, 2005 APWA GSP)***

Supplement this section with the following:

In cases of conflict between different safety regulations, the more stringent regulation shall apply.

The Washington State Department of Labor and Industries shall be the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA).

The Contractor shall maintain at the project site office, or other well-known place at the project site, all articles necessary for providing first aid to the injured. The Contractor shall establish, publish, and make known to all employees, procedures for ensuring immediate removal to a hospital, or doctor's care, persons, including employees, who may have been injured on the project site. Employees should not be permitted to work on the project site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care.

The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the Contractor's Plant, appliances, and methods, and for any damage or injury resulting from their failure, or improper maintenance, use, or operation. The Contractor shall be solely and completely responsible for the conditions of the project site, including safety for all persons and property in the performance of the work. This requirement shall apply continuously, and not be limited to normal working hours. The required or implied duty of the Engineer to conduct construction review of the Contractor's performance does not, and shall not, be intended to include review and adequacy of the Contractor's safety measures in, on, or near the project site.

Section 1-07.1 is supplemented with the following:

(April 12, 2019 CFW GSP)

Confined Space

Confined spaces are known to exist at the following locations:

Existing storm drainage, sanitary sewer, and other utility systems, vaults, and structures, along with all new similar new construction items that meet the requirements of WAC 296-809-100.

The Contractor shall be fully responsible for the safety and health of all on-site workers and compliant with Washington Administrative Code (WAC 296-809).

The Contractor shall prepare and implement a confined space program for each of the confined spaces identified above. The Contractors Confined Space program shall be sent to the contracting agency at least 5 days prior to the Contractor beginning work in or adjacent to the confined space. No work shall be performed in or adjacent to the confined space until the plan is submitted to the Engineer as required. The Contractor shall communicate with the Engineer to ensure a coordinated effort for providing and

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maintaining a safe worksite for both the Contracting Agency's and Contractor's workers when working in or near a confined space.

All costs to prepare and implement the confined space program shall be included in the bid prices for the various items associated with the confined space work.

1-07.2 State Taxes

Delete this section, including its sub-sections, in its entirety and replace it with the following:

1-07.2 State Sales Tax ***(June 27, 2011 APWA GSP)***

The Washington State Department of Revenue has issued special rules on the State sales tax. Sections 1-07.2(1) through 1-07.2(3) are meant to clarify those rules. The Contractor should contact the Washington State Department of Revenue for answers to questions in this area. The Contracting Agency will not adjust its payment if the Contractor bases a Bid on a misunderstood tax liability.

The Contractor shall include all Contractor-paid taxes in the unit Bid prices or other Contract amounts. In some cases, however, state retail sales tax will not be included. Section 1-07.2(2) describes this exception.

The Contracting Agency will pay the retained percentage (or release the Contract Bond if a FHWA-funded Project) only if the Contractor has obtained from the Washington State Department of Revenue a certificate showing that all Contract-related taxes have been paid (RCW 60.28.051). The Contracting Agency may deduct from its payments to the Contractor any amount the Contractor may owe the Washington State Department of Revenue, whether the amount owed relates to this Contract or not. Any amount so deducted will be paid into the proper State fund.

1-07.2(1) State Sales Tax — Rule 171

WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets, roads, etc., which are owned by a municipal corporation, or political subdivision of the state, or by the United States, and which are used primarily for foot or vehicular traffic. This includes storm or combined sewer systems within and included as a part of the street or road drainage system and power lines when such are part of the roadway lighting system. For work performed in such cases, the Contractor shall include Washington State Retail Sales Taxes in the various unit Bid item prices, or other Contract amounts, including those that the Contractor pays on the purchase of the materials, equipment, or supplies used or consumed in doing the work.

1-07.2(2) State Sales Tax — Rule 170

WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing buildings, or other structures, upon real property. This includes, but is not limited to, the construction of streets, roads, highways, etc., owned by the state of Washington; water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads, unless such power lines become a part of a street or road lighting system;

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and installing or attaching of any article of tangible personal property in or to real property, whether or not such personal property becomes a part of the realty by virtue of installation.

For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail sales tax on the full Contract price. The Contracting Agency will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax in the unit Bid item prices, or in any other Contract amount subject to Rule 170, with the following exception.

Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project. Such sales taxes shall be included in the unit Bid item prices or in any other Contract amount.

1-07.2(3) Services

The Contractor shall not collect retail sales tax from the Contracting Agency on any Contract wholly for professional or other services (as defined in Washington State Department of Revenue Rules 138 and 244).

1-07.5 Environmental Regulations

Section 1-07.5 is supplemented with the following:

(September 20, 2010, WSDOT GSP, OPTION 1)

Environmental Commitments

The following Provisions summarize the requirements, in addition to those required elsewhere in the Contract, imposed upon the Contracting Agency by the various documents referenced in the Special Provision **Permits and Licenses**. Throughout the work, the Contractor shall comply with the following requirements:

- United States Army Corp of Engineers permit requirements
- Washington Department of Fish and Wildlife Hydraulic Project Approval Requirements

(August 3, 2009, WSDOT GSP, OPTION 2)

Payment

All costs to comply with this special provision for the environmental commitments and requirements are incidental to the contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the associated bid prices of the contract.

1-07.6 Permits and Licenses

(April 12, 2018 CFW GSP)

Section 1-07.6 is supplemented with the following:

Survey Monuments

In accordance with RCW 58.24.040(8), no cadastral or geodetic survey monument may be disturbed without a valid permit to remove or destroy a survey monument, issued by the Washington State Department of Natural Resources. Permit applications can be obtained on the DNR Public Land Survey Office website. The permit application must be stamped by a registered Washington State Land Surveyor. The Contractor shall obtain the permit to Remove or Destroy a Survey Monument as necessary. All costs to obtain and

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comply with the permit shall be considered incidental to other bid items and no additional payment will be made.

(December 16, 2022 CFW GSP)

Section 1-07.6 is supplemented with the following:

Oversized Loads

The Contractor must obtain a permit from the City of Federal Way (Development Services Division) for any Oversize / Overweight Loads. Loads are classified as oversized / overweight if they exceed the following criteria:

Size

- 8'6" wide, 14' tall, 53' length (tractor/trailer)
- 40' single unit
- 75' overall with a truck and trailer
- 3' of front overhang and 15' of rear overhang

Weight

- Heavy loads require a permit for overweight if they exceed the vehicle weight table published by WSDOT. The gross vehicle weight for a vehicle or a vehicle combination is determined by an overlapping set of three criteria: tire size, axle weight, and the weight table.

Section 1-07.6 is supplemented with the following:

The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the permit(s) is attached as an appendix for informational purposes. Copies of these permits, including a copy of the Transfer of Coverage form, when applicable, are required to be onsite at all times.

- United States Army Corp of Engineers permit requirements
- Washington Department of Fish and Wildlife Hydraulic Project Approval Requirements

1-07.7 Load Limits

(March 13, 1995 WSDOT GSP, OPTION 6)

Section 1-07.7 is supplemented with the following:

If the sources of materials provided by the Contractor necessitate hauling over roads other than State Highways, the Contractor shall, at the Contractor's expense, make all arrangements for the use of the haul routes.

1-07.9(3) Apprentices

(February 15, 2019 CFW GSP)

Section 1-07.9(3) is supplemented with the following:

General Requirements

No less than fifteen percent (15%) of the labor hours performed by workers subject to prevailing wages employed by the contractor or its subcontractors is required to be performed by apprentices enrolled in an apprenticeship training program approved or recognized by the Washington State Apprenticeship and Training Council. The Contractor may elect to accomplish apprenticeship utilization requirements as part of

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the work of a subcontractor; however, the Prime Contractor shall retain the responsibility for complying with these Special Provisions.

Apprentices shall be paid at least the prevailing hourly rate for an apprentice of that trade. Any workman for whom an apprenticeship agreement has not been registered and approved by the State Apprenticeship Council shall be considered to be a fully qualified journeyman, and therefore shall be paid at the prevailing hourly rate for journeymen.

Documentation and Monitoring

Apprenticeship Plan

- (1) The Contractor shall submit a draft Apprenticeship Plan with their bid package on the form provided in the Contract Documents.
- (2) At the preconstruction meeting, the Contractor shall submit a final Apprenticeship Plan to the City on the form provided in the Contract Documents.

These plans shall include the following:

- How the Contractor plans to meet the 15% requirement. Specifically, the plan should include the planned hours for each trade or craft; the total number of prime apprentice hours proposed for the project; and the total number of subcontractor apprentice hours proposed for the project.
- A description of how the Contractor will satisfy the apprenticeship goal on the project and include a summary of outreach and recruitment procedures to hire apprentices to work on the project.

Prevailing Wage Reports

Contractor prevailing wage documentation shall be supplemented to monitor compliance with this requirement throughout the contract as follows:

- (1) A copy of the certificate showing apprentice registration for an individual must accompany the first certified payroll report on which the individual appears;
- (2) A summary shall be provided with each certified payroll report (for both Prime Contractor and all Subcontractors) that identifies:
 - a. The total number of hours worked by apprentices on this job during the pay period. This shall be listed on the summary even if there are zero apprentice hours during the pay period.
 - b. The total number of hours worked by all employees (including both apprentices and non-apprentices) on this job during the pay period.

Certified payrolls that are submitted without this supplemental documentation will be rejected and it will be necessary for the Contractor to resubmit with the supplemental documentation.

Failure to Meet Apprenticeship Utilization Requirements

Unless otherwise waived or reduced, any contractor or subcontractor failing to comply with the apprenticeship requirements of this section shall not be considered a responsible bidder on City of Federal Way Public Works projects for a period of two years from final acceptance of the contract in which noncompliance occurred.

Waivers or Reductions

The Public Works Director may waive or reduce requirements as follows:

- (1) The apprenticeship requirement conflicts with state or federal funding conditions, or the conditions of any other grant or funding program;
- (2) An insufficient number of apprentices are available to meet the contract requirements;
- (3) The project involves a high proportion of equipment and materials costs compared to the anticipated labor hours;
- (4) The contractor has demonstrated a good faith effort to meet the established percentage requirement, but remains unable to fulfil the goal;
- (5) In order to meet the requirement, the contractor will be forced to displace members of its workforce; or
- (6) For other reasons deemed appropriate by the Public Works Director.

1-07.9(5)A Required Documents ***(December 30, 2022 APWA GSP)***

This section is revised to read as follows:

All Statements of Intent to Pay Prevailing Wages, Affidavits of Wages Paid and Certified Payrolls, including a signed Statement of Compliance for Federal-aid projects, shall be submitted to the Engineer and to the State using the State L&I online Prevailing Wage Intent & Affidavit (PWIA) system.

1-07.11(2) Contractual Requirements ***(January 24, 2024 WSDOT GSP, OPT 1)***

Section 1-07.11(2) is supplemented with the following:

11. The Contractor shall comply with the following nondiscrimination provisions, and the Contractor shall ensure the nondiscrimination provisions are included in all subcontracts:
 - a. Nondiscrimination Requirement. During the term of this Contract, the Contractor, including all subcontractors, shall not discriminate on the bases enumerated at RCW 49.60.530(3). In addition, the Contractor, including all subcontractors, shall give written notice of this nondiscrimination requirement to any labor organizations with which the Contractor, or subcontractor, has a collective bargaining or other agreement.
 - b. Obligation to Cooperate. The Contractor, including all subcontractors, shall cooperate and comply with any Washington state agency investigation regarding any allegation that the Contractor, including any subcontractor, has engaged in discrimination prohibited by this Contract pursuant to RCW 49.69.530(3).
 - c. Default. Notwithstanding any provision to the contrary, the Contracting Agency may suspend the Contract in accordance with Section 1-08.6, upon notice of a failure to participate and cooperate with any state agency investigation into alleged discrimination prohibited by this Contract, pursuant to RCW 49.60.530(3). Any such suspension will remain in place until the Contracting Agency receives notification that Contractor, including any subcontractor, is cooperating with the investigating state agency. In the event the Contractor, or subcontractor, is

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determined to have engaged in discrimination identified at RCW 49.60.530(3), the Contracting Agency may terminate this Contract in whole or in part in accordance with Section 1-08.10(1), and in addition to the sanctions listed in Section 1-07.11(5), the Contractor, subcontractor, or both, may be referred for debarment as provided in RCW 39.26.200. The Contractor or subcontractor may be given a reasonable time in which to cure this noncompliance, including implementing conditions consistent with any court-ordered injunctive relief or settlement agreement.

- d. Remedies for Breach. Notwithstanding any provision to the contrary, in the event of Contract termination or suspension for engaging in discrimination, the Contractor, subcontractor, or both, shall be liable for contract damages as authorized by law including, but not limited to, any cost difference between the original contract and the replacement or cover contract and all administrative costs directly related to the replacement contract, which damages are distinct from any penalties imposed under Chapter 49.60, RCW. The Contracting Agency shall have the right to deduct from any monies due to Contractor or subcontractor, or that thereafter become due, an amount for damages Contractor or subcontractor will owe Contracting Agency for default under this Provision.

1-07.13 Contractor's Responsibility for Work

(*****)

Section 1-07.13 is supplemented with the following:

1-07.13(1): Contractor Designed Work Access

The Contractor shall comply with access locations and requirements as indicated on the Drawings. The Contractor shall design all Contractor access routes, temporary haul roads, access structures, and shoring or excavations required for access roads and temporary haul roads. At a minimum, the Contractor shall maintain a pedestrian bridge over the culvert excavation throughout the duration of construction.

The Contractor shall submit a Construction Access Plan to the Engineer at least 14 days prior to mobilizing to the site. The Construction Access Plan shall include a narrative description and site drawing describing and depicting Contractor designed access routes, temporary haul roads and access structures as required to access the site from public roads, access all portions of the culvert, and access channel segments upstream and downstream of the culvert. The Construction Access Plan shall also indicate Contractor designed shoring for access routes, temporary haul roads, and access structures as required. All Contractor designed shoring and access structures shall be designed by a Washington State registered Professional Engineer, whose stamp, signature, and date shall be affixed to the plan and drawing(s). The plan shall include the Professional Engineer's resume and evidence of professional liability insurance. The Construction Access Plan shall describe means and methods used to complete the work and protect existing property and improvements from damage during construction. The plan shall identify any existing features to be demolished or removed, and identify how these features will be restored or replaced at completion of construction.

The Contractor shall construct access routes, temporary haul roads, and access structures in accordance with the approved access plan. The Contractor shall maintain

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access routes, temporary haul roads, access structures during construction, and remove them at completion of construction.

Protect all existing features and improvements not indicated to be removed or modified. Where existing features and improvement cannot be protected, replace the features and improvements with similar items at completion of construction. Where replaced or restored items are subject to building codes, the Contractor shall obtain any required permits and approvals and meet the requirements of the codes, permits, and approvals. Vegetation and natural areas shall be restored with soil amendments, permanent erosion control elements, seeded lawn, and plantings equal to requirements applicable to cut slope areas adjacent to the stream channel.

The undeveloped right-of-way and easement corridor north of Redondo Way S extending to S 288th Street through the work zone is a utility access corridor. The Contractor shall provide franchise utilities' access through the culvert work zone when needed and comply with utility access road requirements as indicated on the Plans and Appendix E to these specifications, and as obtained from utility providers through Contractor initiated coordination with utility providers as noted in Section 1-07.17. The most stringent of any similar requirements shall apply.

Payment

"Contractor Designed Work Access", lump sum.

The lump sum contract price for "Contractor Designed Work Access " shall be full pay for all labor, equipment, materials, and supervision utilized to perform the work specified, including any design, insurance, surveying, checking, correction of errors, planning, coordination, work plans, labor, materials, and equipment. Payment will be made 25 percent of the total after acceptance of the Contractor's work plan by the Engineer, 60 percent after initial construction of work elements described in the work plan, and the remainder prorated monthly for the remainder of the contract.

1-07.16 Protection and Restoration of Property

1-07.16(2) Vegetation Protection and Restoration ***(August 2, 2010 WSDOT GSP)***

Section 1-07.16(2) is supplemented with the following:

Vegetation and soil protection zones for trees shall extend out from the trunk to a distance of 1-foot radius for each inch of trunk diameter at breast height.

Vegetation and soil protection zones for shrubs shall extend out from the stems at ground level to twice the radius of the shrub.

Vegetation and soil protection zones for herbaceous vegetation shall extend to encompass the diameter of the plant as measured from the outer edge of the plant.

(*****)

1-07.17 Utilities and Similar Facilities

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(April 2, 2007 WSDOT GSP, OPTION 1)

Section 1-07.17 is supplemented with the following:

Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

The following addresses and telephone numbers of utility companies known or suspected of having facilities within the project limits are supplied for the Contractor's convenience.

UTILITY CONTACTS

Puget Sound Energy (Power & Gas)

Attn: Katie Dierick
Katie.Dierick@pse.com
Cell: (253) 268-6331

Lakehaven Water & Sewer District

Attn: Devin Hopper
Field Operations Supervisor
3203 SW Dash Point Rd
Federal Way, WA 98023
dhopper@lakehaven.org
Cell: (253)261-1770

Zayo

Zayo.Relo.Washington@zayo.com

King Co. Traffic (Signals & Lighting)

Attn: Mark Parrett
155 Monroe Ave NE
Renton, WA 98056
Telephone: (206) 296-8153

ADDITIONAL CONTACTS

King County Metro Transit

81270 6th Ave S, Bldg 2
Seattle, WA 98134
Telephone: (206) 684-2785

City of Federal Way Police

33325 8th Ave S
Federal Way, WA 98003
Telephone: (253) 835-6701
(for officer traffic control scheduling)
Telephone: (253) 835-6767

Lumen

Attn: Lara Lant
1208 NE 64th St
Seattle, WA 98115
Lara.Lant@Lumen.com
Telephone: (206) 765-9885

Comcast

Attn: Kyle Kinney
410 Valley Ave NW
Puyallup, WA 98371
Kyle_Kinney@comcast.com
Telephone: (253) 293-3838

AT&T

Attn: Steve Duppenhaler
11241 Willows Rd NE, #130
Redmond, WA 98052
Telephone: (425)286-3822

City of FW IT Dept (City Fiber)

Attn: Thomas Fichtner
33325 8th Ave S
Federal Way, WA 98003
Telephone: (253) 835-2547

South King Fire & Rescue

31617 1st Ave S
Federal Way, WA 98003
Telephone: (253) 946-7253

Federal Way School District

Attn: Transportation Department
1211 S. 332nd St
Federal Way, WA 98003
Telephone: (253) 945-5960

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(for traffic / road closure issues)

(October 3, 2022 WSDOT GSP, OPTION 2)

Section 1-07.17 is supplemented with the following:

Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

Public and private utilities, or their Contractors, will furnish all work necessary to adjust, relocate, replace, or construct their facilities unless otherwise provided for in the Plans or these Special Provisions. Such adjustment, relocation, replacement, or construction will be done during the prosecution of the work for this project. It is anticipated that utility adjustment, relocation, replacement, or construction within the project limits will be completed as follows:

- AT&T owns a 2.0' x 2.0' concrete encased fiber optic line as shown on the plans. The Contractor shall coordinate with AT&T's Contractor to allow for the necessary work space to set up a temporary support span across the culvert zone or allow the necessary work space for AT&T's Contractor to reroute a temporary connection over the work zone prior to construction and then reestablish the original utility relocation near end of construction. See Appendix C for AT&T's utility relocation/support plan.
- Lakehaven Water and Sewer District "Lakehaven") owns water and sanitary sewer facilities within the work zone. The Contractor shall coordinate with Lakehaven as necessary to allow for the necessary work space to relocate or support their facilities during construction.
- Any other relocations, replacements, or adjustments as necessary

Appendix D contains information provided by utility provided by utilities that the City is providing for reference only.

The Contractor shall attend a mandatory utility preconstruction meeting with the Engineer, all affected subcontractors, and all utility owners and their Contractors prior to beginning onsite work.

The following addresses and telephone numbers of utility companies or their Contractors that will be adjusting, relocating, replacing or constructing utilities within the project limits are supplied for the Contractor's use:

- See contact info listed in Section 1-07.17, Option 1

The Contractor shall:

- Provide franchise utilities with a minimum two-week advance notice to facilitate scheduling for their crews. Work will be completed by utilities after the area has been prepared by the City's Contractor, including excavation and staking of appurtenant facilities such as right-of-way and back of sidewalk (line and grade).
- The Contractor shall coordinate scheduling of utility work with the utility companies involved and incorporate that work into the project schedule.

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***** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com *****

- The utility relocation/support plans have been provided in the appendices of the Contract as a convenience to the Contractor. The Contractor shall coordinate with and allow for utility providers to perform the work as identified in the plans and as necessary to support the City's culvert project.

Payment for work included in this section including, but not limited to coordination with various utility provider(s) and Contractor(s) shall be considered incidental to the various bid items in the Contract.

1-07.18 Public Liability and Property Damage Insurance

Delete this section in its entirety, and replace it with the following:

1-07.18 Insurance

(January 4, 2024 APWA GSP)

1-07.18(1) General Requirements

- A. The Contractor shall procure and maintain the insurance described in all subsections of section 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less than A-: VII and licensed to do business in the State of Washington. The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer's financial condition.
- B. The Contractor shall keep this insurance in force without interruption from the commencement of the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated below.
- C. If any insurance policy is written on a claims-made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Completion Date or earlier termination of this Contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period ("tail") or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.
- D. The Contractor's Automobile Liability, Commercial General Liability, and Excess or Umbrella Liability insurance policies shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or self-insured pool coverage. Any insurance, self-insurance, or self-insured pool coverage maintained by the Contracting Agency shall be excess of the Contractor's insurance and shall not contribute with it.
- E. The Contractor shall provide the Contracting Agency and all additional insureds with written notice of any policy cancellation, within two business days of their receipt of such notice.
- F. The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the Contracting Agency
- G. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five

business days' notice to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.

- H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the Contract and no additional payment will be made.

(March 9, 2023 WSDOT GSP)

Section 1-07.18(1) is supplemented with the following:

Under no circumstances shall a wrap up policy be obtained, for either initiating or maintaining coverage, to satisfy insurance requirements for any policy required under this section. A wrap up policy is defined as an insurance agreement or arrangement under which all the parties working on a specified or designated project are insured under one policy for liability arising out of that specified or designated project.

(January 4, 2024 APWA GSP, cont.)

1-07.18(2) Additional Insured

All insurance policies, with the exception of Workers Compensation, and of Professional Liability and Builder's Risk (if required by this Contract) shall name the following listed entities as additional insured(s) using the forms or endorsements required herein:

- The Contracting Agency and its officers, elected officials, employees, agents, and volunteers.
- Consultants hired by the Contracting Agency for construction support or materials testing.

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

For Commercial General Liability insurance coverage, the required additional insured endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

1-07.18(3) Subcontractors

The Contractor shall cause each subcontractor of every tier to provide insurance coverage that complies with all applicable requirements of the Contractor-provided insurance as set forth herein, except the Contractor shall have sole responsibility for determining the limits of coverage required to be obtained by subcontractors.

The Contractor shall ensure that all subcontractors of every tier add all entities listed in 1-07.18(2) as additional insureds, and provide proof of such on the policies as required by that section as detailed in 1-07.18(2) using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency evidence of insurance and copies of the additional insured endorsements of each subcontractor of every tier as required in 1-07.18(4) Verification of Coverage.

1-07.18(4) Verification of Coverage

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage with these insurance requirements or failure of Contracting Agency to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Verification of coverage shall include:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement.
3. Any other amendatory endorsements to show the coverage required herein.
4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these requirements – actual endorsements must be submitted.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Contractor's maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the Contracting Agency's recourse to any remedy available at law or in equity.

All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability subject to any policy's deductibles or self-insured retention, said deductibles or self-insured retention shall be the responsibility of the Contractor.

1-07.18(5)A Commercial General Liability

Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured

contract. There shall be no exclusion for liability arising from explosion, collapse, or underground property damage.

The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor's completed operations for at least three years following Substantial Completion of the Work.

Such policy must provide the following minimum limits:

\$2,000,000	Each Occurrence
\$3,000,000	General Aggregate
\$3,000,000	Products & Completed Operations Aggregate
\$2,000,000	Personal & Advertising Injury each offense
\$2,000,000	Stop Gap / Employers' Liability each Accident

1-07.18(5)B Automobile Liability

Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of pollutants, the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.

Such policy must provide the following minimum limit:

\$1,000,000	Combined single limit each accident
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1-07.18(5)C Workers' Compensation

The Contractor shall comply with Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

1-07.18(5)D Excess or Umbrella Liability

(January 4, 2016 APWA GSP)

The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than \$3,000,000 each occurrence and annual aggregate. This excess or umbrella liability coverage shall be excess over and as least as broad in coverage as the Contractor's Commercial General and Auto Liability insurance.

All entities listed under 1-07.18(2) of these Special Provisions shall be named as additional insureds on the Contractor's Excess or Umbrella Liability insurance policy.

This requirement may be satisfied instead through the Contractor's primary Commercial General and Automobile Liability coverages, or any combination thereof that achieves the overall required limits of insurance.

1-07.18(5)J Pollution Liability

(January 4, 2016 APWA GSP)

The Contractor shall provide a Contractors Pollution Liability policy, providing coverage for claims involving bodily injury, property damage (including loss of use of tangible property that has not been physically injured), cleanup costs, remediation, disposal or

other handling of pollutants, including costs and expenses incurred in the investigation, defense, or settlement of claims, arising out of any one or more of the following:

1. Contractor's operations related to this project.
2. Remediation, abatement, repair, maintenance, or other work with lead-based paint or materials containing asbestos.
3. Transportation of hazardous materials away from any site related to this project.

All entities listed under 1-07.18(2) of these Special Provisions shall be named by endorsement as additional insureds on the Contractors Pollution Liability insurance policy.

Such Pollution Liability policy shall provide the following minimum limits:
\$2,000,000 each loss and annual aggregate

1-07.18(5)K Professional Liability
(December 30, 2022 APWA GSP)

The Contractor and/or its subcontractor(s) and/or its design consultant providing construction management, value engineering, or any other design-related non-construction professional services shall provide evidence of Professional Liability insurance covering professional errors and omissions.

Such policy shall provide the following minimum limits:
\$1,000,000 per claim and annual aggregate

If the scope of such design-related professional services includes work related to pollution conditions, the Professional Liability insurance shall include coverage for Environmental Professional Liability.

If insurance is on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract.

1-07.23 Public Convenience and Safety

(February 6, 2023 WSDOT GSP, OPTION 5)

Section 1-07.23(1) is supplemented with the following:

Lane, ramp, shoulder, and roadway closures are subject to the following restrictions:

- The Contractor shall, at all times throughout the project, conduct the work in such a manner as will obstruct and inconvenience vehicular and pedestrian traffic as little as possible. The streets, sidewalks, and private driveways shall be kept open by the Contractor except for the brief periods when actual work is being done. The Contractor shall conduct his operations so as to have under construction no greater length or amount of work than he can prosecute vigorously and he shall not open up sections of the work and leave them in an unfinished condition.
- The Contractor shall provide flaggers, signs, and other traffic control devices. The Contractor shall erect and maintain all construction signs,

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warning signs, detour signs, and other traffic control devices necessary to warn and protect the public at all times from injury or damage as a result of the Contractor's operations which may occur on highways, roads, streets, sidewalks, or paths. No work shall be done on or adjacent to any traveled way until all necessary signs and traffic control devices are in place.

- All signs and traffic control devices for the permitted closures shall only be installed during the specified hours. Construction signs, if placed earlier than the specified hours of closure, shall be turned or covered so as not to be visible to motorists
- The Contractor shall keep all pedestrian routes & access points (including, but not limited to, sidewalks, and crosswalks when located within the project limits) open and clear at all times unless permitted otherwise by the Engineer in an approved traffic control plan. An ADA accessible route must be provided through the project site at all times.
- Pedestrians must have access to pedestrian push buttons at all times.
- Lane closures shall not impact business access. All businesses shall remain accessible by vehicles and pedestrian during business hours.
- Lane closures shall not restrict vehicular access for buses through the project site. Bus stops shall remain ADA accessible to pedestrians at all times throughout the project.
- The Contractor shall be responsible for notifying all affected property owners and tenants prior to commencing the barricading of streets, alleys, sidewalks, and driveways. Notifications should be at least 48 hours in advance of closures, if possible.
- No paving or planing (milling) shall occur in residential areas during refuse, recycle, and yard waste collection days. Collection schedules are available at www.cityoffederalway.com/publicworks/recycling.
- For approved night work, it shall be the Contractor's responsibility to obtain any required noise variance or exemption for such work.
- For approved night work, the Contractor shall, at no additional cost to the City, make all arrangements for operations during hours of darkness. Flagger stations shall be illuminated using a minimum 150-watt floodlight. Lighting used for nighttime work shall, whenever possible, be directed away from or shielded from residences and oncoming traffic. Signs and barricades shall be supplemented by Type C steady burn lights to delineate edge of roadway during the hours of darkness.
- The Contractor may, if shown on a traffic control plan approved by the Engineer, momentarily interrupt continuous two-way traffic to allow one-way traffic (alternating directions / flagger controlled). Such interruptions shall utilize qualified flaggers placed in strategic locations to insure the public safety and minimize driver confusion.

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- For projects with bid schedules located in multiple locations throughout the City, the Contractor shall not have personnel or subcontractors working on-site at more than two schedules at any given time.
- Lane closures on Redondo Way S may only occur between the hours of 7:00AM and 5:00PM.

If the Engineer determines the permitted closure hours adversely affect traffic, the Engineer may adjust the hours accordingly. The Engineer will notify the Contractor in writing of any change in the closure hours. Exceptions to these restrictions are listed below and when applicable take precedence over closures listed above. The Engineer may also consider on a case-by-case basis additional exceptions following a written request by the Contractor.

Lane, ramp, shoulder, and roadway closures are not allowed on any of the following:

1. A holiday,
2. A holiday weekend; holidays that occur on Friday, Saturday, Sunday, or Monday are considered a holiday weekend. A holiday weekend includes Saturday, Sunday, and the holiday.
3. After 12:00 PM (noon) on the day prior to a holiday or holiday weekend, and
4. Before 7:00 AM on the day after the holiday or holiday weekend.
5. Within the City Center zone from the Friday after Thanksgiving Day (“Black Friday”) until the first City recognized business day of the following year without written approval by the Engineer. The boundaries of the City Center zone are identified in the City of Federal Way Comprehensive Plan. In general, it is the area located within the following boundaries:

Northern boundary: S 312th Street
 Southern boundary: S 324th Street
 Eastern boundary: Interstate 5
 Western boundary: 14th Ave S (future extension) / Federal Way
 320th Library / 11th PI S

Traffic Delays

When Automated Flagger Assistance Devices (AFADs) or flaggers are used to control traffic, traffic shall not be stopped for more than two minutes at any time. All traffic congestion shall be allowed to clear before traffic is delayed again.

If the delay becomes greater than two minutes, the Contractor shall immediately begin to take action to cease the operations that are causing the delays. If the two minute delay limit has been exceeded, as determined by the Engineer, the Contractor shall provide to the Engineer, a written proposal to revise his work operations to meet the two minute limit. This proposal shall be accepted by the Engineer prior to resuming any work requiring traffic control.

There shall be no delay to medical, fire, or other emergency vehicles. The Contractor shall alert all flaggers and personnel of this requirement.

General Restrictions

Construction vehicles using a closed traffic lane shall travel only in the normal direction of traffic flow unless expressly allowed in an accepted traffic control plan. Construction vehicles shall be equipped with flashing or rotating amber lights.

No two consecutive on-ramps, off-ramps, or intersections shall be closed at the same time and only one ramp at an interchange shall be closed, unless specifically shown in the Plans.

Roads or ramps that are designated as part of a detour shall not be closed or restricted during the implementation of that detour, unless specifically shown in the Plans.

Controlled Access

No special access or egress shall be allowed by the Contractor other than normal legal movements or as shown in the Plans.

Contractor's vehicles of 10,000 GVW or greater shall not exit or enter a lane open to public traffic except as follows:

Egress and ingress shall only occur during the hours of allowable lane closures, and:

1. For exiting an open lane of traffic, by decelerating in a lane that is closed during the allowable hours for lane closures.
2. For entering an open lane of traffic, by accelerating in a closed lane during the allowable hours for lane closures.

Traffic control vehicles are excluded from the gross vehicle weight requirement. If placing construction signs will restrict traveled lanes, then the work will be permitted during the hours of allowable lane closures.

Advance Notification

The Contractor shall notify the Engineer in writing of any traffic impacts related to lane closure, shoulder closure, sidewalk closure, or any combination for the week by 12:00 PM (noon) Wednesday the week prior to the stated impacts.

The Contractor shall notify the Engineer in writing ten working days in advance of any traffic impacts related to full roadway closure, ramp closure, or both.

The Contractor shall notify the Engineer in writing of any changes to the stated traffic impacts a minimum of 48 hours prior to the traffic impacts.

1-07.24 Rights of Way ***(July 23, 2015 APWA GSP)***

Delete this section and replace it with the following:

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Street Right-of-Way lines, limits of easements, and limits of construction permits are indicated in the Plans. The Contractor's construction activities shall be confined within these limits, unless arrangements for use of private property are made.

Generally, the Contracting Agency will have obtained, prior to bid opening, all rights-of-way and easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are noted in the Bid Documents or will be brought to the Contractor's attention by a duly issued Addendum.

Whenever any of the work is accomplished on or through property other than public Right-of-Way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Contracting Agency from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Engineer.

Whenever easements or rights-of-entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right-of-way, easements or rights-of-entry have not been acquired until the Engineer certifies to the Contractor that the right-of-way or easement is available or that the right-of-entry has been received. If the Contractor is delayed due to acts of omission on the part of the Contracting Agency in obtaining easements, rights-of-entry or right-of-way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

Each property owner shall be given 48 hours notice prior to entry by the Contractor. This includes entry onto easements and private property where private improvements must be adjusted.

The Contractor shall be responsible for providing, without expense or liability to the Contracting Agency, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of materials, or other Contractor needs. However, before using any private property, whether adjoining the work or not, the Contractor shall file with the Engineer a written permission of the private property owner, and, upon vacating the premises, a written release from the property owner of each property disturbed or otherwise interfered with by reasons of construction pursued under this contract. The statement shall be signed by the private property owner, or proper authority acting for the owner of the private property affected, stating that permission has been granted to use the property and all necessary permits have been obtained or, in the case of a release, that the restoration of the property has been satisfactorily accomplished. The statement shall include the parcel number, address, and date of signature. Written releases must be filed with the Engineer before the Completion Date will be established.

(April 12, 2018 CFW GSP)

Section 1-07.24 is supplemented with the following:

The Contractor shall be responsible to abide by the right-of-entry agreements with adjacent property owners that have been obtained (if any) by the City for this project. Please note these agreements may be included as an appendix or will be made available upon request of the Contractor.

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Right-of-entries on adjacent private property have been secured for purposes such as: construction of driveways, slope restoration, drainage, utilities, irrigation, and/or property restoration. The Contractor is expressly forbidden from using right-of-entry areas for vehicle or equipment storage or material stockpiling without first receiving written approval from the property owner. A copy of the written approval shall be provided to the Engineer before the Contractor stores any equipment or materials. Written permission from property owners does not relieve the Contractor of their obligation to receive permission from the City Community Development Department for the use of sites as staging areas, if required. Right-of-entry agreements may include responsibilities for the Contractor, such as: listing property owners as additional insured; providing advance notice to certain representatives; or daily site cleanup requirements. These responsibilities are listed as examples only and the right-of-entry documents should be reviewed by the Contractor to determine all necessary requirements.

Owners of certain properties have placed limitations on their right-of-entries as described below:

Owners of certain properties have placed limitations on their right-of-entries as described below:

- **Parcel #### (Address):** Example....Temporary chain-link security fencing (6' height) shall be in place at all times during construction to secure premises.
- List any right-of-entry requirements...

1-07.28 Communication with Businesses and Property Owners

(April 12, 2018 CFW GSP)

Section 1-07.28 is added:

The Contractor will be responsible for communicating all work activities with the property owners / tenants that are located adjacent to the project. The Contractor, along with the City's inspector & project engineer, shall have one formal meeting (door-to-door project walk-through) with the property owners/tenants prior to the start of construction. It will be the Contractor's responsibility to initiate and set up the meeting.

Thereafter, the Contractor shall keep the property owners / tenants informed of their general work locations and upcoming activities by distributing a monthly status/schedule memo to the businesses. The memo shall be approved by the City's Project Engineer prior to distribution.

1-07.29 Coordination with Transit Agencies

(December 1, 2021 CFW GSP)

Section 1-07.29 is added:

The Contractor is required to coordinate with impacted transit agencies. King County Metro and/or Pierce Transit personnel will remove and reinstall all existing bus stop signs and supports within the project limits. A copy of all communications between the contractor and transit agencies shall be forwarded to the City of Federal Way.

King County Metro: King County should be notified in writing at construction. coord@kingcounty.gov a minimum of five business days prior to starting any work impacting bus stops, a temporary lane or road closure. Work requiring removing a bus shelter or sign requires notification in writing a minimum of 30 business days.

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Pierce Transit: Pierce Transit should be notified at (253) 581-8130 to coordinate.

1-08 PROSECUTION AND PROGRESS

Add the following new section:

1-08.0 Preliminary Matters ***(May 25, 2006 APWA GSP)***

1-08.0(1) Preconstruction Conference ***(October 10, 2008 APWA GSP)***

Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Engineer, and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction meeting the following:

1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.

1-08.0(2) Hours of Work ***(December 8, 2014 APWA GSP)***

Add the following new section:

Except in the case of emergency or unless otherwise approved by the Engineer, the normal working hours for the Contract shall be any consecutive 8-hour period between 7:00 AM and 6:00 PM Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the normal working hours stated above, the request must be submitted in writing prior to the preconstruction conference, subject to the provisions below. The working hours for the Contract shall be established at or prior to the preconstruction conference.

All working hours and days are also subject to local permit and ordinance conditions (such as noise ordinances).

If the Contractor wishes to deviate from the established working hours, the Contractor shall submit a written request to the Engineer for consideration. This request shall state what hours are being requested, and why. Requests shall be

submitted for review no later than noon two working days prior to the day(s) the Contractor is requesting to change the hours.

If the Contracting Agency approves such a deviation, such approval may be subject to certain other conditions, which will be detailed in writing. For example:

1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency representatives who worked during such times. (The Engineer may require designated representatives to be present during the work. Representatives who may be deemed necessary by the Engineer include, but are not limited to: survey crews; personnel from the Contracting Agency's material testing lab; inspectors; and other Contracting Agency employees or third party consultants when, in the opinion of the Engineer, such work necessitates their presence.)
2. Considering the work performed on Saturdays, Sundays, and holidays as working days with regard to the contract time.
3. Considering multiple work shifts as multiple working days with respect to contract time even though the multiple shifts occur in a single 24-hour period.
4. If a 4-10 work schedule is requested and approved the non-working day for the week will be charged as a working day.
5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded properly on certified payroll.

(December 1, 2021 CFW GSP)

Add the following new section:

The Contractor may request extended work hours on days when paving operations are occurring. Work hours may be modified to 7:00 a.m. to 5:30 p.m on paving days if the Engineer determines that the benefits of extended working hours will minimize the overall impacts to traffic. Extended work hours for paving will require PCMS boards to be placed a minimum of 2 business days prior to the paving day. Payment for PCMS boards shall be considered incidental to the Contractor's operations, unless there is a specific bid item for PCMS boards.

1-08.1 Subcontracting

1-08.1(7)A Payment Reporting

(January 4, 2024 APWA GSP)

Revise this section to read: "Vacant".

1-08.1(9) Required Subcontract Clauses

1-08.1(9)B Clauses Required in Subcontracts of All Tiers

(January 24, 2024 WSDOT GSP, OPTION 1)

The second paragraph of Section 1-08.1(9)B is supplemented with the following:

16. 1-07.11 **Requirements for Nondiscrimination** – Item 11 from Section 1-07.11(2).

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1-08.3 Progress Schedule

1-08.3(1) General Requirements

(October 3, 2022 WSDOT GSP, OPTION 2)

Section 1-08.3(1) is supplemented with the following:

In addition to information required in Items 1 through 6, the Progress Schedule shall include the following milestones and/or activities:

7. Materials requiring long procurement or fabrication periods, such as signal or light poles, structural elements, or mechanical items.

1-08.3(2)A Type A Progress Schedule

(December 30, 2022 APWA GSP)

Revise this section to read:

The Contractor shall submit 2 copies of a Type A Progress Schedule no later than at the preconstruction conference, or some other mutually agreed upon submittal time. The schedule may be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of which format used, the schedule shall identify the critical path. The Engineer will evaluate the Type A Progress Schedule and approve or return the schedule for corrections within 15 calendar days of receiving the submittal.

1-08.4 Prosecution of Work

Delete this section and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work

(July 23, 2015 APWA GSP)

Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting Agency. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Engineer. The Contractor shall commence construction activities on the project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

When shown in the Plans, the first order of work shall be the installation of high visibility fencing to delineate all areas for protection or restoration, as described in the Contract. Installation of high visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor shall request the Engineer to inspect the fence. No other work shall be performed on the site until the Contracting Agency has accepted the installation of high visibility fencing, as described in the Contract.

(December 1, 2021 CFW GSP)

Section 1-08.4 is supplemented with the following.

The Contractor shall provide adequate equipment and forces to carry out the construction schedule to completion of the contract by the date specified.

1-08.5 Time for Completion
(December 30, 2022 APWA GSP, OPTION A)

Revise the third and fourth paragraphs to read:

Contract time shall begin on the first working day following the Notice to Proceed Date.

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and any partial or whole day the Engineer declares as unworkable. The statement will be identified as a Written Determination by the Engineer. If the Contractor does not agree with the Written Determination of working days, the Contractor shall pursue the protest procedures in accordance with Section 1-04.5. By failing to follow the procedures of Section 1-04.5, the Contractor shall be deemed as having accepted the statement as correct. If the Contractor is approved to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in which a 4-10 shift is worked would ordinarily be charged as a working day then the fifth day of that week will be charged as a working day whether or not the Contractor works on that day.

Revise the sixth paragraph to read:

The Engineer will give the Contractor written notice of the completion date of the contract after all the Contractor's obligations under the contract have been performed by the Contractor. The following events must occur before the Completion Date can be established:

1. The physical work on the project must be complete; and
2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
 - a. Certified Payrolls (per Section 1-07.9(5)).
 - b. Material Acceptance Certification Documents
 - c. Monthly Reports of Amounts Credited as DBE Participation, as required by the Contract Provisions.
 - d. Final Contract Voucher Certification
 - e. Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and all Subcontractors
 - f. A copy of the Notice of Termination sent to the Washington State Department of Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the Notice of Termination by Ecology; and no rejection of the Notice of Termination by Ecology. This requirement will not apply if the Construction Stormwater General Permit is transferred back to the Contracting Agency in accordance with Section 8-01.3(16).
 - g. Property owner releases per Section 1-07.24

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(March 13, 1995 WSDOT GSP, OPTION 7)

Section 1-08.5 is supplemented with the following:

This project shall be physically complete within 112 working days.

1-08.9 Liquidated Damages

(March 3, 2021 APWA GSP, OPTION A)

Replace Section 1-08.9 with the following:

Time is of the essence of the Contract. Delays inconvenience the traveling public, obstruct traffic, interfere with and delay commerce, and increase risk to Highway users. Delays also cost tax payers undue sums of money, adding time needed for administration, engineering, inspection, and supervision.

Accordingly, the Contractor agrees:

1. To pay liquidated damages in the amount of *****\$1\$\$***** for each working day beyond the number of working days established for Physical Completion, and
2. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine the Contract Work is Substantially Complete. The Engineer will notify the Contractor in writing of the Substantial Completion Date. For overruns in Contract time occurring after the date so established, liquidated damages identified above will not apply. For overruns in Contract time occurring after the Substantial Completion Date, liquidated damages shall be assessed on the basis of direct engineering and related costs assignable to the project until the actual Physical Completion Date of all the Contract Work. The Contractor shall complete the remaining Work as promptly as possible. Upon request by the Project Engineer, the Contractor shall furnish a written schedule for completing the physical Work on the Contract.

Liquidated damages will not be assessed for any days for which an extension of time is granted. No deduction or payment of liquidated damages will, in any degree, release the Contractor from further obligations and liabilities to complete the entire Contract.

1-09 MEASUREMENT AND PAYMENT

1-09.2(1) General Requirements for Weighing Equipment

(January 4, 2024 APWA GSP, OPTION B)

Revise item 4 of the fifth paragraph to read:

4. Test results and scale weight records for each day's hauling operations are provided to the Engineer daily. Reporting shall utilize WSDOT form 422-027A, Scaleman's Daily Report, unless the printed ticket contains the same information that is on the Scaleman's Daily Report Form. The scale operator must provide AM and/or PM tare weights for each truck on the printed ticket.

1-09.2(1)A1 Equipment

(March 9, 2023 WSDOT GSP)

Item number 1 in the first paragraph of Section 1-09.2(1)A1 is revised to read:

1. The ETS shall generate an E-ticket in PDF format meeting the requirements of 1-09.2(1)A2. The information shall be immediately uploaded to a designated site so the information can be accessed by the Inspector located at the material delivery site.

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1-09.2(5) Measurement
(December 30, 2022 APWA GSP)

Revise the first paragraph to read:

Scale Verification Checks – At the Engineer’s discretion, the Engineer may perform verification checks on the accuracy of each batch, hopper, or platform scale used in weighing contract items of Work.

1-09.6 Force Account
(December 30, 2022 APWA GSP)

Supplement this section with the following:

The Contracting Agency has estimated and included in the Proposal, dollar amounts for all items to be paid per force account, only to provide a common proposal for Bidders. All such dollar amounts are to become a part of Contractor's total bid. However, the Contracting Agency does not warrant expressly or by implication, that the actual amount of work will correspond with those estimates. Payment will be made on the basis of the amount of work actually authorized by the Engineer.

1-09.7 Mobilization
(March 22, 2023 CFW GSP)

Supplement Section 1-09.7 with the following:

Obtaining a site for the Contractor’s mobilization, field office(s), storage of materials, access and personnel parking spaces, and other general operations shall be the responsibility of the Contractor. The Contractor will be responsible for maintaining these spaces in a safe and orderly condition throughout the duration of the project. The Contractor shall provide the City with a copy of agreement(s) with property owner. All costs associated with securing sites shall be included in the other bid items on the project and no other compensation will be made.

1-09.9 Payments
December 30, 2022 APWA GSP)

Section 1-09.9 is revised to read:

The basis of payment will be the actual quantities of Work performed according to the Contract and as specified for payment.

The Contractor shall submit a breakdown of the cost of lump sum bid items at the Preconstruction Conference, to enable the Project Engineer to determine the Work performed on a monthly basis. A breakdown is not required for lump sum items that include a basis for incremental payments as part of the respective Specification. Absent a lump sum breakdown, the Project Engineer will make a determination based on information available. The Project Engineer’s determination of the cost of work shall be final.

Progress payments for completed work and material on hand will be based upon progress estimates prepared by the Engineer. A progress estimate cutoff date will be established at the preconstruction conference.

The initial progress estimate will be made not later than 30 days after the Contractor commences the work, and successive progress estimates will be made every month thereafter until the Completion Date. Progress estimates made during progress of the work are tentative, and made only for the purpose of determining progress payments. The progress estimates are subject to change at any time prior to the calculation of the final payment.

The value of the progress estimate will be the sum of the following:

1. Unit Price Items in the Bid Form — the approximate quantity of acceptable units of work completed multiplied by the unit price.
2. Lump Sum Items in the Bid Form — based on the approved Contractor's lump sum breakdown for that item, or absent such a breakdown, based on the Engineer's determination.
3. Materials on Hand — 100 percent of invoiced cost of material delivered to Job site or other storage area approved by the Engineer.
4. Change Orders — entitlement for approved extra cost or completed extra work as determined by the Engineer.

Progress payments will be made in accordance with the progress estimate less:

1. Retainage per Section 1-09.9(1), on non FHWA-funded projects;
2. The amount of progress payments previously made; and
3. Funds withheld by the Contracting Agency for disbursement in accordance with the Contract Documents.

Progress payments for work performed shall not be evidence of acceptable performance or an admission by the Contracting Agency that any work has been satisfactorily completed. The determination of payments under the contract will be final in accordance with Section 1-05.1.

Failure to perform obligations under the Contract by the Contractor may be decreed by the Contracting Agency to be adequate reason for withholding any payments until compliance is achieved.

Upon completion of all Work and after final inspection (Section 1-05.11), the amount due the Contractor under the Contract will be paid based upon the final estimate made by the Engineer and presentation of a Final Contract Voucher Certification to be signed by the Contractor. The Contractor's signature on such voucher shall be deemed a release of all claims of the Contractor unless a Certified Claim is filed in accordance with the requirements of Section 1-09.11 and is expressly excepted from the Contractor's certification on the Final Contract Voucher Certification. The date the Contracting Agency signs the Final Contract Voucher Certification constitutes the final acceptance date (Section 1-05.12).

If the Contractor fails, refuses, or is unable to sign and return the Final Contract Voucher Certification or any other documentation required for completion and final acceptance of the Contract, the Contracting Agency reserves the right to establish a Completion Date

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(for the purpose of meeting the requirements of RCW 60.28) and unilaterally accept the Contract. Unilateral final acceptance will occur only after the Contractor has been provided the opportunity, by written request from the Engineer, to voluntarily submit such documents. If voluntary compliance is not achieved, formal notification of the impending establishment of a Completion Date and unilateral final acceptance will be provided by email with delivery confirmation from the Contracting Agency to the Contractor, which will provide 30 calendar days for the Contractor to submit the necessary documents. The 30 calendar day period will begin on the date the email with delivery confirmation is received by the Contractor. The date the Contracting Agency unilaterally signs the Final Contract Voucher Certification shall constitute the Completion Date and the final acceptance date (Section 1-05.12). The reservation by the Contracting Agency to unilaterally accept the Contract will apply to Contracts that are Physically Completed in accordance with Section 1-08.5, or for Contracts that are terminated in accordance with Section 1-08.10. Unilateral final acceptance of the Contract by the Contracting Agency does not in any way relieve the Contractor of their responsibility to comply with all Federal, State, tribal, or local laws, ordinances, and regulations that affect the Work under the Contract.

Payment to the Contractor of partial estimates, final estimates, and retained percentages shall be subject to controlling laws.

1-09.11(3) Time Limitation and Jurisdiction
(December 30, 2022 APWA GSP)

Revise this section to read:

For the convenience of the parties to the Contract it is mutually agreed by the parties that all claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be brought within 180 calendar days from the date of final acceptance (Section 1-05.12) of the Contract by the Contracting Agency; and it is further agreed that all such claims or causes of action shall be brought only in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction. The parties understand and agree that the Contractor's failure to bring suit within the time period provided, shall be a complete bar to all such claims or causes of action. It is further mutually agreed by the parties that when claims or causes of action which the Contractor asserts against the Contracting Agency arising from the Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-09.13 Claim Resolution

1-09.13(1) General
(December 30, 2022 APWA GSP)

Revise this Section to read

Prior to seeking claims resolution through arbitration or litigation, the Contractor shall proceed in accordance with Sections 1-04.5 and 1-09.11. The provisions of Sections 1-04.5 and 1-09.11 must be complied with in full as a condition precedent to the Contractor's right to seek claim resolution through binding arbitration or litigation.

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Any claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be resolved, as prescribed herein, through binding arbitration or litigation.

The Contractor and the Contracting Agency mutually agree that those claims or causes of action which total \$1,000,000 or less, which are not resolved by mediation, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

The Contractor and the Contracting Agency mutually agree that those claims or causes of action in excess of \$1,000,000, which are not resolved by mediation, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

1-09.13(3)A Arbitration General
(January 19, 2022 APWA GSP)

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

1-09.13(4) Venue for Litigation
(December 30, 2022 APWA GSP)

Revise this section to read:

Litigation shall be brought in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. It is mutually agreed by the parties that when litigation occurs, the Contractor shall permit the Contracting Agency to have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-10 TEMPORARY TRAFFIC CONTROL

1-10.1 General

1-10.1(2) Description
(April 12, 2018 CFW GSP)

Section 1-10.1(2) is supplemented with the following:

Business Open During Construction Signs

The Contractor shall provide a "Business Open During Construction" sign at every non-residential driveway approach within the project limits. Business Open During Construction Signs shall be considered Construction Signs Class A.

City of Federal Way Project Signs

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City of Federal Way Project signs shall be considered Construction Signs Class A. The Contractor shall provide two (2) project signs (4' x 8') per the detail available from the City.

1-10.2 Traffic Control Management

1-10.2(1) General

(October 3, 2022 WSDOT GSP, OPTION 1)

Section 1-10.2(1) is supplemented with the following:

The Traffic Control Supervisor shall be certified by one of the following:

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346
(360) 297-3035
<https://www.nwlett.edu>

Evergreen Safety Council
12545 135th Ave. NE
Kirkland, WA 98034-8709
1-800-521-0778
<https://www.esc.org>

The American Traffic Safety Services Association
15 Riverside Parkway, Suite 100
Fredericksburg, Virginia 22406-1022
Training Dept. Toll Free (877) 642-4637
Phone: (540) 368-1701
<https://altssa.com/training>

Integrity Safety
13912 NE 20th Ave
Vancouver, WA 98686
(360) 574-6071
<https://www.integritysafety.com>

US Safety Alliance
(904)705-5660
<https://www.ussafetyalliance.com>

K&D Services Inc.
2719 Rockefeller Ave.
Everett, WA 98201
(800) 343-4049
<https://www.kndservices.net>

1-10.2(2) Traffic Control Plans

(April 12, 2018 CFW GSP)

Section 1-10.2(2) is supplemented with the following:

The following minimum Traffic Control requirements shall be maintained during the construction of the project:

1. If the Contractor opts to utilize traffic control plans other than those provided in these Contract Documents, the Contractor shall provide traffic control plans to the City of Federal Way for review and approval a minimum of five (5) working days prior to implementation. These plans shall supplement Construction Staging Plans. The plans as provided by the Contractor shall include and not be limited to the following information:
 - Stop line locations with station and offset to verify safety of intersection turning radius for vehicles.
 - Minimum lane widths provided for vehicular travel.
 - Turn pocket length, gap, and tapers in conformance with the City of Federal Way Standard Detail DWG 3-19A.
2. Detours will not be allowed except as noted herein or Section 1-07.23(2) as amended.
3. Temporary paint striping, reflective marking tape, and/or retroreflective tubular markers shall be required for each shift of traffic control. The Contractor shall provide temporary striping, reflective marking tape, and/or reflective tubular markers as required at the direction of the Engineer.
4. The Contractor provided Traffic Control Plans shall lay out traffic control device spacing, tapers, etc., to scale, and shall contain accurate dimensions and legends and shall be signed by the preparer.

1-10.3 Traffic Control Labor, Procedures and Devices

1-10.3(1)C Signalized Intersection Traffic Control

(September 3, 2021 CFW GSP)

Section 1-10.3(1)C is a new section:

Signalized Intersection Traffic Control is required when a signal system is in flashing mode, or is not operational. Signalized intersection traffic may not be flagged with an active signal in full operation.

Placing a signalized intersection into flash mode requires an approved traffic control plan. Additionally, the days/times that a signal is placed into flash mode must be pre-approved by the City. The signal should only be switched into flash mode by the City. The type of work that requires signals to be placed into flash mode may include, but is not limited to: installation of signal poles, signal switchover, paving, striping, or excavation in the intersection.

The Contractor shall minimize the limits of the work zone area at intersections whenever possible in order to avoid having the signal be placed into flash mode.

Signalized Intersection Traffic Control Labor shall conform to WAC 468-95-302 and approved traffic control plans.

If flaggers are utilized to provide traffic control of signalized intersections:

- At least two flaggers are required to flag from the center of the intersection, in addition to a flagger controlling each leg of the intersection.

If off-duty Uniformed Police Officers are utilized to provide traffic control of signalized intersections:

- A uniformed police officer (UPO) is a sworn police officer from a local law enforcement agency or a Washington State Patrol officer.
- Off-duty uniformed police officers must have a marked police vehicle with them on the project site. Unmarked police vehicles or personal vehicles are not acceptable.
- There is currently no availability of UPO's from the City of Federal Way Police Department. Many other law enforcement agencies also have little to no availability of off-duty officers. No other agencies or private companies are authorized to perform off-duty work within the City without project-specific approval from the Federal Way Police Chief or his designee. If the Contractor is able to procure a UPO from another law enforcement agency that is acceptable to the Federal Way Chief of Police, a change order will be required to add a bid item for "Contractor Provided Off-Duty Uniformed Police Officer".

1-10.3(3)C Portable Changeable Message Sign

Supplement this section with the following:

The Contractor shall be responsible for providing a minimum of two (2) Portable Changeable Message Signs, double-sided, to be located at the intersection of S Dash Point Road and 16th Ave S and near the intersection of Redondo Way S and S 293rd Pl, visible to motorists entering or leaving the project area. The specific location shall be approved by the Engineer. The signs shall be placed a minimum of five (5) working days prior to Work beginning on the site and shall remain in place until the project is substantially complete. The Contractor shall be responsible for maintaining the PCMS in good working condition.

END OF DIVISION 1

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***** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com *****

DIVISION 2 EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 Description

(March 13, 1995 WSDOT GSP, OPTION 1)

Section 2-01.1 is supplemented with the following:

Clearing and grubbing on this project shall be performed within the following limits:

Limits for clearing & grubbing shall be as shown on the plans. Clearing shall include removal of trees as noted on the plans or as directed by the Engineer to accommodate the improvements. Tree removal shall include removal of stumps and/or grinding of stumps to a depth at least two feet below finish grade.

2-01.3 Construction Requirements

2-01.3(3) Clearing Limit Fence

(April 12, 2018 CFW GSP)

Section 2-01.3(3) is a new section:

Clearing limit fence shall be 4-feet high, orange, high density polyethylene fencing with mesh openings 1½-inch by 3-inches nominal and weigh at least 7 oz. per linear foot. Either wood or steel posts shall be used. Wood posts shall have minimum dimensions of 1½ inches by 1½ inches by the minimum length of 5 feet, and shall be free of knots, splits, or gouges. Steel posts shall consist of either size No. 6 rebar or larger, ASTM A 120 steel pipe with a minimum diameter of 1 inch, U, T, L or C shape steel posts with a minimum weight of 1.35 lbs./ft. or other steel posts having equivalent strength and bending resistance to the post sizes listed. The spacing of the support posts shall be a maximum of 6½ feet.

2-01.3(4) Roadside Cleanup

(January 5, 1998 WSDOT GSP, OPTION 1)

Section 2-01.3(4) is supplemented with the following:

The Contractor shall restore, repair, or correct all portions of the roadside or adjacent landscapes that were unavoidably damaged due to the performance or installation of the specified work. Unavoidable damage shall be determined only by the Engineer. All materials utilized shall be in accordance with Sections 9-14 and 9-15 and other applicable sections of the Standard Specifications or Special Provisions, whichever may apply. All work shall be performed in accordance with Sections 8-02 and 8-03 and other applicable sections of the Standard Specifications. The Contractor shall review the work with the Engineer and receive approval to proceed prior to commencing the work.

2-01.4 Measurement

Section 2-01.4 is supplemented with the following:

“Clearing and Grubbing” will be measured on a lump sum basis. Installation, maintenance, and removal of the Clearing Limit Fence shall be included in the Clearing and Grubbing bid item.

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“Tree Removal”, will be measured per each tree equal or larger to 5 inches (5”) diameter at breast height (“DBH”).

2-01.5 Payment

Section 2-01.5 is supplemented with the following:

“Clearing and Grubbing”, lump sum.

“Roadside Cleanup”, force account.

“Tree Removal”, per each and includes root removal. Trees smaller than 5-inches (5”) in DBH shall be included in “Clearing and Grubbing” per lump sum.

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.3 Construction Requirements

(September 7, 2021 WSDOT GSP, OPTION 1)

Section 2-02.3 is supplemented with the following:

Removal of Obstructions

The following miscellaneous Obstructions shall be removed and disposed of:

ITEMS TO BE REMOVED INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING: ^{1, 2}		
STATION / OFFSET	ITEM DESCRIPTION	QUANTITY
2+75, LT	Remove 12” Storm Sewer Pipe	12 LF
2+70 to 3+50, LT	Remove 32” CMP culvert	80 LF
2+70 to 3+50, LT	Remove 24” CMP culvert	80 LF
3+15, LT	Remove and Reset Fence	35 LF
3+00, LT	Abandon (fill with CDF) 12” Storm Sewer Pipe	38 LF
3+30, RT	Remove, protect and reset pole mounted EVPE detector, pole and associated equipment	1 EA
ITEMS TO BE SALVAGED TO THE CITY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:		
N/A		
¹ The above list of items to be removed and disposed of is provided for the convenience of the contractor. The contractor shall review the plans, specifications, and project site to verify other items to be removed.		
² Removal of pavements, curbs, sidewalks, concrete, and driveway approaches are included in the “Roadway Excavation Incl. Haul” bid item.		

(October 4, 2021 WSDOT GSP, OPTION 5)

Section 2-02.3 is supplemented with the following:

Removal and Disposal of Asbestos Material

In the event suspected Asbestos Containing Material (ACM) is encountered, the Contractor shall immediately notify the Engineer and the provisions of Section 1-04.7 shall apply. Prior to commencing asbestos related work, the Contractor shall obtain all permits from and provide notification to, the Washington State Department of Labor and Industries, the Washington State Department of Ecology, the local clean air agency, and other permitting and regulatory agencies with jurisdiction over the work involving asbestos as the laws, rules, and regulations require.

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The ACM shall only be disturbed under the supervision of a Washington State Certified Asbestos Supervisor (CAS). The CAS shall be certified in accordance with WAC 295-65-012.

The CAS shall supervise the asbestos removal and ensure that the handling and removal of asbestos is accomplished by certified asbestos workers and in accordance with Washington State Department of Labor and Industries standards. The Contractor shall ensure that the removal and disposal of asbestos meets the requirements of EPA regulation 40 CFR Part 61, local health department regulations, and all other applicable regulations.

No asbestos is expected to be encountered. However, if the Contractor believes they have encountered asbestos, they shall immediately notify the Engineer in accordance with Section 1-04.7.

2-02.3(4) Removal of Drainage Structures
(April 12, 2018 CFW GSP)

Section 2-02.3(4) is a new section:

Where shown in the Plans or where designated by the Engineer, the Contractor shall remove existing catch basins, manholes, pipes, and other drainage features in accordance with Section 2-02 of the Standard Specifications. Removal shall be conducted in such a manner as to prevent damage to surrounding facilities including any existing storm sewers, sanitary sewers, electrical conduits, or other facilities to remain. All remaining facilities including but not limited to storm sewers, sanitary sewers, monuments, valves, vaults, and electrical conduits damaged due to the Contractor's operations shall be replaced by the Contractor to the satisfaction of the Engineer at no additional cost to the Contracting Agency. Catch basins, manholes, and other drainage structures designated for removal, including all debris, shall be completely removed. All removed catch basins, manholes, and other drainage structures shall become the property of the Contractor and shall be disposed of in accordance with Section 2-02 of the Standard Specifications. All undamaged frames, grates, and solid covers in a re-useable condition shall become the property of the City of Federal Way and shall be delivered to a location specified by the Engineer.

Sawcutting (full depth) of existing asphalt concrete pavement and cement concrete curb and gutter surrounding the structure required for removal will be considered incidental to the removal of the catch basin, manhole, or other drainage structures. Sawcuts shall be in accordance with Section 2-02 of these Special Provisions.

Backfilling of catch basins, manholes, pipes, and other drainage structures to be removed and replaced shall not be performed until the new structure is installed and shall be in accordance with Section 7-05. Backfilling of a structure to be replaced shall be considered incidental to the construction and installation of the new catch basin, manhole, or other drainage structure. Backfilling of catch basins, manholes, pipes, and other drainage structures to be completely removed shall be performed using gravel borrow paid in accordance with the Bid Schedule.

Prior to backfilling any voids, the Contractor shall remove pipe as noted in the plans. Pipe shown to be abandoned or ordered by the Engineer to be abandoned shall be filled with CDF in accordance with Section 2-09.3(1)E of the Standard Specifications. Plugging pipe ends shall be considered incidental and included in the pipe removal and no additional payment will be made.

The Contractor shall maintain existing drainage, where designated by the Engineer, until the new drainage system is completely installed and functioning.

2-02.5 Payment

(December 1, 2021 CFW GSP)

Section 2-02.5 is supplemented with the following:

Payment will be made in accordance with Section 1-04.1 for the following bid items when included in the proposal:

“Removal of Structure and Obstruction”, lump sum. Structure Excavation Class B for the removal of items shall be considered included in this bid item.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.3 Construction Requirements

Section 2-03.3(10) Selected Material

(April 12, 2018 CFW GSP)

Section 2-03.3(10) is supplemented with the following:

Selected Material when specified or required by the Engineer for use on the project shall meet the requirements of specified in Section 9-03.14(3) for Common Borrow.

Section 2-03.3(14)E Unsuitable Foundation Excavation

Section 2-03.3(14)E is supplemented with the following:

All embankments shall be founded on dense, non-yielding granular foundation soil as approved by the engineer. Remove all organic materials and debris, trash, or other deleterious material prior to beginning construction of new embankments. Proof roll or probe the foundation.

Section 2-03.3(14)G Backfilling

Section 2-03.3(14)G is supplemented with the following:

Remove all water and non-compatible materials from excavations prior to backfilling or attempting to compact embankment soil. Provide import Gravel Borrow as required to complete the work. Backfill all embankments with maximum 1 foot thick lifts and compact to 90 percent of the maximum density as determined by the compaction control tests described in Section 2-03.3(14)D.

2-03.3(14)M Excavation of Channel and Ditches

Section 2-09.3(14)M is supplemented with the following:

All creek related excavation shall be channel excavation, regardless of width.

Dewatering of channel excavations shall meet the requirements of Section 2-09.3.

Section 2-03.3(14)N Wet Weather Earthwork

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(April 12, 2018 CFW GSP)

Section 2-03.3(14)N is a new section:

Earthwork completed in wet weather or under wet conditions shall be accomplished in small sections to minimize exposure to wet weather. Each section shall be sufficiently small so that the removal of soil and placement of backfill can be accomplished on the same day. No soil shall be left un-compacted and exposed to water. Soil that is too wet for compaction shall be removed and replaced with Gravel Borrow material. Grading and earthwork should not be accomplished during periods of heavy continuous rainfall.

2-03.4 Measurement

(March 13, 1995 WSDOT GSP, OPTION 2)

Section 2-03.4 is supplemented with the following:

Only one determination of the original ground elevation will be made on this project. Measurement for roadway excavation and embankment will be based on the original ground elevations recorded previous to the award of this contract.

If discrepancies are discovered in the ground elevations, which will materially affect the quantities of earthwork, the original computations of earthwork quantities will be adjusted accordingly.

Earthwork quantities will be computed, either manually or by means of electronic data processing equipment, by use of the average end area method or by the finite element analysis method utilizing digital terrain modeling techniques.

Copies of the ground cross section notes will be available for the bidder's inspection, before the opening of bids, at the Engineer's office and at the Region office.

Upon award of the contract, copies of the original ground cross sections will be furnished to the successful bidder on request to the Engineer.

(April 12, 2018 CFW GSP)

Section 2-03.4 is supplemented with the following:

If the Contractor excavates outside the neat-line limits designated for "Roadway Excavation, Incl. Haul" or performs extra excavation, it shall be considered for the Contractor's benefit and shall be included in the cost of other Bid Items.

2-03.5 Payment

(March 13, 1995 WSDOT GSP, OPTION 2)

Section 2-03.5 is supplemented with the following:

All costs in connection with the preparation of waste sites and waste deposits shall be included in the Mobilization.

Payment will be made in accordance with Section 1-04.1 for the following bid items when included in the proposal:

"Roadway Excavation Incl. Haul", per cubic yard.

"Channel Excavation Incl. Haul", per cubic yard.

2-09 STRUCTURE EXCAVATION

2-09.2 Materials

Section 2-09.2 is supplemented with the following:

All materials shall be as detailed in the Contractor's Dewatering Plan.

2-09.3 Construction Requirements

2-09.3(1) General Requirements

Section 2-09.3(1) is supplemented with the following:

All shoring, including sheeting and bracing, or equivalent trench stabilization and worker protection system required to perform and protect the excavation, and to safeguard the personnel who may enter the excavation, shall be furnished by the Contractor. If workers enter any trench or other excavation four feet (4') or more in depth that does not meet the open pit requirements as generally set forth in Section 2-09.3(3)B, it shall be shored.

The Contractor alone shall be responsible for worker safety, and the Contracting Agency assumes no responsibility therefore.

Upon completing the Work, the Contractor shall remove all shoring, unless otherwise shown in the Plans or directed by the Engineer.

The Contractor is advised that the Contracting Agency has not so delegated, and the Engineer does not purport to be, a trench excavation system safety expert, is not so engaged in that capacity under this Contract, and has neither the authority nor the responsibility to enforce construction safety laws, rules, regulations, or procedures, or to order the suspension of work for claimed violations of trench excavation safety.

The furnishing by the Contracting Agency of resident project representation and inspection shall not make the Contracting Agency responsible for the enforcement of such laws, rules, regulations, or procedures, nor shall such make the Contracting Agency responsible for construction means, methods, techniques, sequences, procedures, or for the Contractor's failure to properly perform the Work necessary for proper trench excavation.

Dewatering: The work shall include designing and performing construction dewatering to provide and maintain excavations sufficiently free of groundwater, and in a hydrostatic condition, to complete the required construction. Dewatering shall include the designing, installing, testing, operating, maintaining, and removing dewatering systems to achieve proper completion of construction.

2-09.3(1)D Disposal of Excavated Material ***(March 17, 2020 CFW GSP)***

Replace the third paragraph with the following:

If the Contract includes Structure Excavation, Class A or B, including haul; Shoring or Extra Excavation, Class A or B; or Trench Safety System, the unit contract price shall include all costs for loading and hauling excavated materials to a permitted disposal site, or to and from a temporary stockpile. Any such stockpiled materials, either suitable or designated for incorporation into the project, shall be handled in accordance with Section 2-09.3(1)E.

2-09.3(3) Construction Requirements, Structure Excavation, Class A

2-09.3(3)F Trench Safety Systems **(March 17, 2020 CFW GSP)**

Add the following new subsection:

The Contractor shall provide all materials, labor, and equipment necessary to shore trenches to protect the Work, and existing improvements and natural features not designated for removal, and to provide safe working conditions in the trench. The Contractor may elect to use any combination of shoring and overbreak, tunneling, boring, sliding trench shield, or other method of accomplishing the Work consistent with applicable local, State, or Federal safety codes.

If workers enter any trench four (4) feet or more in depth that does not meet the open pit requirements of Section 2-09.3(3)B, the excavation shall be shored as provided in Section 2-09.3(4). The Contractor alone shall be responsible for worker safety, and the Contracting Agency assumes no responsibility.

Upon completing the Work, the Contractor shall remove all shoring unless the Plans or the Engineer direct otherwise.

Shoring to be removed, or moveable trench shields or boxes, shall be located at least two and one-half (2-1/2) pipe diameters away from metal or thermoplastic pipe if the bottom of the shoring, shield, or box extends below the top of the pipe, unless a satisfactory means of reconsolidating the bedding or side support material disturbed by shoring removal can be demonstrated.

Damages resulting from improper shoring or failure to shore shall be the sole responsibility of the Contractor.

The furnishing by the Contracting Agency of resident project representation and inspection shall not make the Contracting Agency responsible for the enforcement of such laws, rules, regulations, or procedures, nor shall such make the Contracting Agency responsible for construction means, methods, techniques, sequences, procedures, or for the Contractor's failure to properly perform the Work necessary for proper trench excavation safety.

2-09.3(5) Dewatering

(*****)

Section 2-09.3(5) is supplemented with the following:
The Contractor shall:

Install, operate, and maintain the dewatering system in accordance with the approved plan. A copy of the Plan shall be on the project site at all times.

1. Maintain water levels at or below excavation and structure base elevations. Areas of unworkable or unstable subgrades and side slopes due to inflow of groundwater, high water table, or localized areas of perched water shall be evidence of insufficient dewatering.
2. Provide sufficient number of pumps in good working condition with adequate capacity at the site. Standby pumps and power or fuel supply shall be on hand at all times. Provide appropriate sumps, ditches, pipes, hoses, fittings, and flow discharge protection where necessary. The Contractor shall have available at all times competent workers for the continuous and successful operation of the dewatering and monitoring systems. The Contractor shall have available within 1 hour's need sufficient pumping equipment and machinery for emergencies, including power outage (if applicable).
3. If pumps other than electric are used and if the pumps are operated at night, they shall be critically silenced with operating decibel levels not to exceed 80dB measured at 50 feet from the equipment.
4. Prevent erosion at discharge point(s).
5. Test equipment by demonstrating system operation.
6. Maintain the dewatering system during construction as required.
7. Operate, maintain and monitor the dewatering system. System maintenance shall include, but not be limited to, at least daily supervision by some responsible person skilled in the operation, maintenance, and monitoring of flows from wells and sumps, replacement of system components, and any other work required to maintain the performance of the system. Maintain records of system operation, including areas worked, hours operated, and estimated flows.

Dewatering Submittals

The Contractor shall submit to the Engineer a dewatering plan describing the method, installation and details of the dewatering system the Contractor proposes to use. Review by the Engineer of the method, installation, and operation and maintenance details submitted by the Contractor shall not in any way be considered to relieve the Contractor from full responsibility for errors therein or from the entire responsibility for complete and adequate performance of the system in controlling the water level in the excavated areas. The Contractor shall be solely responsible for proper design, installation, operation, protection, maintenance, and any failure of any component of the dewatering system for this Contract. The Contractor shall submit the dewatering plan to the Engineer for review a minimum of 14 days prior to the start of excavation at the site.

Electrical Supply for Dewatering System

If used, the electrical service used for dewatering shall be supplied by the Contractor and shall be separate from all other Contractor electrical requirements.

The Contractor shall be responsible for maintaining all electric power service (if applicable) connections to the dewatering system components.

Dewatering Discharge

The Contractor shall dispose of all water in a manner that is compliant with all pertinent permitting and regulatory requirements. Comply with water quality standards in the project permits and as otherwise regulated by law. The Contractor, at their own cost shall be responsible for the repair and/or maintenance of any damage or erosion caused by dewatering efforts.

The lump sum contract price for "Dewatering" shall be full pay for performing the work as specified, including furnishing, installation, operation, maintenance, removal of the dewatering system, and repair of damage or erosion caused by dewatering activities.

2-09.4 Measurement

Section 2-09.4 is supplemented with the following:

Shoring or Extra Excavation Class B for Storm Drain Pipe will be measured for payment only when the excavation is four feet (4') or deeper completed to install storm drain pipe in a separate trench from the culvert excavation.

Shoring or Extra Excavation Class B for Storm Drain Pipe will measured and paid per square foot based upon the following calculation:

Depth: Actual trench depth from existing ground to bottom of pipe zone bedding, only when this dimension is four feet (4') or greater.

Length: Linear foot of trench excavated to a depth of four feet (4') or greater along the centerline of the structure installed.

Depth shall be measured only once, not for both sides of the excavation.

Area (sf): Depth x Length

No unit of measurement shall apply to the lump sum price for "Trench Safety System".

Section 2-09.4 is supplemented with the following:

No specific unit of measure will be made for the lump sum item "Dewatering."

2-09.5 Payment

(March 17, 2020 CFW GSP)

Replace the fifteenth paragraph with the following:

“Trench Safety System”, lump sum.

If there is no bid item for Shoring or Extra Excavation, Class B on a square foot basis and the nature of the excavation is such that shoring is required then the lump sum contract price for “Trench Safety System” shall be full payment for:

- 1) All temporary shoring or equivalent trench stabilization including all design and engineering fees.
- 2) Furnishing, constructing, and removing all temporary shoring or equivalent trench safety systems.

Section 2-09.5 is supplemented with the following:

“Dewatering,” lump sum.

“Controlled Density Fill”, per cubic yard placed.

“Shoring or Extra Excavation Class B for Storm Drain Pipe”, per square foot.

The unit contract price per square foot for “Shoring or Extra Excavation Class B for Storm Drain Pipe” shall be full pay for furnishing, placing, moving, and removing temporary shoring, or equivalent trench stabilization and worker protection system, and for all excavation, backfill, compact, and other work required when extra excavation is used in lieu of such temporary shoring or equivalent trench safety system. If select backfill material is required for backfilling within the limits of the excavation, it shall also be required as backfill material for the extra excavation at the Contractor’s expense.

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**DIVISION 3
AGGREGATE PRODUCTION AND ACCEPTANCE**

3-01 PRODUCTION FROM QUARRY AND PIT SITES

3-01.4 Contractor Furnished Material Sources

3-01.4(1) Acquisition and Development

(April 12, 2018 CFW GSP)

Section 3-01.4(1) is supplemented with the following:

No source has been provided for any materials necessary for the construction of these improvements.

If the source of material provided by the Contractor necessitates hauling over roads other than City streets, the Contractor shall, at his own cost and expense, make all arrangements for the use of haul routes.

END OF DIVISION 3

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***** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com *****

DIVISION 4 BASES

4-04 BALLAST AND CRUSHED SURFACING

4-04.3 Construction Requirements

4-04.3(3) Mixing

(April 12, 2018 CFW GSP)

Item 2 of Section 4-04.3(3), is replaced with the following:

2. **Road Mix Method** - The road mix method of mixing surfacing material will not be allowed.

4-04.3(4) Placing and Spreading

(April 12, 2018 CFW GSP)

Item 2 of Section 4-04(4), is replaced with the following:

2. **Road Mix Method** - The road mix method of mixing surfacing material will not be allowed.

4-04.5 Payment

(January 19, 2024 CFW GSP)

Section 4-04.5 is supplemented with the following:

The unit contract price for Ballast and Crushed Surfacing, Shoulder Finishing, and Maintenance Rock shall also include hauling, compacting, spreading, and removing to waste when required by the Engineer.

END OF DIVISION 4

DIVISION 6 STRUCTURES

6-02 CONCRETE STRUCTURES

6-02.3 Construction Requirements

6-02.3(2)A Contractor Mix Design ***(December 16, 2022 CFW GSP)***

The first sentence of the first paragraph of Section 6-02.3(2)A is deleted and replaced with the following:

The Contractor shall provide a mix design in writing to the Engineer for all classes of concrete.

6-02.3(2)B Commercial Concrete ***(December 16, 2022 CFW GSP)***

The last sentence of the first paragraph of Section 6-02.3(2)B is deleted and replaced with the following:

Commercial concrete requires mix design and source approvals for cement, aggregate, and other admixtures.

Section 6-02.3(2)B is supplemented with the following:

The concrete class requirements in paragraph one and two are applicable for Type I/II Portland cement. See Section 9.01.2(1)B for requirements for Type 1L cement.

6-16 SOLDIER PILE AND SOLDIER PILE TIEBACK WALLS

6-16.3 Construction Requirements

6-16.3(8) Concrete fascia panel

Section 6-16.3(8) is supplemented with the following:

The Contractor shall construct cement concrete fascia as detailed in the Plans utilizing a formliner in accordance with Section 6-02 of these Special Provisions.

Contractor shall apply a solvent-based sealer with matte finish, per the manufacturer's directions, to the entire concrete fascia.

Anti-graffiti coating shall be a non-sacrificial, clear, UV stable, anti-graffiti sealer suitable for vertical and horizontal concrete and rough stone surfaces and shall have the following characteristics:

Meet or exceeding ASTM D6578 Graffiti test

Non-reactive, zero VOC, AQMD, and CARB compliant

Allow moisture vapor to escape while not allowing moisture to penetrate

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Contractor shall submit product data and manufacturer for Anti-graffiti Coating to the Engineer for approval at least 14 calendar days prior to beginning construction of the Concrete Fascia Panels.

6-16.5 Payment

Section 6-16.5 is supplemented with the following:

“Concrete Fascia Panel”, per square foot.

All costs in connection with constructing the concrete fascia panels as specified shall be included in the unit Contract price per square foot for “Concrete Fascia Panel”, including all steel reinforcing bars, premolded joint filler, polyethylene bond breaker strip, joint sealant, PVC pipe for weep holes, exterior surface finish, pigmented sealer, formliner, and anti-graffiti coating.

END OF DIVISION 6

**DIVISION 7
DRAINAGE STRUCTURES, STORM SEWERS,
SANITARY SEWERS, WATER MAINS, AND CONDUITS**

7-01 DRAINS

7-01.1 Description

(April 12, 2018 CFW GSP)

Section 7-01.1 is supplemented with the following:

This work consists of removing and installing storm sewer pipes.

7-01.3 Construction Requirements

7-01.3(3) Cleanouts and Fittings for Drain and Underdrain Pipe

(April 12, 2018 CFW GSP)

Section 7-01.3(3) is a new section:

The Contractor shall install cleanouts at the terminal end of any drain or underdrain pipe not entering into a drainage structure. Cleanouts shall be installed at 150' maximum spacing with a maximum of two (2) cleanouts per section of drain or underdrain pipe.

7-01.3(4) Abandon Existing pipe

(**)***

Section 7-01.3(4) is a new section:

The Contractor entirely fill to be abandoned pipe with controlled density fill. Their shall be no air voids within the pipe or pipe ends.

7-04 STORM SEWERS

7-04.2 Materials

(December 16, 2022 CFW GSP)

Section 7-04.2 is supplemented with the following:

Ductile Iron Storm Sewer Pipe 9-05.13

7-04.3 Construction Requirements

7-04.3(1) Cleaning and Testing

(April 12, 2018 CFW GSP)

Section 7-04.3(1) is supplemented with the following:

Cleaning and testing of storm sewer pipe shall be in accordance with Section 7-04.3(1) of the Standard Specifications, except as modified herein:

Any departures from the best construction practices by the Contractor, such as pipe line misalignment, presence of foreign matter in the pipes or catch basins, poor catch basin construction, etc., shall be corrected by the Contractor at the Contractor's own expense. Testing will not be authorized until such corrections have been made to the satisfaction of the Engineer.

7-04.5 Payment

Section 7-04.5 is supplemented with the following:

The unit contract price per linear foot of storm sewer pipe of the type and size specified shall be full pay for furnishing all tools, labor, and equipment, and materials necessary for its complete installation, including, but not limited to: sawcutting for trench, sawcutting for "T-Cut" for trench restoration, pavement removal, trench excavation, dewatering (if required), temporary flow bypass, laying pipe, cutting pipe, pipe bedding, furnishing and installing imported trench backfill, compaction, connection to new or existing storm sewer pipes or new drainage structures, penetration of wing wall(s), splash pad and associated excavation and haul of materials, geotextile and/or streambed cobbles, haul and disposal of trench material to be wasted including unsuitable material, cleaning and testing, and costs related to maintaining existing drainage system during construction or to provide temporary drainage systems.

90 percent of payment will be made once the storm sewer pipe is installed. The remaining 10 percent will be paid once pipe testing has been completed with satisfactory results. The engineer will have the discretion to adjust these payment percentages as may be appropriate. Payment percentages may be adjusted for any reason the engineer deems necessary, including but not limited to, a high number of unsatisfactory test results.

7-05 MANHOLES, INLETS, CATCH BASINS, AND DRYWELLS

7-05.3 Construction Requirements

7-05.3(3) Connections to Existing Manholes ***(April 12, 2018 CFW GSP)***

Section 7-05.3(3) is supplemented with the following:

The requirements of this section shall also apply to connections to existing catch basins.

7-05.3(5) Connections to Existing Pipe ***(April 12, 2018 CFW GSP)***

Section 7-05.3(5) is a new section:

The contractor shall connect (or reconnect) existing pipes to new manholes or catch basins without obstructing flow from upstream locations.

7-05.3(6) Cleaning ***(April 12, 2019 CFW GSP)***

Section 7-05.3(6) is a new section:

Prior to final project acceptance by the City, the Contractor shall be responsible to ensure the sumps of all manholes, inlets, catch basins, and drywells are clean of sediment and debris.

7-05.5 Payment

Section 7-05.5 is supplemented with the following:

The unit contract price for catch basins and/or manholes shall be full pay for furnishing all labor, tools, equipment, and materials necessary to complete each unit according to the Plans and Specifications. This includes all sawcutting, pavement removal and disposal,

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excavation, dewatering (if required), temporary flow bypass, connections to existing and new pipe, foundation material, bedding, imported backfill, compaction, surface restoration, testing, cleaning, and furnishing and placing of all accessories and conversion risers, temporary patching hot mix to allow for the passage of traffic, and other items as applicable. Frames and grates or rings and covers, grade rings and adjustment risers including conversion risers, and non-slip MMA coating for new lids in accessible surfaces shall be considered incidental to this bid item and will not be measured for separate payment. 50 percent of payment will be made once the catch basin or manhole is installed and the pipe inlets and outlets are grouted. The remaining 50 percent will be paid once risers/rings are grouted to the satisfaction of the City, the frame/grate is installed, and non-slip MMA coating is applied.

The unit contract price for "Connection to Drainage Structure" applies to connecting new storm drain pipe to existing storm drainage catch basins and manholes and includes all labor, tools, equipment, and materials necessary to core drill the existing drainage structure and provide the necessary pipe connection. Any associated sawcutting, pavement removal and disposal, excavation, imported backfill, compaction, pavement restoration, and temporary flow bypass are incidental to this bid item.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.3(1)A Trenches

(March 22, 2023 CFW GSP)

Section 7-08.3(1)A is supplemented with the following:

Where water is encountered in the trench, it shall be removed during pipe-laying operations and the trench so maintained until the ends of the pipe are sealed and provisions are made to prevent floating of the pipe. Trench water or other deleterious materials shall not be allowed to enter the pipe at any time.

Trenching may disturb existing pavement markings that are not shown to be replaced on the plans. All such pavement markings damaged by trenching shall be repaired after trenching is backfilled and restored. The new pavement markings shall match the damaged pavement marking. All pavement marking repair cost shall be incidental to the pipe installation, including all necessary labor and materials.

7-08.3(3) Backfilling

(December 16, 2022 CFW GSP)

Section 7-08.3(3) is supplemented with the following:

Initial backfilling shall be performed only after inspection and approval of the installed pipe. Backfill shall be accomplished in such a manner that the pipe is not damaged by impact or overloading. Water settling will not be permitted.

If there is an excess of acceptable backfill material obtained from trench excavation at one location on the project, the Contractor may request approval from the City to use it at other locations on the project. Native backfill stockpiles shall be protected to prevent excessive wetting. The cost of transporting the excess backfill material shall be considered incidental to the pipe or structure backfilled.

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DIVISION 8 MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

8-01.3 Construction Requirements

8.01.3(1) General

(April 12, 2018 CFW GSP)

The first paragraph of 8-01.3(1) is deleted and replaced with the following:

The Contractor shall install a high visibility fence along the right-of-way lines shown in the Plans or as instructed by the Engineer.

8-01.3(1)B Erosion and Sediment Control (ESC) Lead

(October 3, 2022 WSDOT GSP, OPTION 1)

Item number 3 and 4 in the second paragraph of Section 8-01.3(1)B are revised to read:

3. Submit to the Engineer no later than the end of the next working day following the inspection a TESC Inspection Report that includes:
 - a. When, where, and how BMPs were installed, maintained, modified, and removed.
 - b. Observations of BMP effectiveness and proper placement.
 - c. Recommendations for improving future BMP performance with upgraded or replacement BMPs when inspections reveal TESC BMP deficiencies.
 - d. Identify for each discharge point location whether there is compliance with state water quality standards in WAC 173-201A for turbidity and pH.

8-01.3(2) Seeding, Fertilizing, and Mulching

8-01.3(2)B Seeding and Fertilizing

(September 3, 2019 WSDOT GSP, OPTION 3)

Section 8-01.3(2)B is supplemented with the following:

Grass seed shall be a commercially prepared mix, made up of low growing species which will grow without irrigation at the project location, and approved by the Engineer. The application rate shall be two pounds per 1000 square feet. Fertilizer shall be a commercially prepared mix of 10-20-20 and shall be applied at the rate of 10 pounds per 1000 square feet.

8-01.5(2) Item Bids

Section 8-01.5(2) is supplemented with the following:

“Biofilter Bags”, per each.

“High Visibility Fence,” per linear foot.

“Biodegradable Erosion Control Blanket,” per square yard.

“Compost Sock”, per linear foot.

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8-02 ROADSIDE RESTORATION

8-02.1 Description

(April 12, 2018 CFW GSP)

The first paragraph of Section 8-02.1 is revised to read:

All plant materials required by the Bid Documents shall be plant species including plant establishment (PSIPE) per the Standard Specifications.

8-02.2 Materials

Section 8-02.2 is supplemented with the following:

Topsoil Type A	9-14.2(1)
Seed	9-14.3
Fertilizer	9-14.4
Fine Compost	9-14.5(8) of the Standard Specifications
Arborist Mulch	9-14.5(3)A
Biodegradable Erosion Control Blanket	9-14.6(2)
Compost Sock	9-14.6(6)

8-02.3 Construction Requirements

8-02.3(1) Responsibility During Construction

(April 12, 2018 CFW GSP)

Section 8-02.3(1) is supplemented with the following:

Landscape construction is anticipated to begin after all curbs, sidewalks, walls, and associated roadside work is completed. Landscape materials shall not be installed until weather permits and installation has been authorized by the Engineer. If water restrictions are anticipated or in force, planting of landscape materials may be delayed.

Throughout planting operations, the Contractor shall keep the premises clean, free of excess soils, plants, and other materials, including refuse and debris, resulting from the Contractor's work. At the end of each work day, and as each planting area is completed, it shall be neatly dressed, and all surrounding walks and paved areas shall be cleaned to the satisfaction of the Engineer. No flushing will be allowed. At the conclusion of work, the Contractor shall remove surplus soils, materials, and debris from the construction site and shall leave the project in a condition acceptable to the Engineer.

8-02.3(5) Planting Area Preparation

Section 8-02.3(5) is supplemented with the following:

Thoroughly scarify subgrade in all areas to be seeded or planted to a minimum depth of six-inches (6") except with Restoration Planting Area Type 1 or within critical root zones of existing trees to remain. Scarified subgrade shall be inspected and approved by the Engineer prior to the placement compost. Remove all construction debris and rocks over 2-inches (2") in diameter prior to placing compost.

Scarified subgrade shall be inspected and approved by the Engineer prior to placement of compost. Upon approval of the subgrade, Fine Compost shall be installed to a minimum depth of 3 inches. In Restoration Seeding Area and Restoration Planting Area Type 2, fine compost shall be tilled into the top 6-inches (6)" of prepared subgrade. In Restoration Planting Area Type 1, no tilling required.

Lightly compact soil and establish a smooth and uniform finished grade to allow surface drainage and prevent ponding.

The areas shall be brought to a uniform grade, 1 inch, or the specified depth of mulch, below walks, curbs, junction and valve boxes, and driveways, unless otherwise specified.

The costs of removing all excess material and debris shall be considered incidental to and included in the unit contract prices of other items in this contract.

8-02.3(6)B Fertilizers

Section 8-02.3(6)B is supplemented with the following:

All fertilizers shall be furnished in standard unopened containers with weight, name of plant nutrients, and manufacturer's guaranteed statement of analysis clearly marked, in accordance with State and Federal law.

Seeded areas, trees, and shrubs shall be fertilized at a rate according to fertilizer manufacturer's recommendations.

8-02.3(8) Planting

Section 8-02.3(8) is supplemented with the following:

Trees shall be handled by the rootball, not by the trunk. Burlap and wire shall remain intact until trees are set in their final positions within each planting pit.

Plant trees and shrubs upright and rotate in order to give the best appearance or relationship to adjacent plants, topography, and structures. Hold plant rigidly in position until topsoil has been backfilled and water settled free of voids and air pockets and tamped firmly around the ball or roots.

When the pit is backfilled halfway, place the specified quantity of fertilizer plant tablets and stakes as shown on the Plans. Evenly space the fertilizer tablets around the perimeter of, and immediately adjacent to the root system. Carefully place water and compact planting topsoil, filling all voids. Tree root crowns to be 1-inch (1)" higher than finished grade to allow for settlement.

When the planting pit is three quarters backfilled, fill with water and allow water to soak away. Fill the pits with additional topsoil to finish grade and continue backfilling as detailed on the Plans. Water trees immediately after planting.

Within Restoration Planting Area Type 1, planting pit shall be amended with Fine Compost as detailed on the Plans.

8-02.3(11) Bark or Wood Chip Mulch

Section 8-02.3(11) is supplemented with the following:

Arborist Mulch shall be placed over all planting areas to a depth no less than three (3) inches, or as detailed on the Plans. Thoroughly water and hose down plants with a fine spray to wash the leaves of the plants immediately after application.

8-02.3(17) Work Access Landscape Restoration

(*****)

Section 8-02.3(17) is a new section:

Work Access Landscape Restoration shall consist of soil amendment, fine grading and restoration of native vegetation areas disturbed for the purpose of site access, outside of the established clearing limits as shown on the Plans.

Disturbed areas shall be restored in the same manner as Restoration Areas shown on the plans. Soil amendment shall be Fine Compost and mulch shall be Arborist Mulch, per these Special Provisions. Plant selection and layout to be approved in the field by the Engineer.

All materials shall conform to Sections 9-14 Erosion Control and Roadside Planting and 9-15 Irrigation System of the Standard Specifications.

The Contractor is specifically reminded that any unnecessary damage caused by construction activities will be repaired at the Contractor's expense.

8-02.4 Measurement

Section 8-02.4 is supplemented with the following:

Arborist mulch and compost will be measured by the cubic yard in the haul conveyance at the point of delivery.

Seeding will be measured in square yards of actual lawn completed, established, and accepted.

Plant material will be measured per each plant installed and accepted by the Engineer.

"Work Access Landscape Restoration" will be paid by force account and must be approved by the Engineer prior to completing the work.

Fertilizer shall be incidental to other bid items unless specifically listed as a bid item.

Replace the last sentence of section 8-02.4 with the following:

Water will not be considered for measurement.

8-02.5 Payment

Section 8-02.5 is supplemented with the following:

"Fine Compost", per cubic yard. The unit contract price shall be full pay for furnishing, spreading, and incorporating the compost.

"Arborist Mulch", per cubic yard. The unit contract price shall be full pay for furnishing and spreading the mulch.

"Seeded Lawn" per square yard. The unit contract price will include all preparation, fertilizer, establishment, and mowing as called for in the specifications.

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“PS _____”, per each.

“Work Access Landscape Restoration” per force account.

Water use for watering tree, plantings and other items noted in 8-02 shall not be considered for payment.

8-30 WATER CROSSINGS

8-30.3 Construction Requirements

8-30.3(2) Mixing of Streambed Aggregates

Supplement this section with:

Streambed Mix 1 shall be a well-blended mix of the following aggregates with the associated ratios:

Streambed Sediment:	20%, by volume
Streambed Cobble 12 In.:	50%, by volume
Streambed Boulder Type 1:	30%, by volume

Streambed Mix 2 shall be a well-blended mix of the following aggregates with the associated ratios:

Streambed Sediment:	20%, by volume
Streambed Cobble 12 In.:	50%, by volume
Streambed Boulder Type 1:	10%, by volume
Streambed Boulder Type 2:	10%, by volume
Streambed Boulder Type 3:	10%, by volume

Acceptance of the final mixture will be based upon visual inspection by the Engineer. The Contractor shall provide notice to the Engineer of readiness for inspection of component materials and final mixed material prior to delivering material to the site. Engineer shall approve materials before first deliver to site.

Streambed aggregate will be rejected is non-conforming, such as if the components are not well-graded or if the mix is deficient in large size stones. The Contractor shall take care that the final mix of streambed aggregate including boulders is not gap graded at the 10-12 inch fraction due to stones being excluded due to using grizzly screen.

Streambed Mix 2 shall be brought to the site without Streambed Boulders Types 2 and 3, with Streambed Boulders Types 2 and 3 added during aggregate placement.

Evaluate each load of streambed aggregate received on site, and placed, to verify the material received in the field conforms to specified requirements, including that it meets the specified gradation (well-graded mix of stones of specified sizes to resist erosion) and has sufficient fines (to avoid subsurface flow of water upon re-watering of channel). Reject non-conforming material including material with debris, stones with poor quality due to fractures or inherent weakness, fractured riprap type material, undersized material, poorly graded material, and material lacking sufficient fines.

8-30.3(3)B Placing Blended Streambed Aggregates in Streambed

Supplement this section with:

Place streambed aggregate in 1.5-foot-thick lifts (dumped in place from minimal height with minimal grading/reworking) to prevent segregation of stones by size.

Streambed Mix 2 Placement: First place 33 percent of quantity of Streambed Boulder Type 2 and 33 percent of quantity of Streambed Boulder Type 3 on subgrade and then place initial 1.5 foot lift of Streambed Mix 2. Next, place 33 percent of quantity of each of Streambed Boulder Type 3 into small pits excavated 0.5 feet deep into initial lift of Streambed Mix 2. Then place the remaining quantity of Streambed Boulder Type 2 and Streambed Boulder Type 3 on top of first lift of Streambed Mix 2. Finally, place the remainder of Streambed Mix 2.

All Streambed Boulders Types 2 and 3 shall be installed with random orientation (not all laying with longest dimension horizontal), except that Type 3 boulders installed in the uppermost layer shall not be installed with the longest dimension oriented vertically. Adjust boulder locations to accommodate other stream elements including large wood structures and resting pools.

Placement of Streambed Aggregate shall be completed to ensure that low stream flows are conveyed above the finished channel. Before, during, and after placement of each lift of Streambed Aggregate, the Contractor shall apply water to facilitate filling the interstitial voids of the Streambed Aggregate with Streambed Sand as specified or approved by the Engineer. Comply with re-watering provisions in permits. The voids are satisfactorily filled with Streambed Sediment when water equivalent to the flow rate of the stream does not go subsurface. If water is not present in the stream, the Contractor shall apply water and Streambed Sand to the stream channel for visual acceptance by the Engineer.

8-30.4 Measurement

Streambed Sediment will be measured per ton.

Streambed Sand will be measured per ton.

Streambed Cobbles 12 In. will be measured per ton.

Streambed Boulder Type 1 will be measured per each.

Streambed Boulder Type 2 will be measured per each.

Streambed Boulder Type 3 will be measured per each.

Streambed Boulder Type 1 (Channel Edge) will be measured per each.

Streambed Boulder Type 2 (Channel Edge) will be measured per each.

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8-30.5 Payment

Payment will be made in accordance with Section 1-04.1, for each of the following Bid items that are included in the Proposal:

“Streambed Sediment,” per ton
“Streambed Sand” per ton
“Streambed Cobbles 12 in.,” per ton
“Streambed Boulder Type 1,” per each

“Streambed Boulder Type 2,” per each
“Streambed Boulder Type 3,” per each
“Streambed Boulder Type 1 (Channel Edge),” per each
“Streambed Boulder Type 2,(Channel Edge),” per each

The unit Contract price per ton for “Streambed Sediment,” “Streambed Sand,” “Streambed Cobbles 12 In.,” “Streambed Boulder Type 1,” “Streambed Boulder Type 2” “Streambed Boulder Type 3,” “Streambed Boulder Type 1 (Channel Edge),” and “Streambed Boulder Type 2,(Channel Edge),” shall be full payment for all costs to perform the Work as specified.

8-31 Temporary Stream Diversion

8-31.3 Construction Requirements

8-31.3(1) General

Supplement this section with:

Design: The Contractor shall design the TSD system. The TSD shall be designed by a Washington State registered Professional Engineer. The design flow rate shall be a minimum of 7 cubic feet per second. The upstream diversion dam shall be constructed to a height sufficient to prevent stream flow from entering the work area at the design flow rate, plus 1 ft of freeboard. Scour protection shall be provided at the discharge of the TDS to prevent erosion.

The Contractor shall take all actions necessary to prevent the water discharged from the project area from exceeding the turbidity standards.

8-32 LOG STRUCTURES

(Special Provision)

8-32.1 Description

This Work consists of furnishing and installing Log Structures where designated in the Plans.

8-32-2 Materials

Logs

Logs shall be a natural green wood tree trunk meeting the following requirements:

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1. Coniferous tree species, except that hemlock or hem fir shall not be used. At least 50 percent of logs of each type of structure shall be Douglas fir (*Pseudotsuga menziesii*). Other acceptable species are silver fir or yellow cedar or ponderosa pine. Large wood anchorage has been designed for Douglas fir, which is typically the densest conifer species. Therefore, if other species are used, particularly grand/white fir, western red cedar, or white pine, the Contractor shall provide 50 percent greater anchorage weight in boulders as compared to the specified anchorage to compensate for the less dense wood.
2. Logs shall not vary more than 4 inches in diameter from the large end to the small end.
3. Logs shall be free of soil and rocks, free of rot and disease, and shall be structurally sound as accepted by the Engineer. Cleaning shall not strip logs of bark.

Logs with Rootwad

Log with rootwad shall be a natural green wood tree trunk with root ball meeting the following requirements:

1. Coniferous tree species, except that hemlock or hem fir shall not be used. At least 50 percent of logs of each type of structure shall be Douglas fir (*Pseudotsuga menziesii*). Other acceptable species are silver fir or yellow cedar or ponderosa pine. Large wood anchorage has been designed for Douglas fir, which is typically the densest conifer species. Therefore, if other species are used, particularly grand/white fir, western red cedar, or white pine, the Contractor shall provide 50 percent greater anchorage weight in boulders as compared to the specified anchorage to compensate for the less dense wood.
2. Logs shall not vary more than 4 inches in the trunk diameter at breast height (DBH), measured 4.5 feet above the ground when the tree is standing to the small end.
3. The rootwad diameter shall be a minimum of 3.0 feet and a maximum of 4.0 feet with roots intact.
4. Log and root mass shall be free of soil and rocks, free of rot and disease, and shall be structurally sound as accepted by the Engineer. Cleaning shall not strip logs of bark.

Boulders for Anchoring Log Structures

Boulders used for anchoring Log Structures shall be Streambed Boulders of the size designated in the Plans meeting the requirements of Section 9-03.11(3). Boulders shall be carefully selected to have be +6" to -0" size tolerance relative to the size indicated on the Plans as determined per Section 9-03.11(3).

Wire Rope shall be 3/8 inch diameter, Type 304 or 316 stainless steel.

Wire Rope clips shall be Type 304 or 316 stainless steel

Epoxy Adhesive shall be 2-part, waterproof, having a 24-hour cured strength of at least 1,000 psi in shear.

8-32.3 Construction Requirements

Construction of the Log Structures shall be in accordance with the following:

Log Structures shall be constructed to achieve the functional characteristics noted on the drawings, including location along stream alignment, height and location relative to low flow channel cross-section, arrangement of logs relative to other logs and to Boulder Anchors, log burial (embedment), and log orientation and location relative to the estimated 100-year flood water surface elevation. The Contractor shall exercise care when installing the LWM Structures to ensure that the method of installation minimizes disturbance of waterways and prevents sediment or pollutant discharge into waters.

The Contractor shall install each Log Structure at the locations shown in the Plans. Each log shall be installed with the length of embedment and orientation shown in the Plans and with the Boulder Anchors places as indicating on the Plans. The Contractor shall exercise care when installing and transporting logs to avoid damage to the log or breakage of roots. Rootwads shall remain intact during delivery and installation.

Where indicated on the Plans, boulders for anchoring Log Structures anchors shall be secured to the structures with rebar "u", epoxy adhesive, wire rope and wire rope clamps. Boulders shall be installed approximately one-half the boulder diameter into the ground.

Two (2) 3/4-inch-diameter holes spaced at least 6 inches apart shall be drilled a minimum of 8 inches deep into each boulder anchor. After holes are drilled in the boulder anchors, the holes shall be cleaned using compressed air to blow out the dust and rock particles. After being cleaned, the holes in the boulder anchors shall be filled with well mixed two-part epoxy adhesive per the manufacturer's instructions, and a u-shaped #5 rebar inserted a minimum of 8 inches per each leg of the "u". Fill holes in boulder completely with epoxy adhesive. Allow cure time minimum 12 hours before lifting boulder by the rebar "u" or installing wire rope.

All logs to be anchored shall be anchored such that there is no slack in the wire rope. The wire rope shall be looped around a thimble, through the "u"-shaped rebar, then doubled back on itself. The end of the wire rope shall be secured using wire rope clips, with the saddle of the clips placed on the "live" end of the wire rope, as described in Section 6-02.3(17)F2 Applying Wire Rope Clips.

Wire ropes shall have a full wrap around the log plus a wrap through a 1-inch-diameter hole shall be drilled completely through the center of the log. Secure boulders tightly to logs with wire rope such that any movement of the log will move the boulder. Secure wire rope with wire rope clamps.

Use a minimum of three clamps per connection, provide additional clamps as needed to develop connection with full working strength of wire rope.

Acceptance of Log Structures will be based upon inspection by the Engineer.

8-32.4 Measurement

Type ____ Log Structure will be measured per each.

8-32.5 Payment

Payment will be made in accordance with Section 1-04.1, for each of the following Bid items:

“Type ____ Log Structure”, per each.

The unit Contract price per each for “Type ____ Log Structure” shall be full payment to complete the Work as specified and as shown in the Plans.

8-33 POTHOLING AND RESOLUTION OF UTILITY CONFLICTS

(April 12, 2018 CFW GSP)

Add new Section 8-30:

8-33.1 Description

(April 12, 2018 CFW GSP)

Section 8-30.1 is a new section:

This work involves the identification and resolution of utility conflicts not identified in the plans between proposed improvements and existing utilities. The City will pay these costs by force account if the work proves to be acceptable and the Contractor had performed the work with the authority of and due notice to the Engineer.

8-33.3 Construction Requirements

(April 12, 2018 CFW GSP)

Section 8-30.3 is a new section:

The City may direct the Contractor to pothole existing utilities to verify the field location and depth. Potholing shall include excavation and backfilling of the existing utility, identification of the pipe or line size, material type and condition and the survey work to locate the facility horizontally and vertically. Survey information to be obtained shall include station and offset to center of utility and elevation at top of utility. Stations, offsets and elevations shall be to the nearest 0.1 foot unless greater accuracy is required. Potholes shall be backfilled with CSTC compacted to 95 percent, or with CDF, as directed by the Engineer. In areas subject to public traffic, the HMA patch shall match the depth of the surrounding pavement.

In the event that a conflict arises between the proposed improvements and an existing utility, the Resolution of Utility Conflicts item will compensate the Contractor for standby time and additional work in the following manner:

1. Standby time resulting from existing utility conflicts. Standby time is defined as time the Contractor is unable to proceed with progression of a specific work item (i.e. storm

drainage, underground utility installation etc.) due to conflicts with existing facilities. However, payment for standby time shall be limited to:

- a. For each agreed upon conflict, a maximum of four (4) hours of standby time will be paid for actual delay of labor and equipment due to a utility conflict. The Contractor shall be responsible to adjust his work schedule and/or reassign his work forces and equipment to other areas of work to minimize standby time.
 - b. If the conflict is resolved within one (1) hour of notification to the Engineer, no standby time will be paid.
2. Additional work required to resolve utility conflicts will be paid for at the bid unit prices for the associated work. Work that can be measured and paid for at the unit contract prices shall not be identified as force account work. This work includes but is not limited to:
- a. Storm drainage manhole, pipe, vault, and conduit realignments of line and/or grade for the storm drain and undergrounding of overhead utilities, to avoid existing utility conflicts.
 - b. Additional storm drainage manholes, pipe, vaults, and conduit required by a change in alignment, and/or grade, not exceeding the limits set in section 1-04.4 of the Standard Specifications.

8-33.4 Measurement
(April 12, 2018 CFW GSP)

Section 8-30.4 is a new section:

"Potholing", will be measured for force account per Section 1-09.6.

"Resolution of Utility Conflicts" will be measured for force account per Section 1-09.6.

8-33.5 Payment
(April 12, 2018 CFW GSP)

Section 8-30.5 is a new section:

"Potholing", will be paid by force account.

"Resolution of Utility Conflicts", will be paid by force account

To provide a common proposal for all bidders, the City has estimated the amount for "Resolution of Utility Conflicts" and "Potholing" and entered the amounts in the proposal to become a part of the total bid by the Contractor.

Utility conflicts due to the Contractor's actions or operations shall be resolved by the Contractor at no expense to the Contracting Agency.

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DIVISION 9 MATERIALS

9-01 CONCRETE

9-01.2 Specifications

9-01.2(1)B Blended Hydraulic Cement *(December 16, 2022 CFW GSP)*

Section 9-01.2(1)B is modified with the following:

Type 1L cement is only allowed for use within the City of Federal Way subject to the conditions listed below:

	Class 3000 Type 1L	Class 4000 Type 1L	Class 4000 Type 1L with crystalline waterproofing and corrosion protection admixture ¹	Class 5000 Type 1L
Pre-cast Foundations <i>(luminaires, signals, RRFBs, etc.)</i>	X	X	X	X
Cast-in-Place Foundations <i>(luminaires, signals, RRFBs, etc.)</i>		X	X	X
Pre-cast or cast-in-place catch basins and manholes		X	X	X
Roads, curbs, curb & gutters, roundabouts & aprons, sidewalks, ADA ramps, driveway approaches			X	X
Other exposed surfaces <i>(retaining walls, junction box aprons, cabinet bases, barriers, etc.)</i>			X	X

¹ Crystalline Waterproofing admixtures (Penetron or approved equal) shall meet the following specification: ASTM C494, Type S, hydrophilic, crystalline permeability-reducing admixture for hydrostatic conditions (PRAH) shall form insoluble crystals throughout the concrete matrix, self-healing and sealing all pores, capillaries and cracks up to 0.5mm (1/51 inch). The crystalline waterproofing admixture shall include a colored tracer material so that it is visible when included in the concrete mix.

For all Type 1L concrete mixes, the City will not accept any maleated rosin (i.e. MasterAir AE90) as a supplied air entrainment and waterproofing admixture or any wax-based curing compounds.

9-03 AGGREGATES

9-03.11 Streambed Aggregates

9-03.11(3) Streambed Cobbles

Replace the gradation for Streambed Cobbles 12-inch with the following:

Streambed Cobbles 12-inch shall be a well-graded mix of cobbles and gravel natural origin, unwashed, free of debris, and unfractured, meeting the following gradation:

Size	Percent Passing
12"	95-100
10"	77-85
5"	30-55
3"	15-30
3/4"	10 max

9-03.14(3) Common Borrow

Section 9-03.14(3) is modified with the following requirements:

Only material from on-site excavations meeting the requirements for Common Borrow shall be re-used as on-site backfill. If the Contractor proposes to re-use material from on-site excavations, the Contractor is responsible for collecting representative samples of the material, performing a gradation test, and submitting the test result to the Engineer for approval prior to exporting the material off-site for stockpiling (if required) and at least 14 days prior to wanting to place the material as backfill. If the test result is approved, the Contractor shall submit to the Engineer a material stockpiling and protection plan describing the material to be re-used, how the Contractor proposes to separate conforming and non-conforming material, where the material will be stockpiled, and how the material will be protected from moisture. No material that is excessively wet or otherwise is non-confirming in the opinion of the Engineer may be re-used.

Common Borrow material shall be at the proper moisture content for compaction. This material is generally moisture sensitive. The natural moisture content shall range from not more than 1 percent wet of optimum to not more than 3 percent dry of optimum as determined in accordance with Section 2-03.3(14)D. The material shall not pump or yield under the weight of compaction equipment and construction traffic. The Contractor is responsible for protecting the material from excess moisture wherever/whenever possible. Common Borrow shall be handled only during non-rainy periods. If the material becomes too wet to compact as specified, the Contractor shall replace the material at its cost with Gravel Borrow.

Material for common borrow shall consist of granular soil and/or aggregate which is free of trash, wood, debris, and other deleterious material. Common Borrow shall meet the following gradation limits:

Sieve Size	Percent Passing (by weight)
4" square	90 – 100
2" square	75 - 100
U.S. No. 4	50 - 80
U.S. No. 40	50 max.
U.S. No 200	25 max.

9-14 EROSION CONTROL AND ROADSIDE PLANTING

9-14.1 Materials Submittals and Acceptance
(January 10, 2022, WSDOT GSP, OPT1.2023)

In the table in Section 9-14.1, the row for Compost is revised to read:

9-14.5(8)	Compost	<p>Cert & following information is required to be submitted fourteen days prior to application.</p> <ul style="list-style-type: none"> a) A copy of the Solid Waste Handling Permit issued to the manufacturer by the Jurisdictional Health Department in accordance with https://apps.leg.wa.gov/WAC/default.aspx?cite=173-350 (Minimum Functions Standards for Solid Waste Handling). b) Compost Test Data submitted on WSDOT Form 220-038 that show the compost complies with the processes, testing, and standards specified in WAC 173-350 and this section. And independent Seal of Testing Assurance (STA) Program certified laboratory shall perform the testing within 90 calendar days of application. c) A copy of the manufacturer’s annual Seal of Testing Assurance STA certification as issued by the U.S. Composting Council. d) A sample of the compost approved for use. e) A list of feed stocks by volume for each compost type. f) Compliance with the applicable section.
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9-14.2 Topsoil

9-14.2(1) Topsoil Type A
(June 12, 2020 CFW GSP)

Section 9-14.2(1) is supplemented with the following:

Topsoil Type A mix shall be 50% pure organic compost and 50% sand or sandy loam. The soil shall be high in organic content and comprised of fully composted and mature organic materials.

No fresh sawdust or other fresh wood by-products shall be added to extend the volume after the composting process.

Chemical and physical characteristics of Topsoil Type A shall comply with the following:

Screen Size	7/16" Maximum
Total Nitrogen	0.25% Minimum
Organic Matter	10% Minimum
pH Range	5.5 to 7.5
Conductivity	5 mmhos/cm Maximum

9-14.3 Seed

Section 9-14.3 is supplemented with the following:

The grass seed dealer shall mix the grass seed only. The Contractor shall furnish the Engineer with a dealer's guaranteed statement of the composition, mixture, and the percentage of purity and germination of each variety. Seed shall be applied at manufacturer's recommended rate. Hydroseed shall be composed of the following varieties mixed in the proportions indicated, or approved equal:

RESTORATION SEED MIX			
NAME	BY WEIGHT	% PURITY	% GERMINATION
Hordeum brachyantherum/ Meadow Barley	40%	98%	90%
Bromus carinatus/California Brome	35%	98%	90%
Festuca rubra rubra/Native Red Fescue	20%	98%	90%
Deschampsia cespitosa/Tufted Hairgrass	3%	98%	90%
Agrostis exerata/Spike Bentgrass	2%	98%	90%

(June 12, 2020 CFW GSP)

Section 9-14.3 is supplemented with the following:

The grass seed dealer shall mix the grass seed only. The Contractor shall furnish the Engineer with a dealer's guaranteed statement of the composition, mixture, and the percentage of purity and germination of each variety. Seed shall be applied at manufacturer's recommended rate. Hydroseed shall be composed of the following varieties mixed in the proportions indicated, or approved equal:

SEEDED LAWN MIXTURE			
NAME	BY WEIGHT	% PURITY	% GERMINATION
Tall Fescue/Festuca arundinacea	40%	98%	90%
Creeping Red Fescue/Festuca rubra	25%	98%	90%
Highland Colonial Bentgrass/Agrostis capillaris var. 'Highland'	5%	98%	90%
Perennial Rye/Lolimum perenne (blend of two: 'Fiesta II', 'Prelude II', 'Commander')	30%	95%	90%

9-14.4 Fertilizer

(June 12, 2020 CFW GSP)

Section 9-14.4 is supplemented with the following:

Fertilizer for trees shall be biodegradable fertilizer packets, 20-10-5. Apply per manufacturer’s recommendations.

9-14.5 Mulch and Amendments

9-14.5(3)A Arborist Mulch

Add the following new section:

Arborist Mulch must be coarse ground wood chips derived from the mechanical grinding or shredding of the above-ground portions of trees.

It may contain wood, wood fiber, bark, branches, and leaves; but may not contain visible amounts of soil. It must be free of weeds and weed seeds, including but not limited to plants on the King County Noxious Weed list available at: <http://www.kingcounty.gov/weeds>, and must be free of invasive plant portions capable of resprouting, including but not limited to horsetail, ivy, clematis, and knotweed.

It may not contain more than ½ percent by weight of manufactured inert material (such as plastic, concrete, ceramics, or metal).

Arborist Mulch, when tested, must meet the following loose volume gradation:

Sieve Size	Percent Passing	
	Minimum	Maximum
2”	95	100
1”	70	100
5/8”	0	50
¼”	0	40

No particles may be longer than 5 inches.

9-14.7 Plant Materials

9-14.7(2) Quality

(June 12, 2020 CFW GSP)

Section 9-14.7(2) is supplemented with the following:

Plant material shall be free from disfiguring knots, swollen grafts, sunscald injuries, bark abrasions, evidence of improper pruning or other objectionable disfigurement.

Potted and container stock shall be well rooted and vigorous enough to ensure survival and healthy growth. Shrubs shall have full foliage (not leggy). Container stock shall be grown in its delivery container for not less than six (6) months, but not for more than two (2) years. Root bound or broken containers will not be accepted. Bare root, liner and root stock with dried or shriveled roots from exposure will not be accepted.

Measurements, caliper, branching, grading, quality, balling and burlapping shall follow the Code of Standards of the American Associate of Nurserymen in the

American Standard for Nursery Stock, ANSI 260.1, latest edition. Measurements shall be taken with all branches in their normal growing position. Plants shall not be pruned prior to delivery to site.

9-14.7(3) Handling and Shipping

(June 12, 2020 CFW GSP)

Section 9-14.7(3) is supplemented with the following:

Tie back branches as necessary, and protect bark from chafing with burlap bags. Do not drag Plant materials along ground without proper protection of roots and branches. Protect rootballs from environmental or mechanical damage and water as necessary to keep roots moist. Do not store Plants for more than one week.

9-14.7(5) Tagging

(June 12, 2020 CFW GSP)

Section 9-14.7(5) is a new section:

All Plant material shall be legibly tagged. Tagging may be by species or variety with minimum of one tag per ten trees, shrubs, or vines. Remove all tagging prior to final acceptance.

9-14.7(6) Inspection

(June 12, 2020 CFW GSP)

Section 9-14.7(6) is a new section:

The Contracting Agency shall reserve the option of selecting and inspecting Plant material at the nursery. The contractor shall provide the Contracting Agency with at least one week notice prior to preparing Plants for shipping and delivery. The Contractor shall neither deliver to site nor install Plant materials until authorized by the Contracting Agency.

9-14.7(7) Temporary Storage

(June 12, 2020 CFW GSP)

Section 9-14.7(7) is a new section:

Cold storage of Plants shall not be permitted.

If Planting is delayed more than 24 hours after delivery, set balled and burlapped Plants on the ground, well protected with soil or wet peat. Adequately cover all roots of bare root material with soil or wet peat. Protect rootballs from freezing, sun, drying winds or mechanical damage. Water Plant material as necessary until Planted.

Plants shall not be stored for more than one week. Longer storage period at project site will result in rejection of Plant materials by the Contracting Agency.

9-14.8 Stakes, Guys, and Wrapping

(June 12, 2020 CFW GSP)

Section 9-14.8 is supplemented with the following:

Stakes shall be BVC round tree stakes with Chainlock guying or Engineer accepted product. No wrapping required.

END DIVISION 9

CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293

SP-93

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*** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com ***

Standard Plans
(January 9, 2023 WSDOT)

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01, effective September 30, 2022 is made a part of this contract.

The Standard Plans are revised as follows:

A-10.30

RISER RING detail (Including SECTION view and RISER RING DIMENSIONS table): The RISER RING detail is deleted from the plan.

INSTALLATION detail, SECTION A: The "1/4" callout is revised to read "+/- 1/4" (SEE CONTRACT ~ Note: The + 1/4" installation is shown in the Section A view)"

B-90.40

Valve Detail – DELETED

C-8

DELETED

C-8A

DELETED

C-20.42

Plan View (Case 22A-31), callout, was; "BEAM GUARDRAIL ANCHOR TYPE 10 PAY LIMIT" is revised to read; "BEAM GUARDRAIL ANCHOR TYPE 11 PAY LIMIT"

C-23.60

DELETED

C-23.70

Sheet 1, Detail A, callout, was – "EIGHT 5/8" X 1/2" (IN) BOLTS W/ HEX NUTS AND WASHERS (SEE NOTE 5) "is revised to read: "EIGHT 5/8" X 1-1/2" (IN) BOLTS W/ HEX NUTS AND WASHERS (SEE NOTE 5)".

Sheet 2, ANCHOR RAIL ELEMENT DETAIL and associated Enlarged Detail, 3/4" Diameter hole pattern (8 holes), callout, "3/4" DIAMETER HOLE (TYP.)" is revised to read: "29/32" x 1 1/8" (IN) SLOT (TYP.)"

D-2.04

DELETED

D-2.06

DELETED

D-2.08

DELETED

D-2.32

DELETED

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
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D-2.34
DELETED

D-2.60
DELETED

D-2.62
DELETED

D-2.64
DELETED

D-2.66
DELETED

D-2.68
DELETED

D-2.80
DELETED

D-2.88
DELETED

D-3.15
DELETED

D-3.16
DELETED

D-3.17
DELETED

D-3.10
Sheet 1, Typical Section, callout – “FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER. USE THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.15” is revised to read; “FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER, SEE CONTRACT PLANS”

Sheet 1, Typical Section, callout – “FOR WALLS WITH F-SHAPE TRAFFIC BARRIER. USE THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.16” is revised to read; “FOR THE WALLS WITH F-SHAPE TRAFFIC BARRIER, SEE CONTRACT PLANS”

D-3.11
Sheet 1, Typical Section, callout – “”B” BRIDGE APPROACH SLAB (SEE BRIDGE PLANS) OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE STANDARD PLANS D-3.15 OR D-3.16” is revised to read; “B” BARRIER APPROACH SLAB OR MOMENT SLAB (SEE CONTRACT PLANS)

Sheet 1, Typical Section, callout – “TYPICAL BARRIER ON BRIDGE APPROACH SLAB (SEE BRIDGE PLANS) OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE

CITY OF FEDERAL WAY

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STANDARD PLANS D-3.15 OR D-3.16” is revised to read; “TYPICAL BARRIER ON BRIDGE APPROACH SLAP OR MOMENT SLAB (SEE CONTRACT PLANS)

D-10.10

Wall Type 1 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT Bridge Design Manual (BDM) and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.15

Wall Type 2 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.30

Wall Type 5 may be used in all cases.

D-10.35

Wall Type 6 may be used in all cases.

D-10.40

Wall Type 7 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.45

Wall Type 8 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the revisions stated in the 11/3/15 Bridge Design memorandum.

D-15.10

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.20

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.30

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

F-10.18

Note 2, "Region Traffic engineer approval is needed to install a truck apron lower than 3".
- DELETED

J-10.10

Sheet 4 of 6, "Foundation Size Reference Table", PAD WIDTH column, Type 33xD=6' – 3" is revised to read: 7' – 3". Type 342LX / NEMA P44=5' – 10" is revised to read: 6' – 10"
Sheet 5 of 6, Plan View, "FOR EXAMPLE PAD SHOWN HERE:", "first bullet" item, "-SPACE BETWEEN TYPE B MOD. CABINET AND 33x CABINET IS 6" (IN)" IS REVISED TO READ: "SPACE BETWEEN TYPE B MOD. CABINET (BACK OF ALL CHANNEL STEEL) AND 33x CABINET IS 6" (IN) (CHANNEL STEEL ADDS ABOUT 5" (IN))"

J-10.16

Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-10.17

Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-10.18

Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-20.10

Elevation View, horizontal dimension to edge of sidewalk 1" (IN) OR LESS DESIRABLE ~ 18" (IN) MAXIMUM is revised to read: "10" (IN) MAXIMUM"

J-20.26

Add Note 1, "1. One accessible pedestrian pushbutton station per pedestrian pushbutton post."

J-20.16

View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-21.10

Sheet 1, Elevation View, Round Concrete Foundation Detail, callout – "ANCHOR BOLTS ~ 3/4" (IN) x 30" (IN) FULL THREAD ~ THREE REQ'D. PER ASSEMBLY" IS REVISED TO READ: "ANCHOR BOLTS ~ 3/4" (IN) x 30" (IN) FULL THREAD ~ FOUR REQ'D. PER ASSEMBLY"

Sheet 1 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR.. Delete "(TYP.)" from the 2 1/2" CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.

Sheet 1 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 1/2" CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.

Sheet 2 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 1/2" CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.

Sheet 2 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from

the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.

Detail F, callout, "Heavy Hex Clamping Bolt (TYP.) ~ ¾" (IN) Diam. Torque Clamping Bolts (see Note 3)" is revised to read; "Heavy Hex Clamping Bolt (TYP.) ~ ¾" (IN) Diam. Torque Clamping Bolts (see Note 1)"

Detail F, callout, "¾" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Four Required (See Note 4)" is revised to read; "¾" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Three Required (See Note 2)"

J-21.15

Partial View, callout, was – LOCK NIPPLE ~ 1 ½" DIAM., is revised to read; CHASE NIPPLE ~ 1 ½" (IN) DIAM.

J-21.16

Detail A, callout, was – LOCKNIPPLE, is revised to read; CHASE NIPPLE

J-22.15

Ramp Meter Signal Standard, elevation, dimension 4' - 6" is revised to read; 6'-0" (2x)
Detail A, callout, was – LOCK NIPPLE ~ 1 ½" DIAM. is revised to read; CHASE NIPPLE ~ 1 ½" (IN) DIAM.

J-40.10

Sheet 2 of 2, Detail F, callout, "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 12" S. S. FLAT WASHER" is revised to read; "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 1/2" (IN) S. S. FLAT WASHER"

J-40.36

Note 1, second sentence: "Finish shall be # 2B for backbox and # 4 for the cover." Is revised to read: "Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

J-40.37

Note 1, second sentence: "Finish shall be # 2B for backbox and # 4 for the cover." Is revised to read: "Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

J-75.20

Key Notes, note 16, second bullet point, was: "1/2" (IN) x 0.45" (IN) Stainless Steel Bands", add the following to the end of the note: "Alternate: Stainless steel cable with stainless steel ends, nuts, bolts, and washers may be used in place of stainless steel bands and associated hardware."

J-75.41

DELETED

J-75.55

Notes, Note A1, Revise reference, was – G-90.29, should be -G-90.20.

K-80.20

DELETED

L-5.10

Sheet 2, Typical Elevation, callout – “2’ – 0” MIN. LAP SPLICE BETWEEN (mark) A #3 BAR AND WALL REINFORCEMENT ~ TYPICAL” is revised to read: “2’ – 0” MIN. LAP SPLICE BETWEEN (MARK) A #4 BAR AND WALL REINFORCEMENT ~ TYPICAL”

Section C, callout; “(mark) A #3 is revised to read: “(mark) A #4”, callout – “(mark) B #3” is revised to read: “(mark) B #4”, callout – “(mark) C #3 TIE” is revised to read: “(mark) C #4 TIE”

Reinforcing Steel Bending Diagram, (mark) B detail, callout – “128 deg.” is revised to read: “123 deg.”, callout – “51 deg.” is revised to read: “57 deg.”

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

A-10.10-00.....8/7/07	A-30.35-00.....10/12/07	A-50.10-01.....8/17/21
A-10.20-00.....10/5/07	A-40.00-01.....7/6/22	A-50.40-01.....8/17/21
A-10.30-00.....10/5/07	A-40.10-04.....7/31/19	A-60.10-03.....12/23/14
A-20.10-00.....8/31/07	A-40.15-00.....8/11/09	A-60.20-03.....12/23/14
A-30.10-00.....11/8/07	A-40.20-04.....1/18/17	A-60.30-01.....6/28/18
A-30.30-01.....6/16/11	A-40.50-02.....12/23/14	A-60.40-00.....8/31/07
B-5.20-03.....9/9/20	B-30.50-03.....2/27/18	B-75.20-03.....8/17/21
B-5.40-02.....1/26/17	B-30.60-00.....9/9/20	B-75.50-01.....6/10/08
B-5.60-02.....1/26/17	B-30.70-04.....2/27/18	B-75.60-00.....6/8/06
B-10.20-02.....3/2/18	B-30.80-01.....2/27/18	B-80.20-00.....6/8/06
B-10.40-02.....8/17/21	B-30.90-02.....1/26/17	B-80.40-00.....6/1/06
B-10.70-02.....8/17/21	B-35.20-00.....6/8/06	B-85.10-01.....6/10/08
B-15.20-01.....2/7/12	B-35.40-00.....6/8/06	B-85.20-00.....6/1/06
B-15.40-01.....2/7/12	B-40.20-00.....6/1/06	B-85.30-00.....6/1/06
B-15.60-02.....1/26/17	B-40.40-02.....1/26/17	B-85.40-00.....6/8/06
B-20.20-02.....3/16/12	B-45.20-01.....7/11/17	B-85.50-01.....6/10/08
B-20.40-04.....2/27/18	B-45.40-01.....7/21/17	B-90.10-00.....6/8/06
B-20.60-03.....3/15/12	B-50.20-00.....6/1/06	B-90.20-00.....6/8/06
B-25.20-02.....2/27/18	B-55.20-03.....8/17/21	B-90.30-00.....6/8/06
B-25.60-02.....2/27/18	B-60.20-02.....9/9/20	B-90.40-01.....1/26/17
B-30.05-00.....9/9/20	B-60.40-01.....2/27/18	B-90.50-00.....6/8/06
B-30.10-03.....2/27/18	B-65.20-01.....4/26/12	B-95.20-02.....8/17/21
B-30.15-00.....2/27/18	B-65.40-00.....6/1/06	B-95.40-01.....6/28/18
B-30.20-04.....2/27/18	B-70.20-00.....3/15/22	
B-30.30-03.....2/27/18	B-70.60-01.....1/26/17	
B-30.40-03.....2/27/18		
C-1.....9/8/22	C-22.40-09.....9/8/22	C-60.70-01.....9/8/22
C-1b.....9/8/22	C-22.45-06.....9/8/22	C-60.80-01.....9/8/22
C-1d.....10/31/03	C-23.70-00.....8/22/22	C-70.15-00.....8/17/21
C-2c.....8/12/19	C-24.10-03.....7/24/22	C-70.10-03.....8/17/21
C-4f.....8/12/19	C-24.15-00.....3/15/22	C-75.10-02.....9/16/20
C-6a.....9/8/22	C-25.20-07.....8/20/21	C-75.20-03.....8/20/21
C-7.....9/8/22	C-25.22-06.....8/20/21	C-75.30-03.....8/21/20

CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293

SP-99

CFW SPECIAL PROVISIONS VER. 2024.01B

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C-7a.....9/8/22	C-25.26-05.....8/20/21	C-80.10-02.....9/16/20
C-20.10-08.....9/8/22	C-25.30-01.....8/20/21	C-80.20-01.....6/11/14
C-20.14-05.....9/8/22	C-25.80-05.....8/12/19	C-80.30-02.....8/20/21
C-20.15-02.....6/11/14	C-60.10-02.....9/8/22	C-80.40-01.....6/11/14
C-20.18-04.....9/8/22	C-60.15-00.....8/17/21	C-85.10-00.....4/8/12
C-20.40-09.....9/8/22	C-60.20-01.....9/8/22	C-85.11-01.....9/16/20
C-20.41-04.....8/22/22	C-60.30-01.....8/17/21	C-85.15-02.....8/27/21
C-20.42-05.....7/14/15	C-60.40-00.....8/17/21	C-85-18-03.....9/8/22
C-20.43-00.....8/22/22	C-60.45-00.....8/17/21	
C-20.45.03.....9/8/22	C-60.50-00.....8/17/21	
C-22.16-07.....9/16/20	C-60.60-00.....8/17/21	
D-2.36-03.....6/11/14	D-4.....12/11/98	D-10.35-00.....7/8/08
D-2.46-02.....8/13/21	D-6.....6/19/98	D-10.40-01.....12/2/08
D-2.84-00.....11/10/05	D-10.10-01.....12/2/08	D-10.45-01.....12/2/08
D-2.92-01.....4/26/22	D-10.15-01.....12/2/08	
D-3.09-00.....5/17/12	D-10.20-01.....8/7/19	
D-3.10-01.....5/29/13	D-10.25-01.....8/7/19	
D-3.11-03.....6/11/14	D-10.30-00.....7/8/08	
E-1.....2/21/07	E-4.....8/27/03	
E-2.....5/29/98	E-4a.....8/27/03	
F-10.12-04.....9/24/20	F-10.62-02.....4/22/14	F-40.15-04.....9/25/20
F-10.16-00.....12/20/06	F-10.64-03.....4/22/14	F-40.16-03.....6/29/16
F-10.18-03.....3/28/22	F-30.10-04.....9/25/20	F-45.10-03.....8/13/21
F-10.40-04.....9/24/20	F-40.12-03.....6/29/16	F-80.10-04.....7/15/16
F-10.42-00.....1/23/07	F-40.14-03.....6/29/16	
G-10.10-00.....9/20/07	G-26.10-00.....7/31/19	
G-20.10-03.....8/20/21	G-30.10-04.....6/23/15	
G-22.10-04.....6/28/18	G-50.10-03.....6/28/18	
G-24.10-00.....11/8/07	G-90.10-03.....7/11/17	
G-24.20-01.....2/7/12	G-90.20-05.....7/11/17	
G-24.30-02.....6/28/18	G-90.30-04.....7/11/17	
G-24.40-07.....6/28/18	G-95.10-02.....6/28/18	
G-24.50-05.....8/7/19	G-95.20-03.....6/28/18	
G-24.60-05.....6/28/18	G-95.30-03.....6/28/18	
G-25.10-05.....9/16/20		
H-10.10-00.....7/3/08	H-32.10-00.....9/20/07	H-70.10-02.....8/17/21
H-10.15-00.....7/3/08	H-60.10-01.....7/3/08	H-70.20-02.....8/17/21
H-30.10-00.....10/12/07	H-60.20-01.....7/3/08	
I-10.10-01.....8/11/09	I-30.20-00.....9/20/07	I-40.20-00.....9/20/07
I-30.10-02.....3/22/13	I-30.30-02.....6/12/19	I-50.20-01.....6/10/13
I-30.15-02.....3/22/13	I-30.40-02.....6/12/19	I-60.10-01.....6/10/13
I-30.16-01.....7/11/19	I-30.60-02.....6/12/19	I-60.20-01.....6/10/13
I-30.17-01.....6/12/19	I-40.10-00.....9/20/07	I-80.10-02.....7/15/16

CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293

SP-100

CFW SPECIAL PROVISIONS VER. 2024.01B

*** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com ***

J-05.50-00.....8/30/22	J-28.10-02.....8/7/19	J-50.25-00.....6/3/11
J-10.....7/18/97	J-28.22-00.....8/07/07	J-50.30-00.....6/3/11
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J-10.12-00.....9/16/20	J-28.26-01.....12/02/08	J-60.11-00.....5/20/13
J-10.14-00.....9/16/20	J-28.30-03.....6/11/14	J-60.12-00.....5/20/13
J-10.15-01.....6/11/14	J-28.40-02.....6/11/14	J-60.13-00.....6/16/10
J-10.16-02.....8/18/21	J-28.42-01.....6/11/14	J-60.14-01.....7/31/19
J-10.17-02.....8/18/21	J-28.43-01.....6/28/18	J-75.10-02.....7/10/15
J-10.18-02.....8/18/21	J-28.45-03.....7/21/16	J-75.20-01.....7/10/15
J-10.20-04.....8/18/21	J-28.50-03.....7/21/16	J-75.30-02.....7/10/15
J-10.21-02.....8/18/21	J-28.60-03.....8/27/21	J-75.50-00.....8/30/22
J-10.22-02.....8/18/21	J-28.70-04.....8/30/22	J-75.55-00.....8/30/22
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J-12.15-00.....6/28/18	J-29.16-02.....7/21/16	J-80.12-00.....8/18/21
J-12.16-00.....6/28/18	J-30.10-01.....8/26/22	J-80.15-00.....6/28/18
J-15.10-01.....6/11/14	J-40.01-00.....8/30/22	J-81.10-02.....8/18/21
J-15.15-02.....7/10/15	J-40.05-00.....7/21/16	J-81.12-00.....9/3/21
J-20.01-00.....8/30/22	J-40.10-04.....4/28/16	J-84.05-00.....8/30/22
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J-20.11-03.....7/31/19	J-40.30-04.....4/28/16	J-90.10-03.....6/28/18
J-20.15-03.....6/30/14	J-40.35-01.....5/29/13	J-90.20-03.....6/28/18
J-20.16-02.....6/30/14	J-40.36-02.....7/21/17	J-90.21-02.....6/28/18
J-20.20-02.....5/20/13	J-40.37-02.....7/21/17	J-90.50-00.....6/28/18
J-20.26-01.....7/12/12	J-40.38-01.....5/20/13	
J-21.10-04.....6/30/14	J-40.39-00.....5/20/13	
J-21.15-01.....6/10/13	J-40.40-02.....7/31/19	
J-21.16-01.....6/10/13	J-45.36-00.....7/21/17	
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J-21.20-01.....6/10/13	J-50.10-01.....7/31/19	
J-22.15-02.....7/10/15	J-50.11-02.....7/31/19	
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J-26.10-03.....7/21/16	J-50.13-01.....8/30/22	
J-26.15-01.....5/17/12	J-50.15-01.....7/21/17	
J-26.20-01.....6/28/18	J-50.16-01.....3/22/13	
J-27.10-01.....7/21/16	J-50.18-00.....8/7/19	
J-27.15-00.....3/15/12	J-50.19-00.....8/7/19	
J-28.01-00.....8/30/22	J-50.20-00.....6/3/11	
K-70.20-01.....6/1/16	K-80.32-00.....8/17/21	K-80.35-01.....9/16/20
K-80.10-02.....9/25/20	K-80.34-00.....8/17/21	K-80.37-01.....9/16/20
L-5.10-00.....9/19/22	L-20.10-03.....7/14/15	L-40.20-02.....6/21/12
L-5.15-00.....9/19/22	L-30.10-02.....6/11/14	L-70.10-01.....5/21/08
L-10.10-02.....6/21/12	L-40.15-01.....6/16/11	L-70.20-01.....5/21/08
M-1.20-04.....9/25/20	M-11.10-04.....8/2/22	M-40.20-00...10/12/07
M-1.40-03.....9/25/20	M-12.10-03.....8/2/22	M-40.30-01.....7/11/17
M-1.60-03.....9/25/20	M-15.10-01.....2/6/07	M-40.40-00.....9/20/07

CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293

SP-101

CFW SPECIAL PROVISIONS VER. 2024.01B

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M-1.80-03.....6/3/11	M-17.10-02.....7/3/08	M-40.50-00.....9/20/07
M-2.20-03.....7/10/15	M-20.10-04.....8/2/22	M-40.60-00.....9/20/07
M-2.21-00.....7/10/15	M-20.20-02.....4/20/15	M-60.10-01.....6/3/11
M-3.10-04.....9/25/20	M-20.30-04.....2/29/16	M-60.20-03.....8/17/21
M-3.20-04.....8/2/22	M-20.40-03.....6/24/14	M-65.10-03.....8/17/21
M-3.30-04.....9/25/20	M-20.50-02.....6/3/11	M-80.10-01.....6/3/11
M-3.40-04.....9/25/20	M-24.20-02.....4/20/15	M-80.20-00.....6/10/08
M-3.50-03.....9/25/20	M-24.40-02.....4/20/15	M-80.30-00.....6/10/08
M-5.10-03.....9/25/20	M-24.60-04.....6/24/14	
M-7.50-01.....1/30/07	M-24.65-00.....7/11/17	
M-9.50-02.....6/24/14	M-24.66-00.....7/11/17	
M-9.60-00.....2/10/09	M-40.10-03.....6/24/14	

Appendices

- A GEOTECHNICAL ENGINEERING REPORT
- B SPECIAL PROVISIONS AND PROJECT DRAWINGS FOR BID SCHEDULE B:
LAKEHAVEN WATER AND SEWER DISTRICT IMPROVEMENTS
- C PERMITS
- D UTILITY INFORMATION (FOR REFERENCE ONLY)
- E EASEMENTS AND RIGHTS-OF-ENTRY DOCUMENTATION

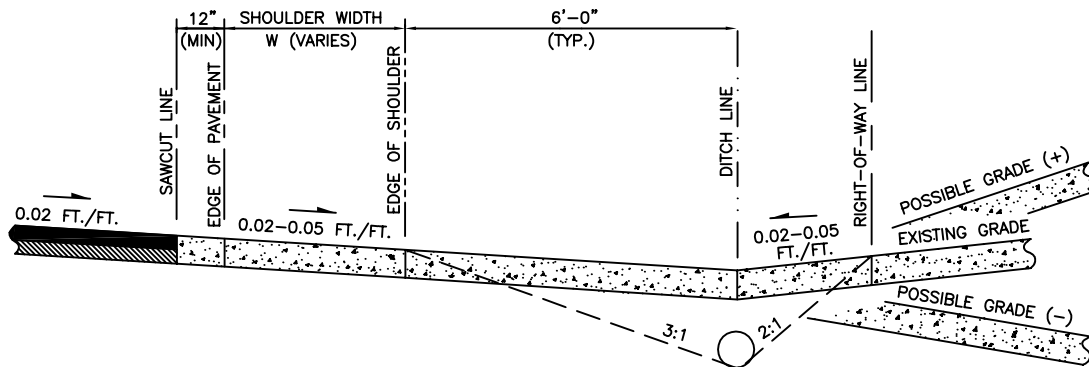
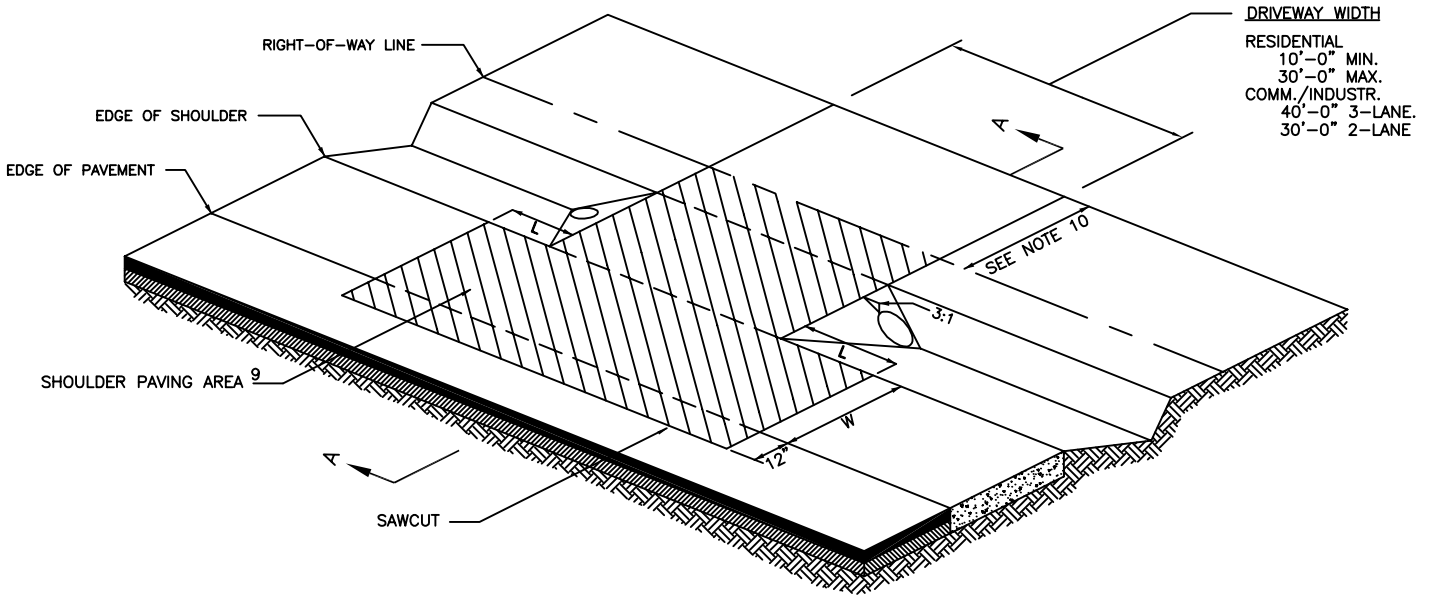
CITY OF FEDERAL WAY

REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293

SP-102

CFW SPECIAL PROVISIONS VER. 2024.01B

*** Official bid documents, plan holder's list, and addenda (if applicable) are available on [BXWA.com](https://www.bxwa.com) ***

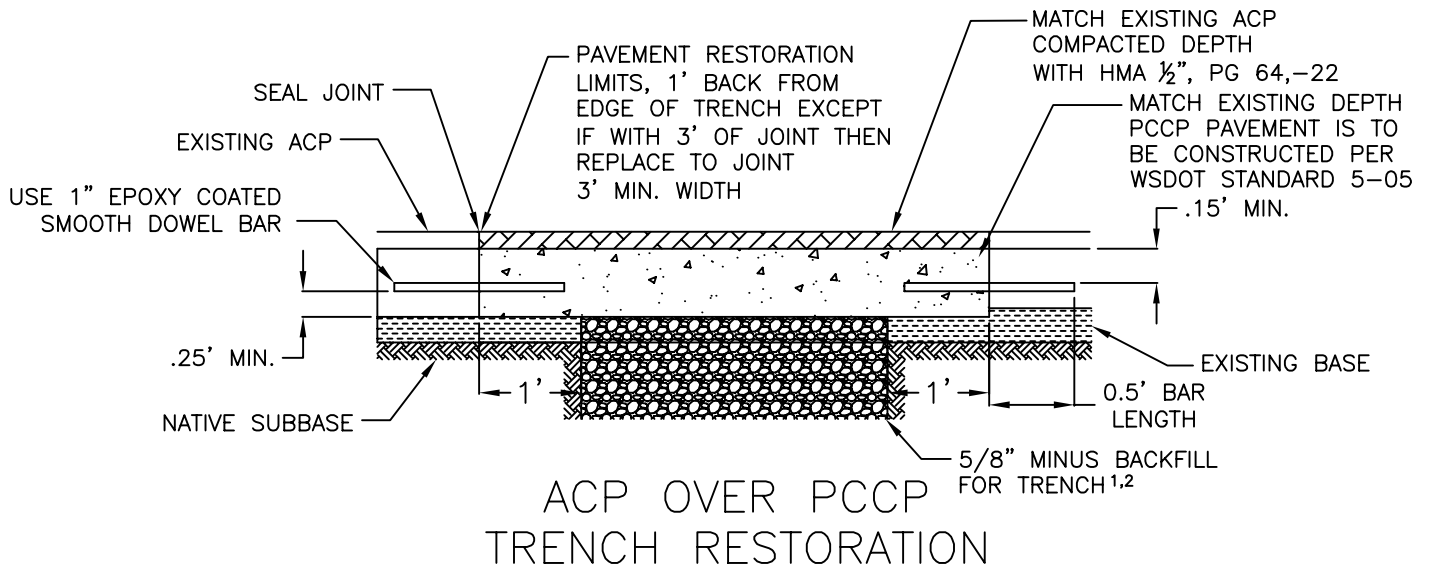
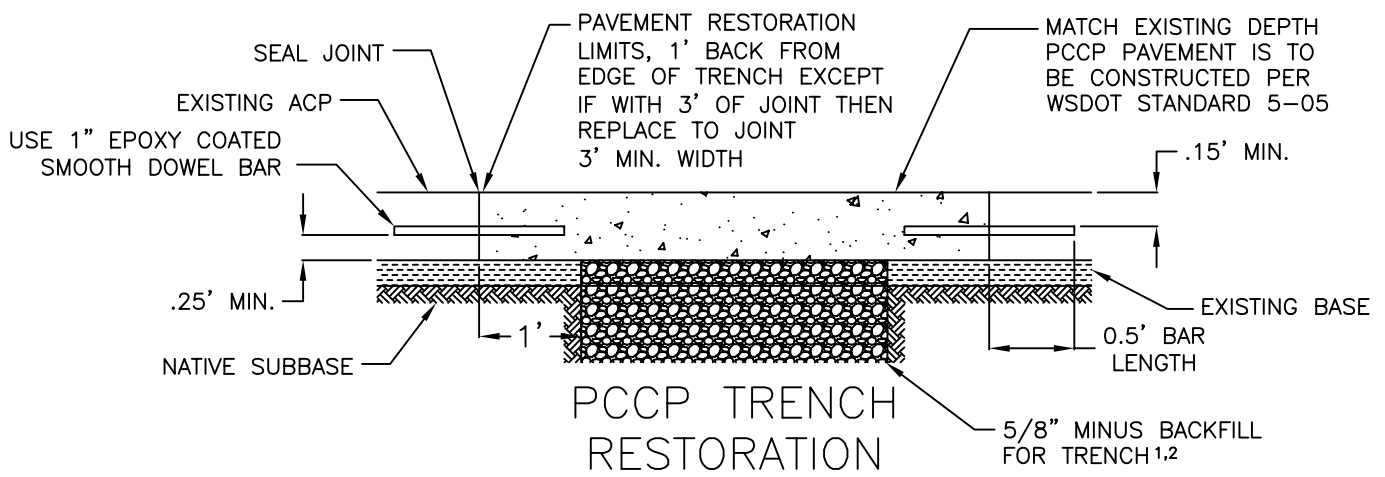
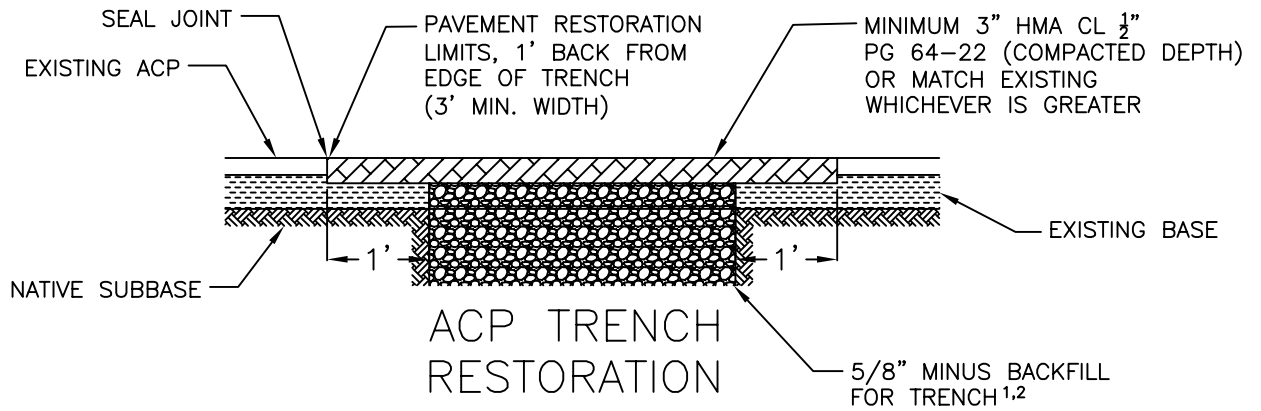


SECTION A-A

NOTES:

1. COMMERCIAL/INDUSTRIAL DRIVEWAYS WIDER THAN 40' MAY BE APPROVED BY THE ENGINEER CONSIDERING BOTH TRAFFIC SAFETY AND THE ACTIVITY BEING SERVED. ALL COMMERCIAL/INDUSTRIAL DRIVEWAYS SHALL HAVE AN EXPANSION JOINT LOCATED MID-WIDTH. SEE KCRS SEC. 3.04.
2. PIPE SHALL BE:
 - A. SIZED TO CONVEY COMPUTED STORM WATER RUNOFF, AND
 - B. MIN. 12" DIAMETER, AND
 - C. EQUAL TO OR LARGER THAN THE EXISTING PIPES WITHIN 500' UPSTREAM, AND
 - D. BEDDING SHALL BE 5/8" MINUS CSTC.
3. EXPOSED PIPE ENDS SHALL BE BEVELED TO MATCH THE SLOPE FACE AND PROJECT NO MORE THAN 2" BEYOND SLOPE SURFACE. PROJECTING HEADWALLS ARE NOT ACCEPTABLE.
4. ALL PIPE SHALL BE CLASS IV CONCRETE PIPE, AND SHALL HAVE A MINIMUM OF 12" COVER.
5. PIPE SHALL BE INSTALLED IN A STRAIGHT UNIFORM ALIGNMENT AT A MIN. 0.5% SLOPE (0.5 FT. PER 100 FT.) WITH THE DOWNSTREAM END LOWER THAN THE UPSTREAM END.
6. PIPE MAY BE OMITTED IF ROADSIDE DITCH DOES NOT EXIST AND DRIVEWAY DOES NOT BLOCK NATURAL FLOW.
7. DRIVEWAY SLOPE SHALL MATCH TO BACK EDGE OF SHOULDER, BUT SHOULDER SLOPE AND EDGE OF SHOULDER SHALL NOT BE ALTERED AS A RESULT OF DRIVEWAY CONSTRUCTION.
8. PAVED DRIVEWAYS SHALL BE PAVED THROUGH THE RIGHT-OF-WAY WITH 3" (MIN) A.C., BUT NOT P.C.C.
9. GRAVEL DRIVEWAYS SHALL HAVE A PAVED DRIVEWAY APPROACH BETWEEN THE EDGE OF PAVEMENT AND RIGHT-OF-WAY WITH 3" (MIN) A.C. ONLY WITH DIMENSIONS L=W.
10. SINGLE-FAMILY RESIDENTIAL USES SHALL SURFACE THE FIRST 40 FT OF UNPAVED DRIVEWAYS MEASURED FROM THE BACK OF THE SIDEWALK OR PUBLIC RIGHT-OF-WAY, WHICHEVER IS GREATER.
11. SEE SEC. 3.2.13.

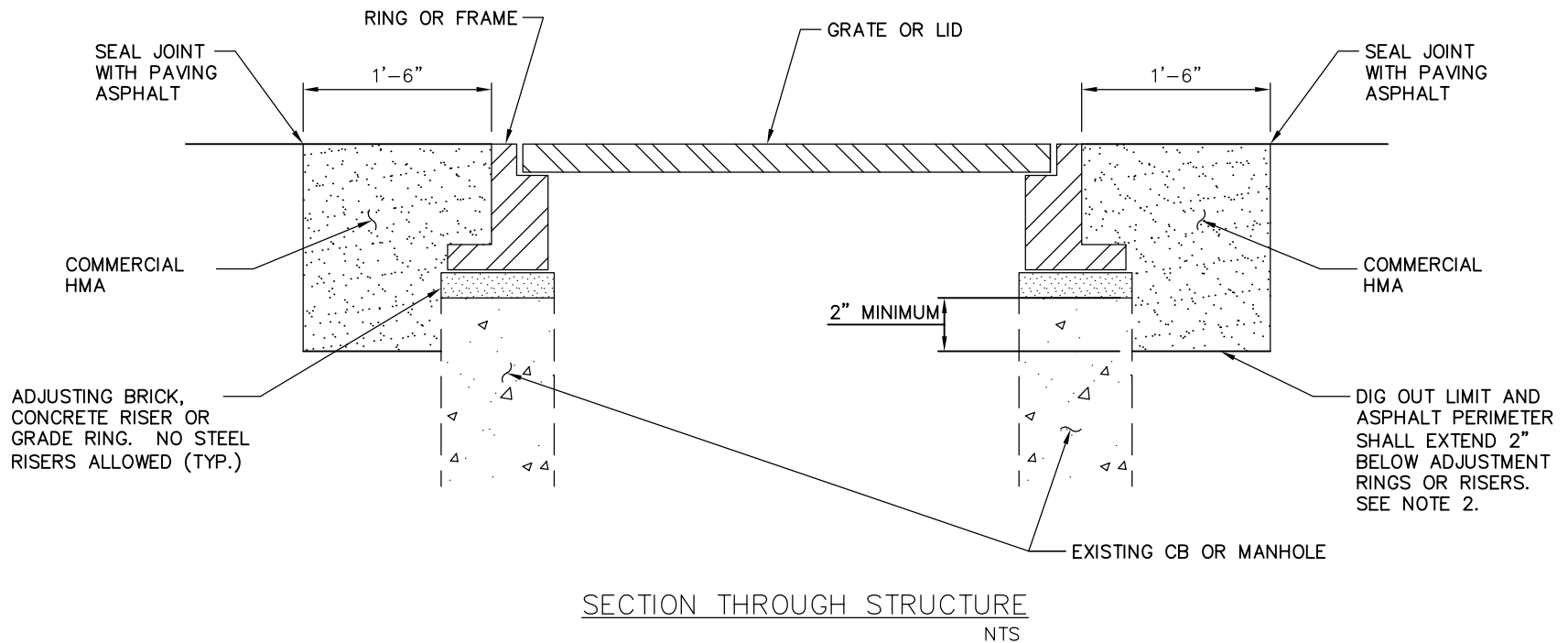
REV: MARCH 2014



NOTES:

- 1) FOR TRENCHES LESS THAN 18" WIDE, USE 100% CDF FOR TRENCH BACKFILL.
- 2) FOR TRENCHES GREATER THAN 18" WIDE, ALL BACKFILL IN RIGHT-OF-WAY SHALL BE MIN. $\frac{5}{8}$ " CSTC.

JULY 2014



NOTES:

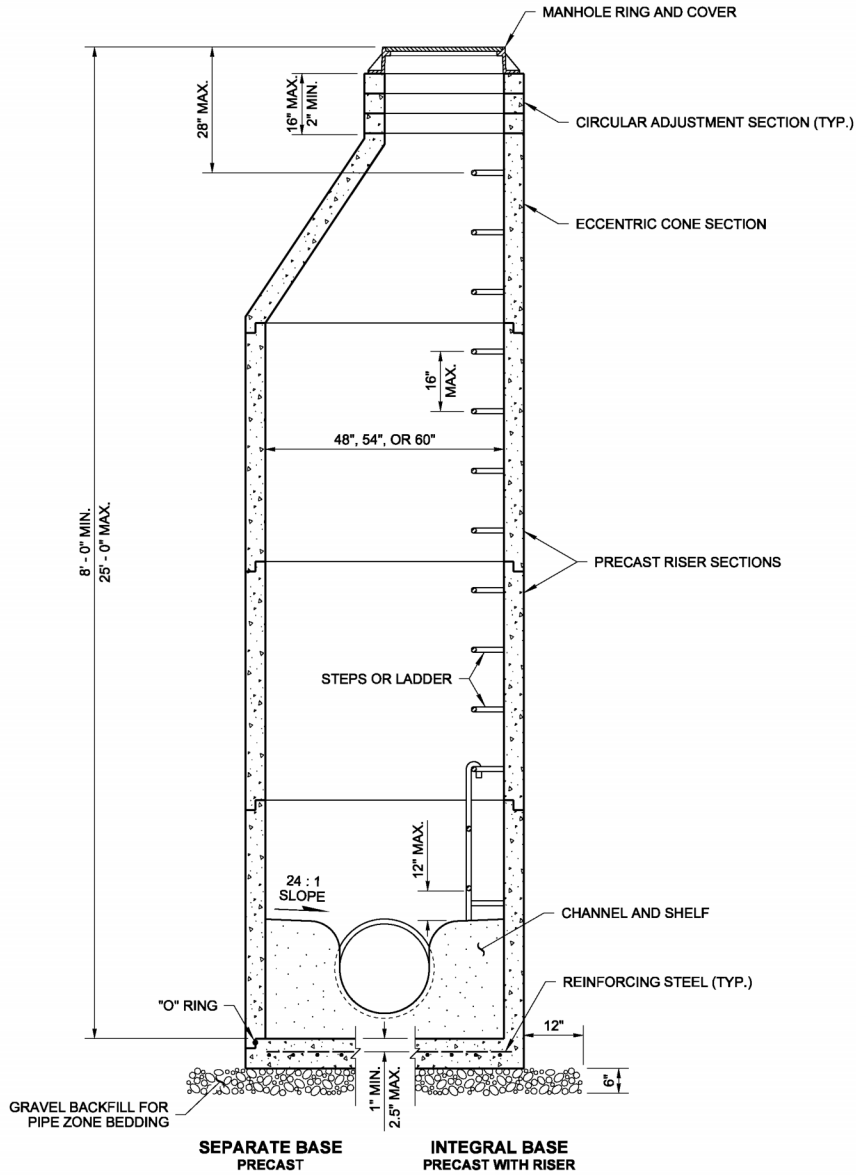
- 1) THE EXISTING STRUCTURE SHALL BE RAISED OR LOWERED TO THE REQUIRED ELEVATION USING CONCRETE BLOCKS, BRICK, AND/OR CONCRETE RINGS. EACH JOINT SHALL BE GROUTED USING A $\frac{3}{4}$ INCH LAYER OF NON-SHRINK MORTAR, PLASTERED SMOOTH INSIDE AND OUT. COVERS SHALL BE SEATED ON A UNIFORM LAYER OF GROUT TO PREVENT ROCKING.
- 2) IF RISERS OR GRADE RINGS ARE LESS THAN 2" THICK, THEN THE DIG-OUT LIMITS (AND HMA DEPTH) SHALL BE EXTENDED TO 2" BELOW THE NEXT RING OR RISER THAT IS GREATER THAN 2" THICK.
- 3) HMA SHALL BE MECHANICALLY COMPACTED IN 3" MAXIMUM LIFTS.
- 4) SEE DETAIL 3-36 FOR ADJUSTMENT OF SURVEY MONUMENT CASTINGS.

REV: NOV 2011

HPA PERMIT
(WAITING FOR PERMIT AT WDFW)

CITY OF FEDERAL WAY

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #36219/RFB#24-004**



NOTES

1. Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.
2. For pipe allowances, see **Standard Plan B-10.20**.

MANHOLE DIMENSION TABLE				
DIAM.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"



NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT UNLESS IT IS SIGNED AND SEALED BY AN ELECTRICIAN OR ENGINEER. THE ORIGINAL SIGNATURE AND SEAL MUST BE FILED AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

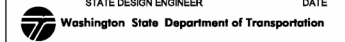
MANHOLE TYPE 1
STANDARD PLAN B-15.20-01

SHEET 1 OF 1 SHEET

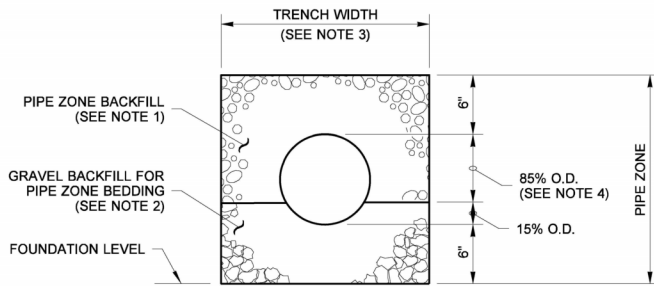
APPROVED FOR PUBLICATION

Pasco Bakotich III 02-07-12

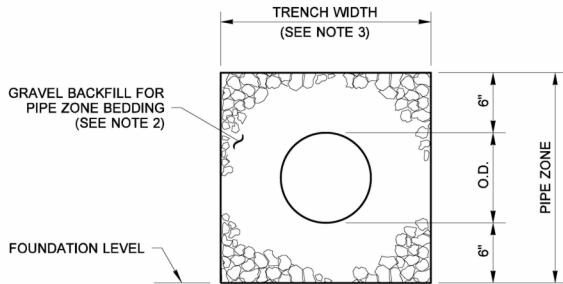
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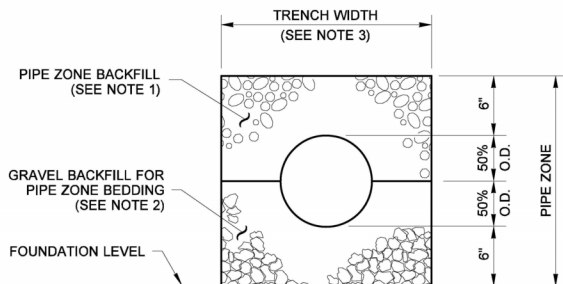
DRAWN BY: FERN LIDDELL



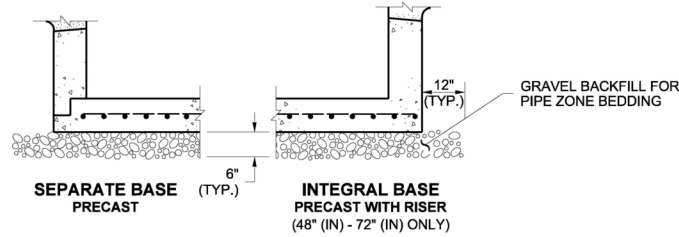
CONCRETE AND DUCTILE IRON PIPE



THERMOPLASTIC PIPE

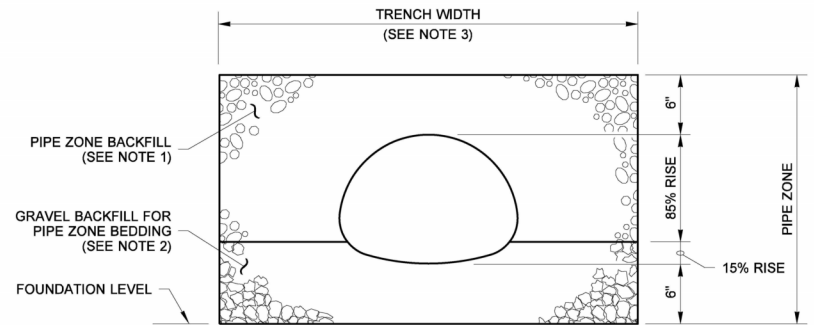


**METAL AND STEEL RIB
REINFORCED POLYETHYLENE PIPE**



TYPICAL CONDITION FOR DRAINAGE STRUCTURE

THIS DETAIL APPLIES TO STANDARD PLANS B-5.20, B-5.40, B-5.60, B-10.20, B-10.40, B-15.20, B-15.40, B-15.60, B-25.20, B-25.60, B-35.20 AND B-35.40.



PIPE ARCHES

CLEARANCE BETWEEN PIPES FOR MULTIPLE INSTALLATIONS		
PIPE	SIZE	MINIMUM DISTANCE BETWEEN BARRELS
CIRCULAR PIPE (DIAMETER)	UP TO 48"	24"
METAL PIPE ARCH (SPAN)	48" AND LARGER	DIAMETER/2 OR 36" WHICHEVER IS LESS



Aug 17, 2021

**PIPE ZONE BEDDING
AND BACKFILL
STANDARD PLAN B-55.20-03**

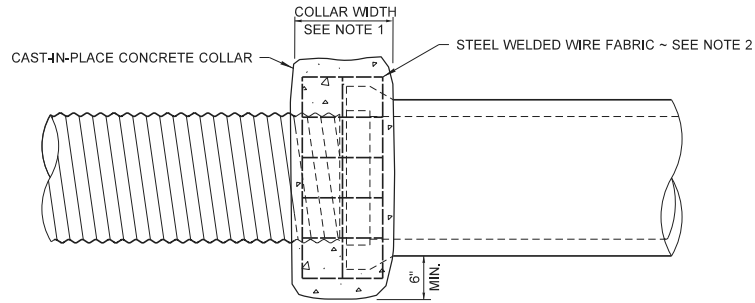
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

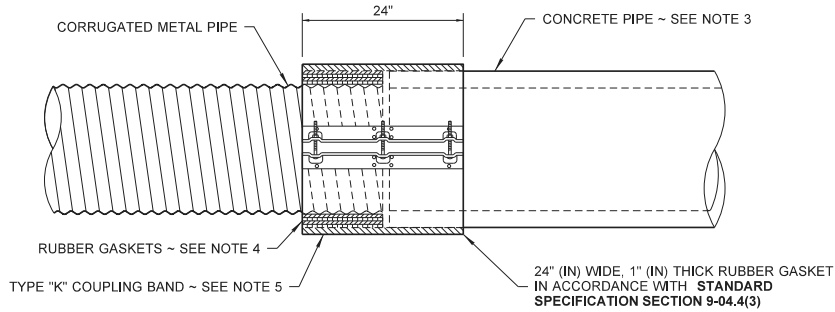
 Aug 17, 2021
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

NOTES

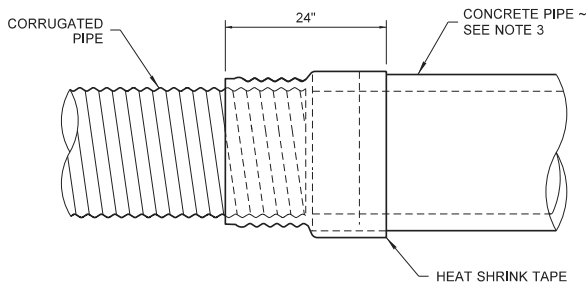
1. See **Standard Specifications Section 7-08.3(3)** for Pipe Zone Backfill.
2. See **Standard Specifications Section 9-03.12(3)** for Gravel Backfill for Pipe Zone Bedding.
3. See **Standard Specifications Section 2-09.4** for Measurement of Trench Width.
4. For sanitary sewer installation, concrete pipe shall be imbedded to spring line.



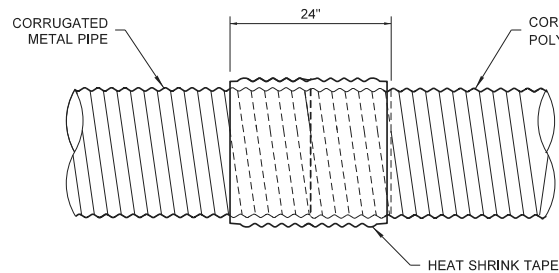
CONCRETE COLLAR OPTION



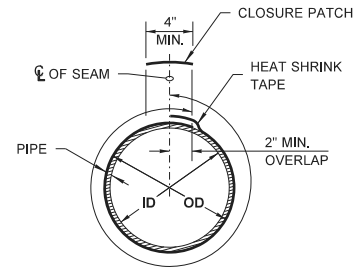
COUPLING BAND OPTION



HEAT SHRINK OPTION
CORRUGATED PIPE TO CONCRETE PIPE



HEAT SHRINK OPTION
CORRUGATED METAL PIPE TO CORRUGATED POLYETHYLENE PIPE



SECTION DETAIL

NOTES

1. The Concrete Collar width shall be one half of the outside pipe diameter of the largest pipe. The minimum Concrete Collar width shall be 12" (in). Concrete Collars may be used with all pipe materials and diameters. The Concrete Collar option shall only be used to extend existing pipes. Concrete shall be Commercial Concrete in accordance with **Standard Specification Section 6-02.3(2)**.
2. Steel Welded Wire Fabric shall be in accordance with **Standard Specification Section 9-07.7**. Install two wraps for size 6 x 6 W1.4 x W1.4 (10 Gage) Steel Welded Wire Fabric or one wrap for any of the following sizes:
 - 6 x 6 W2.1 x W2.1 (8 Gage)
 - 6 x 6 W2.9 x W2.9 (6 Gage)
 - 4 x 4 W2.9 x W2.9 (6 Gage)
 - 4 x 4 W4.0 x W4.0 (4 Gage)
 Provide 1 1/2" min. covering over wire fabric.
3. When a Coupling Band connection requires attachment to the bell end of a concrete pipe, the bell end of the pipe shall be removed before the connection is installed.
4. Increase the outside diameter of the metal pipe to match the outside diameter of the concrete pipe by installing 12" (in) wide rubber gaskets, thickness as required (Coupling Band only). The rubber gaskets shall be in accordance with **Standard Specification Section 9-04.4(3)**.
5. Use a flat Type K Coupling Band. Type K Coupling Bands with dimples are not allowed for the installation detail shown. The Coupling Band option shall only be used for extending existing pipes that have an inside diameter of 36" (in) or less.
6. Heat shrink shall have a width of 24" (in). The material shall be wrapped around the outside of the pipe with a 2" (in) minimum overlap. There shall also be a 4" (in) minimum closure patch of material centered along the entire length of the seam.

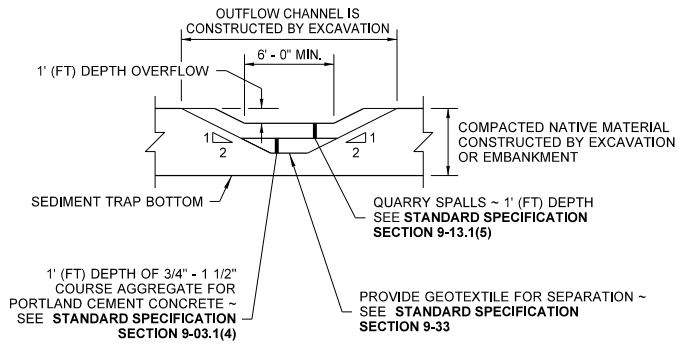


Julie Heilman
 Julie Heilman
 2020.09.01 07:54:03 -07'00'

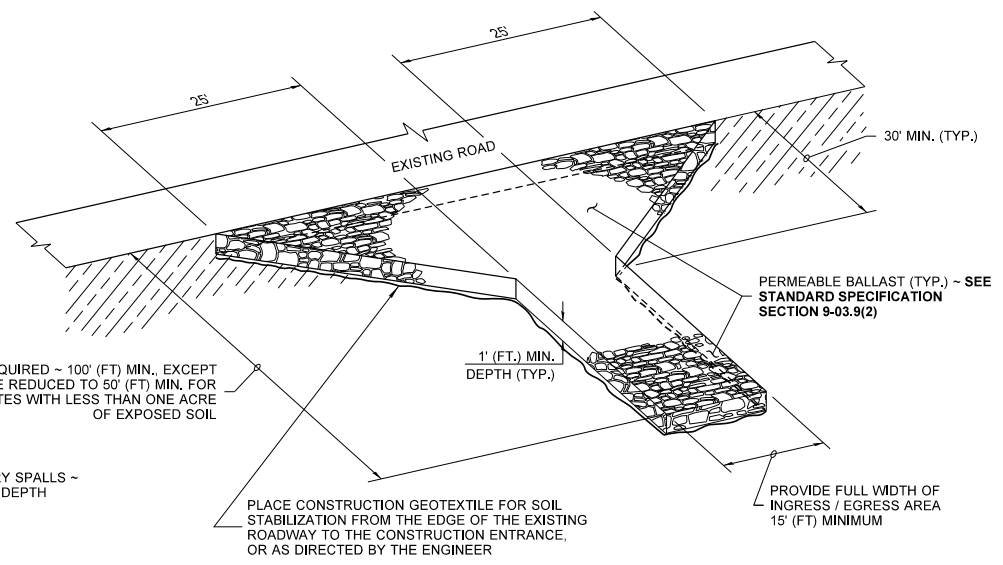
**CONNECTION DETAILS FOR
DISSIMILAR CULVERT PIPE**
STANDARD PLAN B-60.20-02
 SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Roark, Steve Digitally signed by Roark, Steve
 Date: 2020.09.09 09:52:35 -07'00'
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

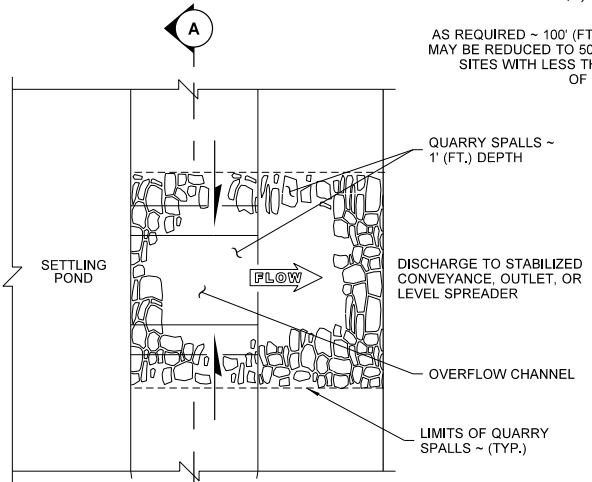


SECTION A

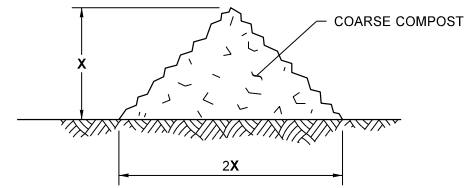


ISOMETRIC VIEW
STABILIZED CONSTRUCTION ENTRANCE

STABILIZED CONSTRUCTION ENTRANCE SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 8-01.3(7).

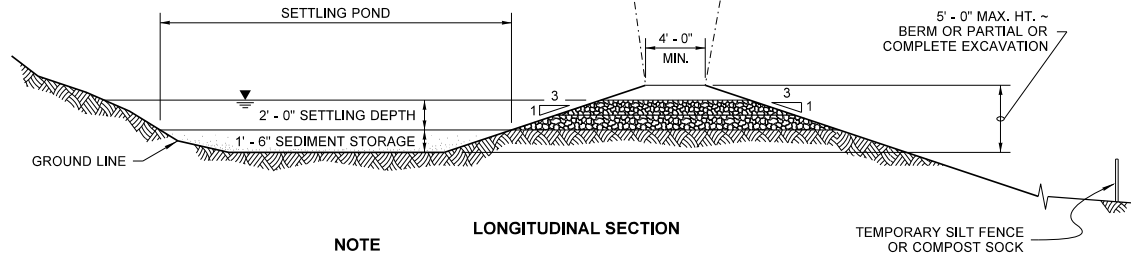


PARTIAL PLAN VIEW OF BERM
SHOWN LARGER FOR CLARITY



TYPICAL SECTION
COMPOST BERM DETAIL

X = 1' - 0" FOR SLOPES 4H:1V OR FLATTER
X = 1' - 6" FOR SLOPES STEEPER THAN 4H:1V



LONGITUDINAL SECTION

NOTE
PLACE GEOTEXTILE UNDER THE SPILLWAY AND SIDE SLOPES. PROVIDE A CONTINUOUS LAYER BETWEEN THE GRAVEL/ROCK AND THE NATIVE EARTHEN MATERIAL.

TEMPORARY SEDIMENT TRAP

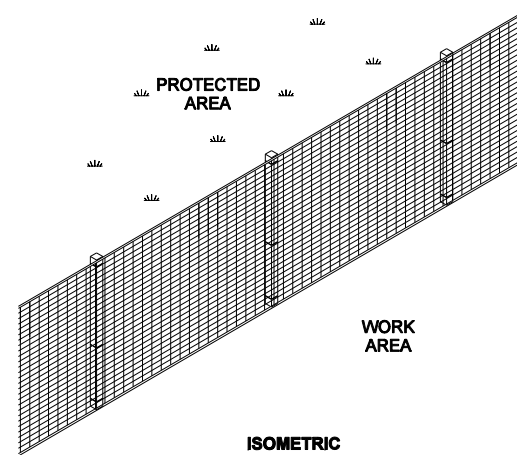
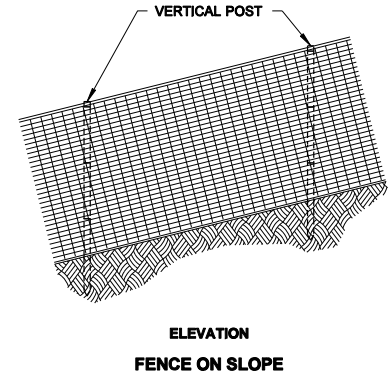
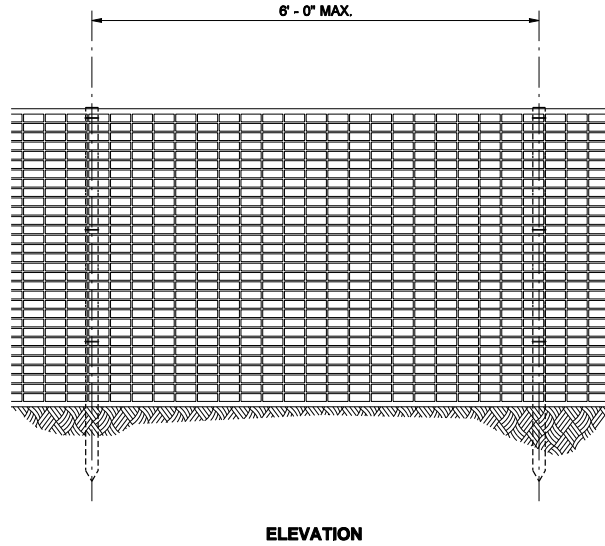
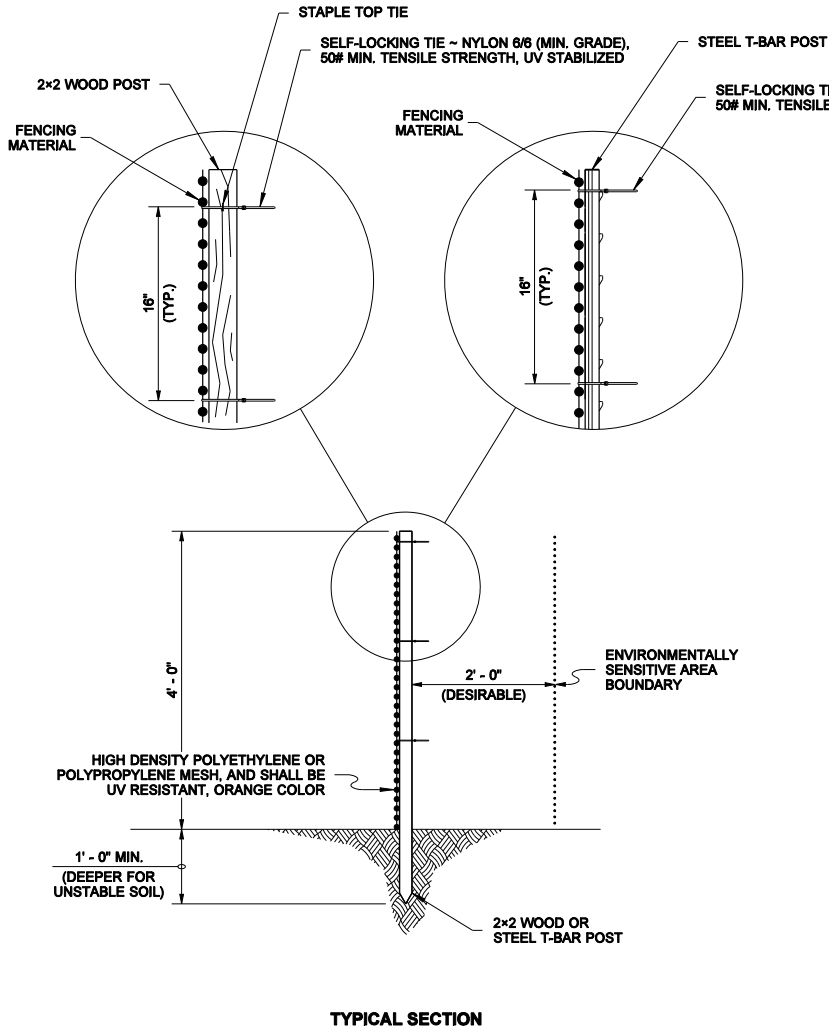


STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
Hartwig, Juli
JULI DEE HARTWIG
LICENSE NO. 1422
DATE: 06-21-17

**MISCELLANEOUS
EROSION CONTROL DETAILS
STANDARD PLAN I-80.10-02**

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff Carpenter, Jeff
Jul 15 2016 2:28 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation



NOTE

1. Post shall have sufficient strength and durability to support the fence through the life of the project.



STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
MARK W. MAURER
CERTIFICATE NO. 000598

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HIGH VISIBILITY FENCE

STANDARD PLAN I-10.10-01

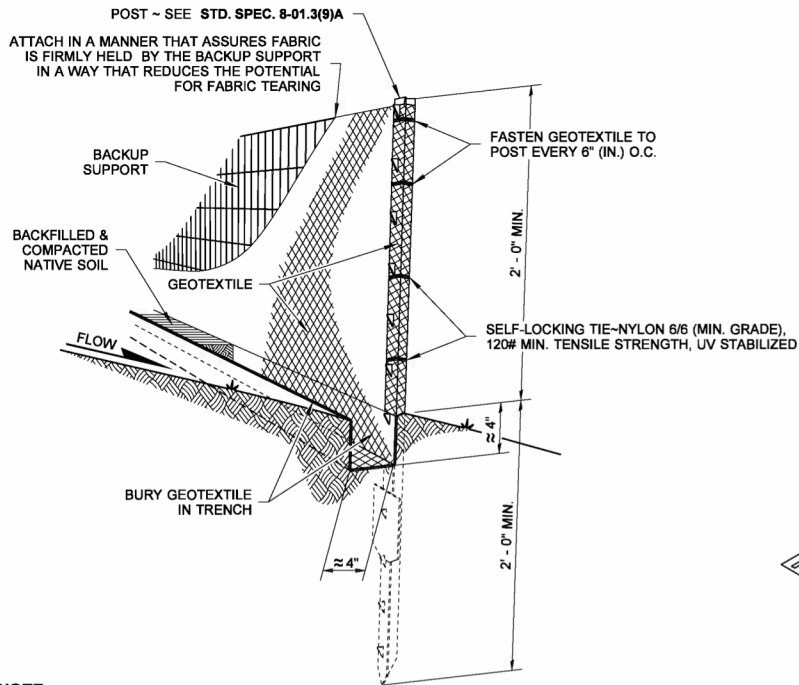
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 08-11-09

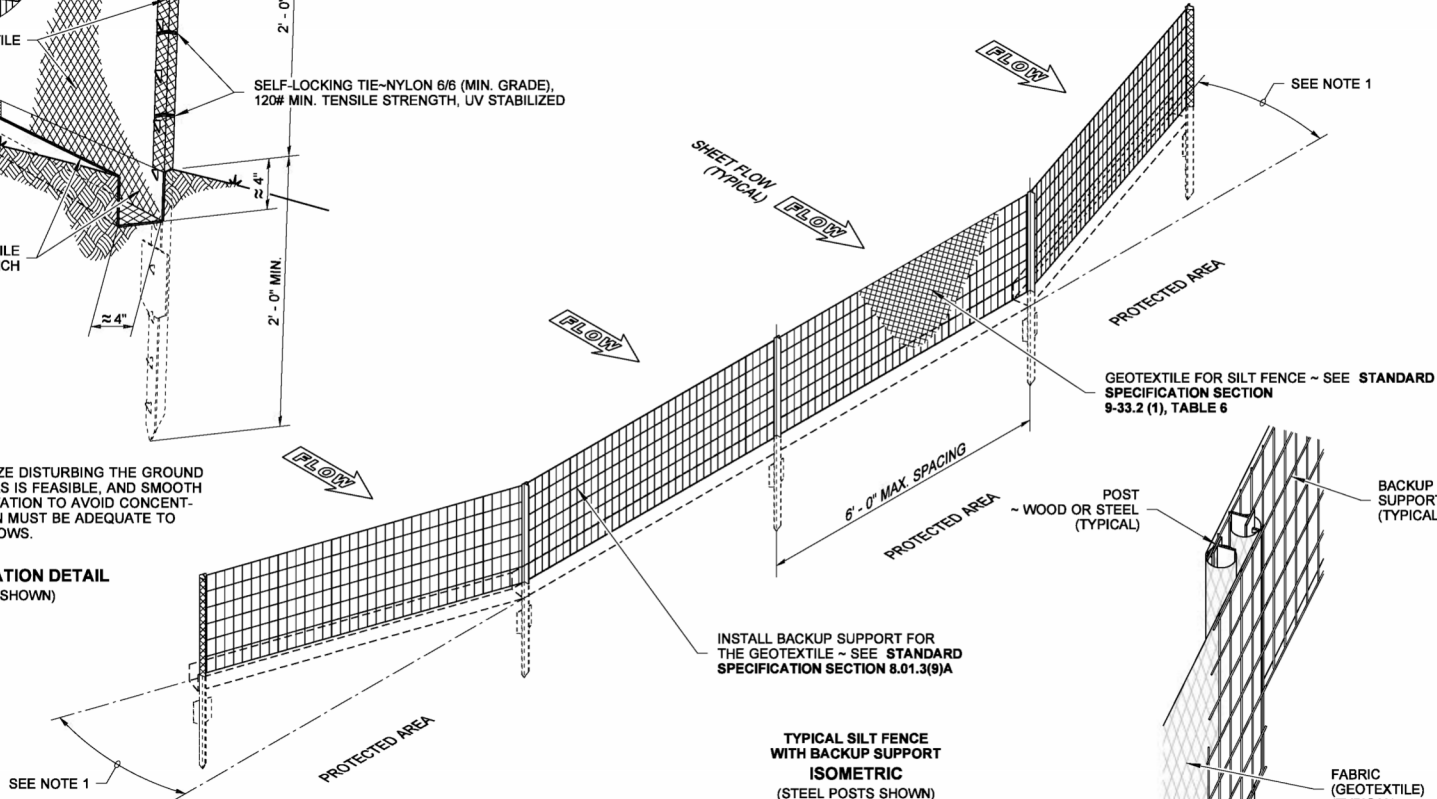
STATE DESIGN ENGINEER DATE





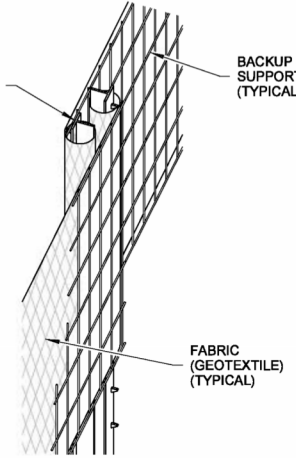
NOTE
 DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL
 (STEEL POSTS SHOWN)



INSTALL BACKUP SUPPORT FOR THE GEOTEXTILE ~ SEE STANDARD SPECIFICATION SECTION 8.01.3(9)A

TYPICAL SILT FENCE WITH BACKUP SUPPORT ISOMETRIC
 (STEEL POSTS SHOWN)



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
 (STEEL POSTS SHOWN)

NOTES

1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
2. Perform maintenance in accordance with **Standard Specifications 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.

DRAWN BY: BILL BERENS

STATE OF WASHINGTON
 REGISTERED
 LANDSCAPE ARCHITECT

SANDRA L. SALISBURY
 CERTIFICATE NO. 000860

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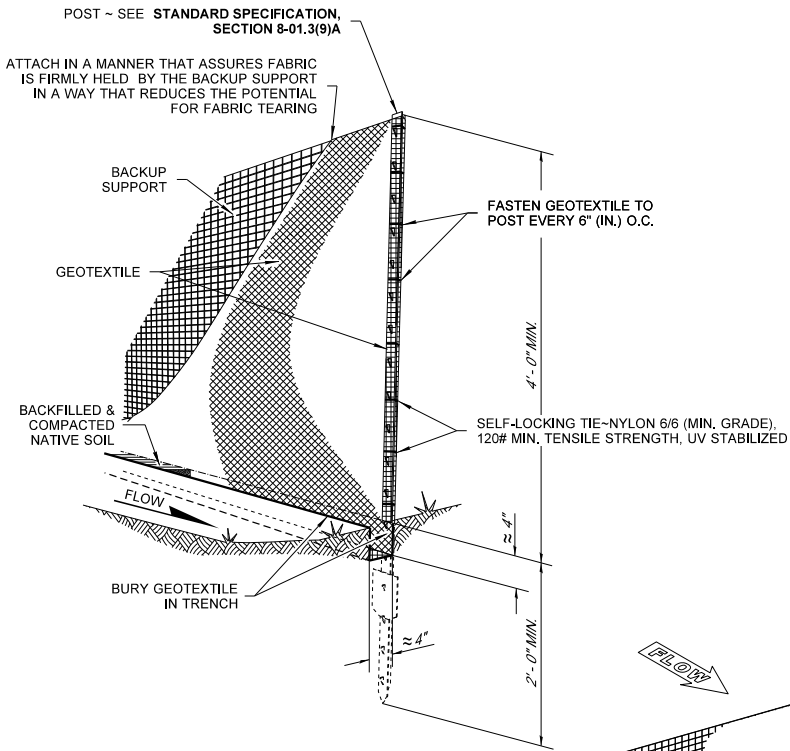
SILT FENCE WITH BACKUP SUPPORT
STANDARD PLAN I-30.10-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

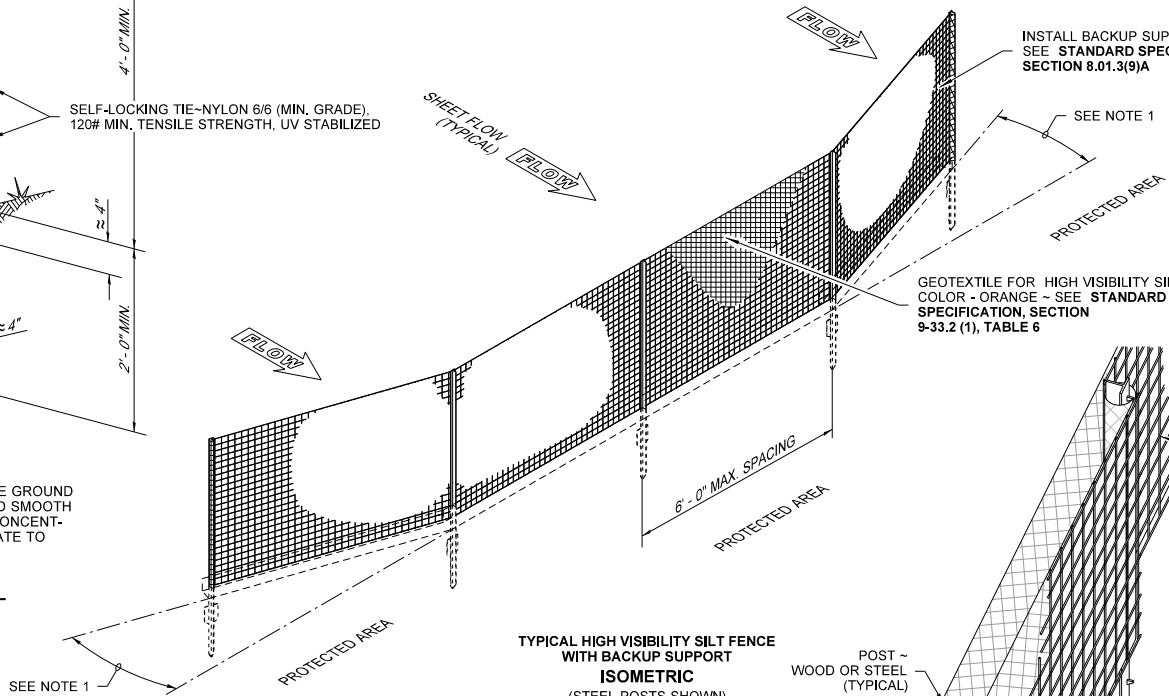
Pasco Bakotich III	3/22/13
STATE DESIGN ENGINEER	DATE

Washington State Department of Transportation

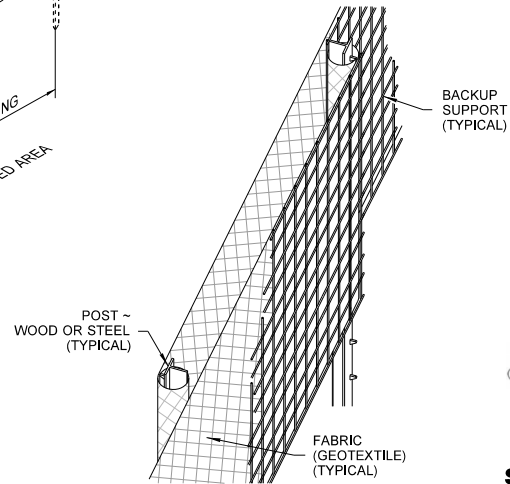


NOTE
 DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL
 (STEEL POSTS SHOWN)



TYPICAL HIGH VISIBILITY SILT FENCE WITH BACKUP SUPPORT ISOMETRIC
 (STEEL POSTS SHOWN)



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
 (STEEL POSTS SHOWN)

NOTES

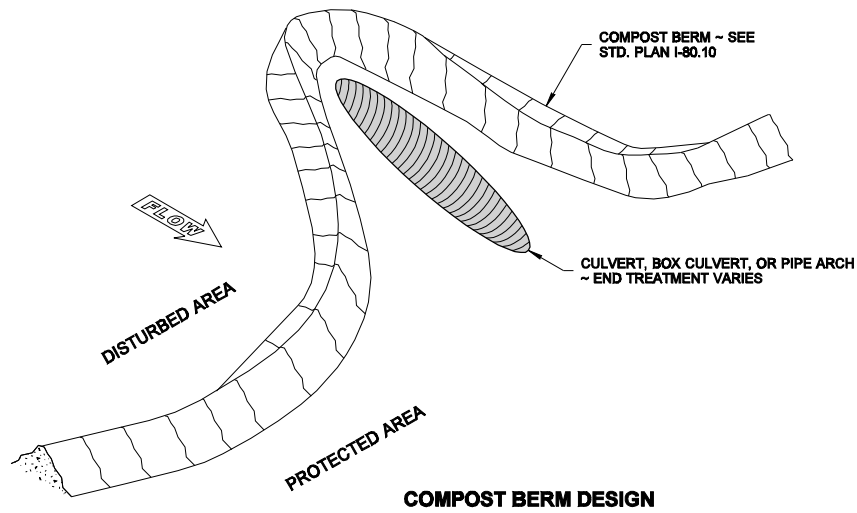
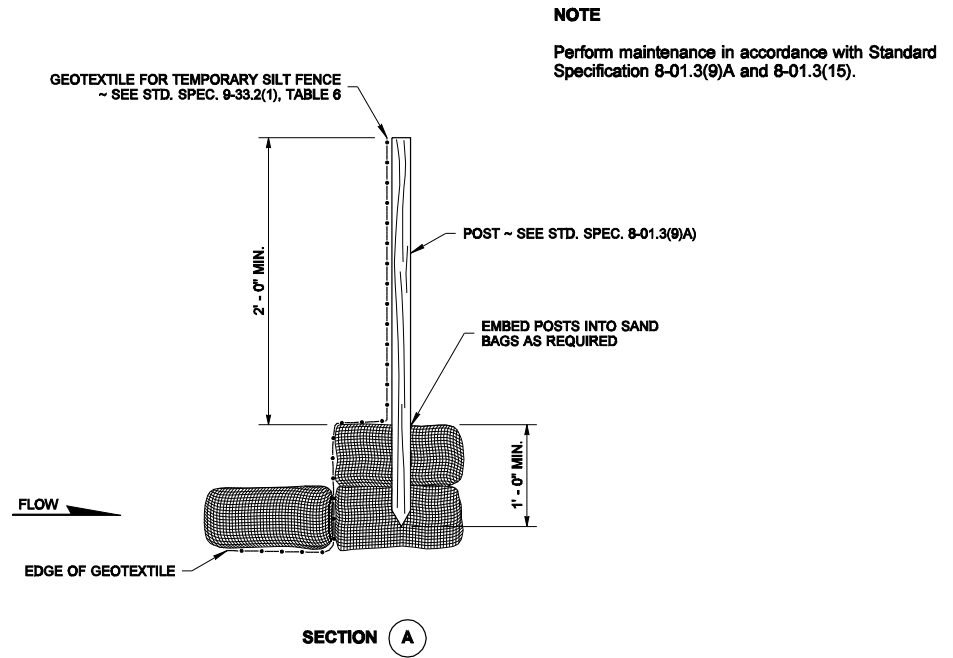
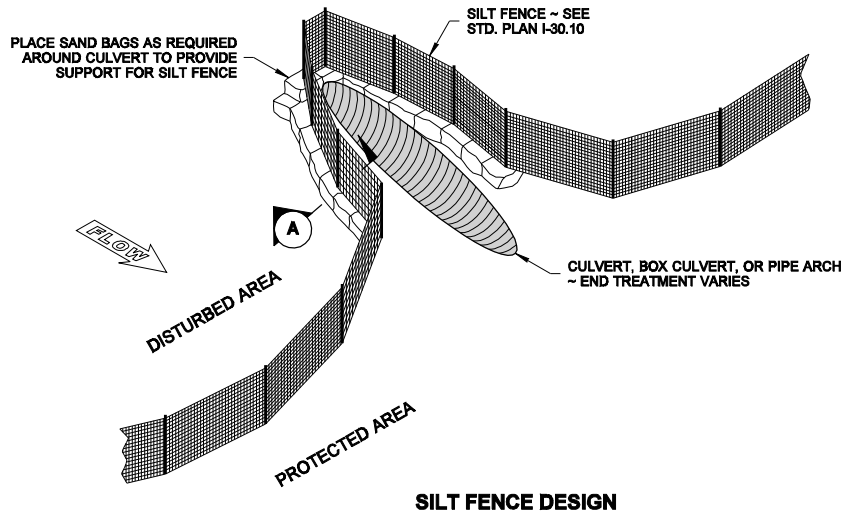
1. Angle high visibility silt fence terminal end uphill 24" (in) to 48" (in) to prevent sediment from flowing around the end of the fence.
2. Perform maintenance in accordance with **Standard Specification, Sections 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.



Hartwig, Juli
 Jul 11 2019 11:26 AM
 cosign

HIGH VISIBILITY SILT FENCE WITH BACKUP SUPPORT
STANDARD PLAN I-30.16-01
 SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
 Roark, Steve
 Jul 11 2019 12:30 PM
 cosign
 STATE DESIGN ENGINEER
 Washington State Department of Transportation



STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

MARK W. MAURER
CERTIFICATE NO. 000598

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**EROSION CONTROL
AT CULVERT ENDS**

STANDARD PLAN I-30.20-00

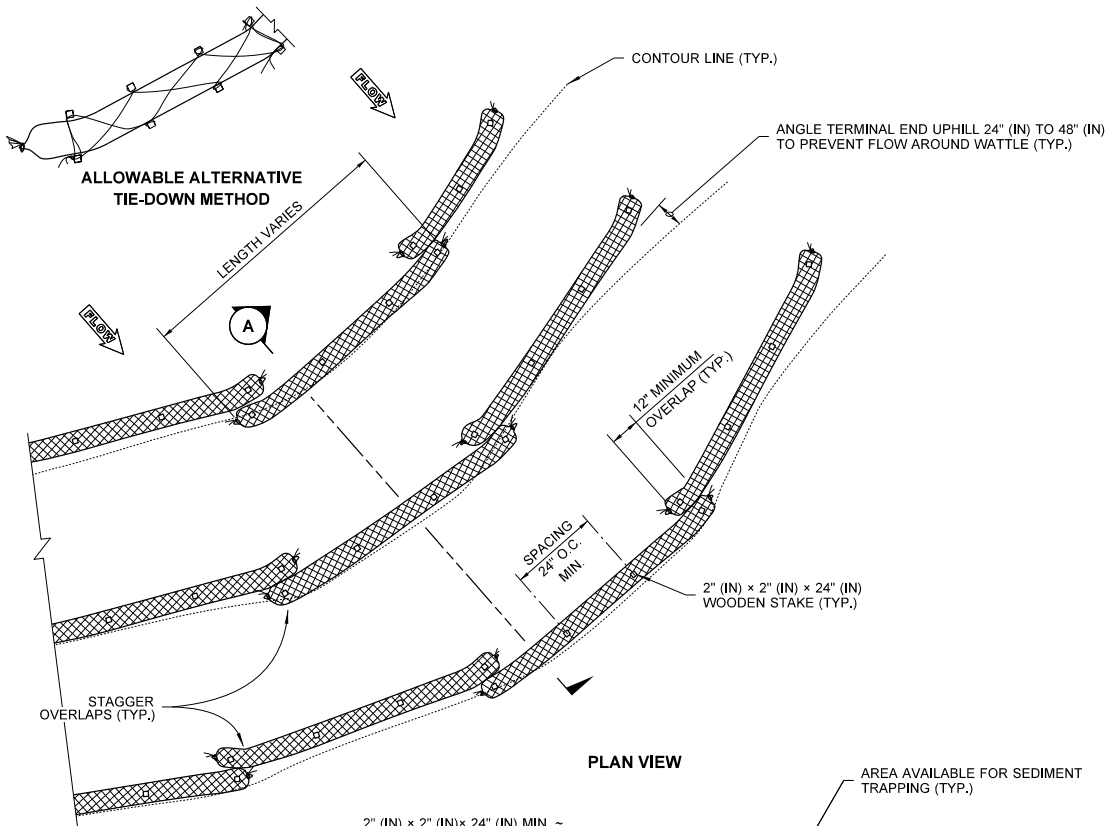
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

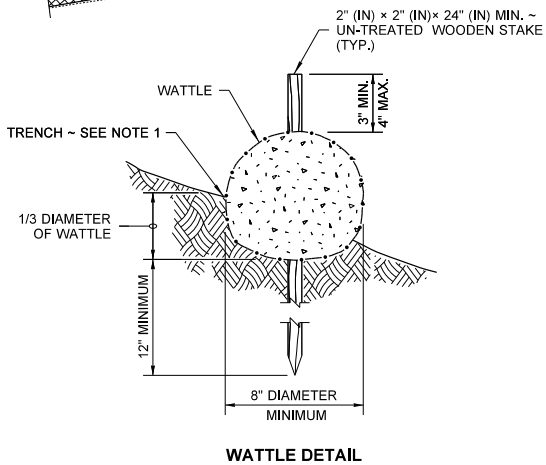
Pasco Bakotich III 09-20-07
STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

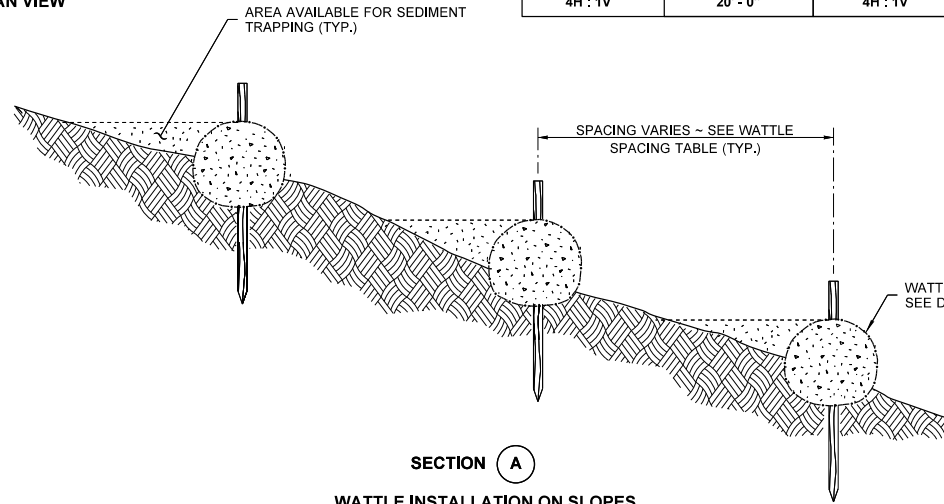
DRAWN BY: FERN LIDDELL



PLAN VIEW



WATTLE DETAIL



SECTION A
WATTLE INSTALLATION ON SLOPES

WATTLE SPACING TABLE			
TEMPORARY		PERMANENT	
8" - 10" OR 10" - 12" DIAM.		10" - 12" DIAM.	
SLOPE	MAX. SPACING	SLOPE	MAX. SPACING
1H : 1V	5' - 0"	-	-
2H : 1V	10' - 0"	2H : 1V	5' - 0"
3H : 1V	15' - 0"	3H : 1V	10' - 0"
4H : 1V	20' - 0"	4H : 1V	15' - 0"

NOTES

1. Wattles shall be in accordance with **Standard Specification, Section 9-14.5(5)**. Install Wattles along contours. Installation shall be in accordance with **Standard Specification, Section 8-01.3(10)**.
2. Securely knot each end of Wattle. Overlap adjacent Wattle ends 12" (in) behind one another and securely tie together.
3. Compact excavated soil and trenches to prevent undercutting. Additional staking may be necessary to prevent undercutting.
4. Install Wattle perpendicular to flow along contours.
5. Wattles shall be inspected regularly, and immediately after a rainfall produces runoff, to ensure they remain thoroughly entrenched and in contact with the soil.
6. Perform maintenance in accordance with **Standard Specification, Section 8-01.3(15)**.
7. Refer to **Standard Specification, Section 8-01.3(16)** for removal.

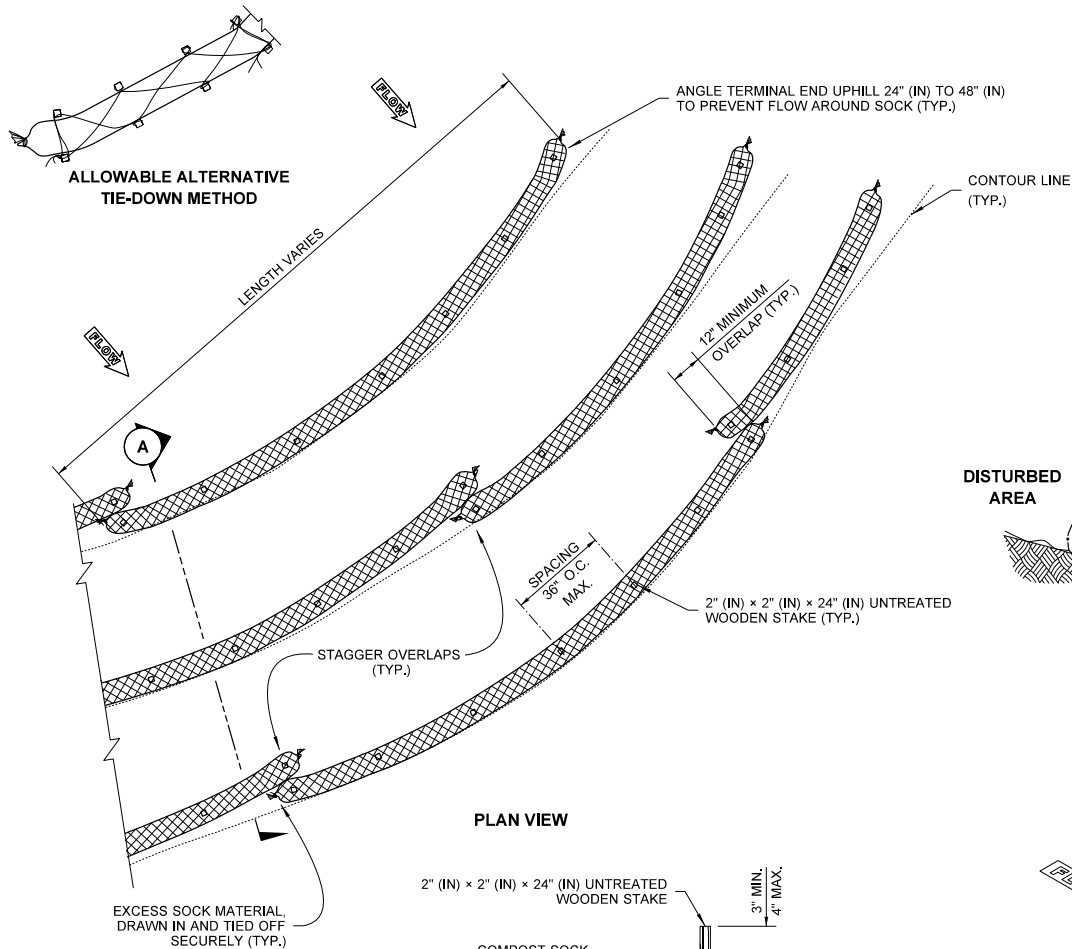


Hartwig, Juli
Jun 4 2019 8:05 AM

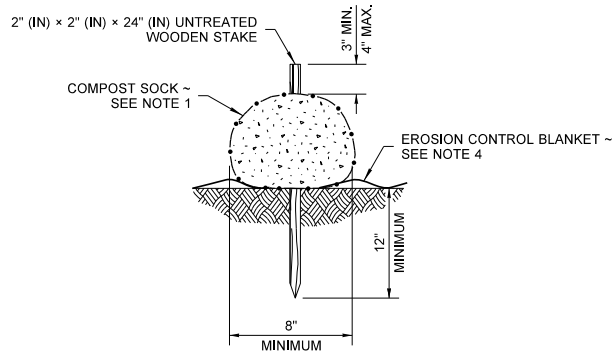
WATTLE INSTALLATION ON SLOPE
STANDARD PLAN I-30.30-02
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Roark, Steve
Jun 12 2019 7:41 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

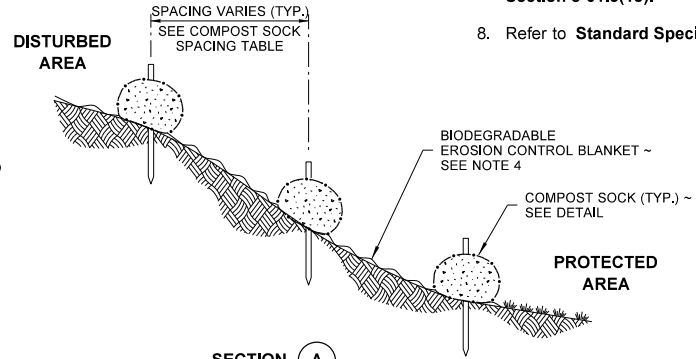
DRAWN BY: FERN LIDDELL



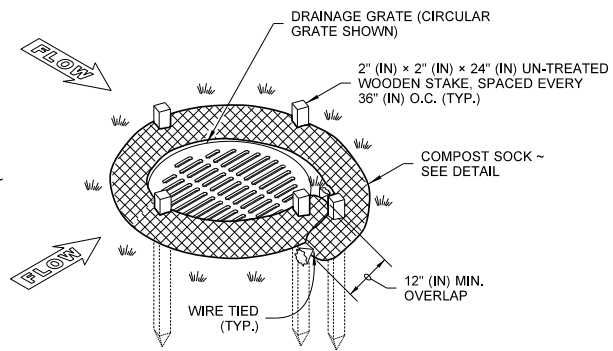
PLAN VIEW



COMPOST SOCK DETAIL



SECTION A



**ISOMETRIC VIEW
CATCH BASIN INSTALLATION**

NOTES

1. Compost Sock shall be in accordance with **Standard Specification, Section 9-14.5(6)**.
2. Securely knot each end of Compost Sock. Overlap adjacent Compost Sock ends 12" (in) behind one another and securely tie together.
3. Compost to be dispersed on site as determined by the Engineer, when vegetation covers the surface.
4. If Erosion Control Blanket is specified, place Compost Sock on top of blanket. See **Standard Plan I-60.10**.
5. Install Compost Sock perpendicular to flow along contours.
6. Remove sediment from the up slope side of the Compost Sock when accumulation has reached 1/2 of the effective height of the Compost Sock without compromising the intended function of the Compost Sock per **Standard Specification, section 8-01.3(12)** as determined by the Engineer.
7. Perform maintenance in accordance with **Standard Specification, Section 8-01.3(15)**.
8. Refer to **Standard Specification, Section 8-01.3(16)** for removal.

8" DIAMETER MINIMUM COMPOST SOCK SPACING TABLE	
SLOPE	MAXIMUM SPACING
1H : 1V	5' - 0"
2H : 1V	10' - 0"
3H : 1V	15' - 0"
4H : 1V	20' - 0"



Hartwig, Juli
Jun 4 2019 8:06 AM
cosign

COMPOST SOCK

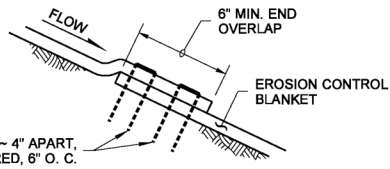
STANDARD PLAN I-30.40-02

SHEET 1 OF 1 SHEET

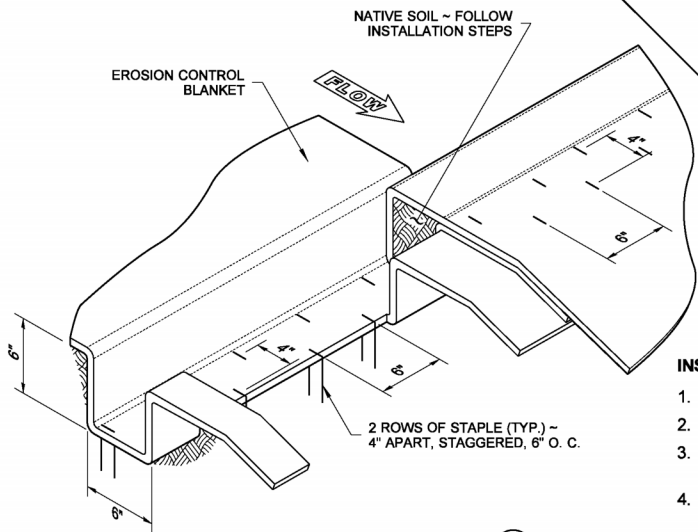
APPROVED FOR PUBLICATION
Korak, Sieve
Jun 12 2019 7:41 AM
cosign

STATE DESIGN ENGINEER
Washington State Department of Transportation

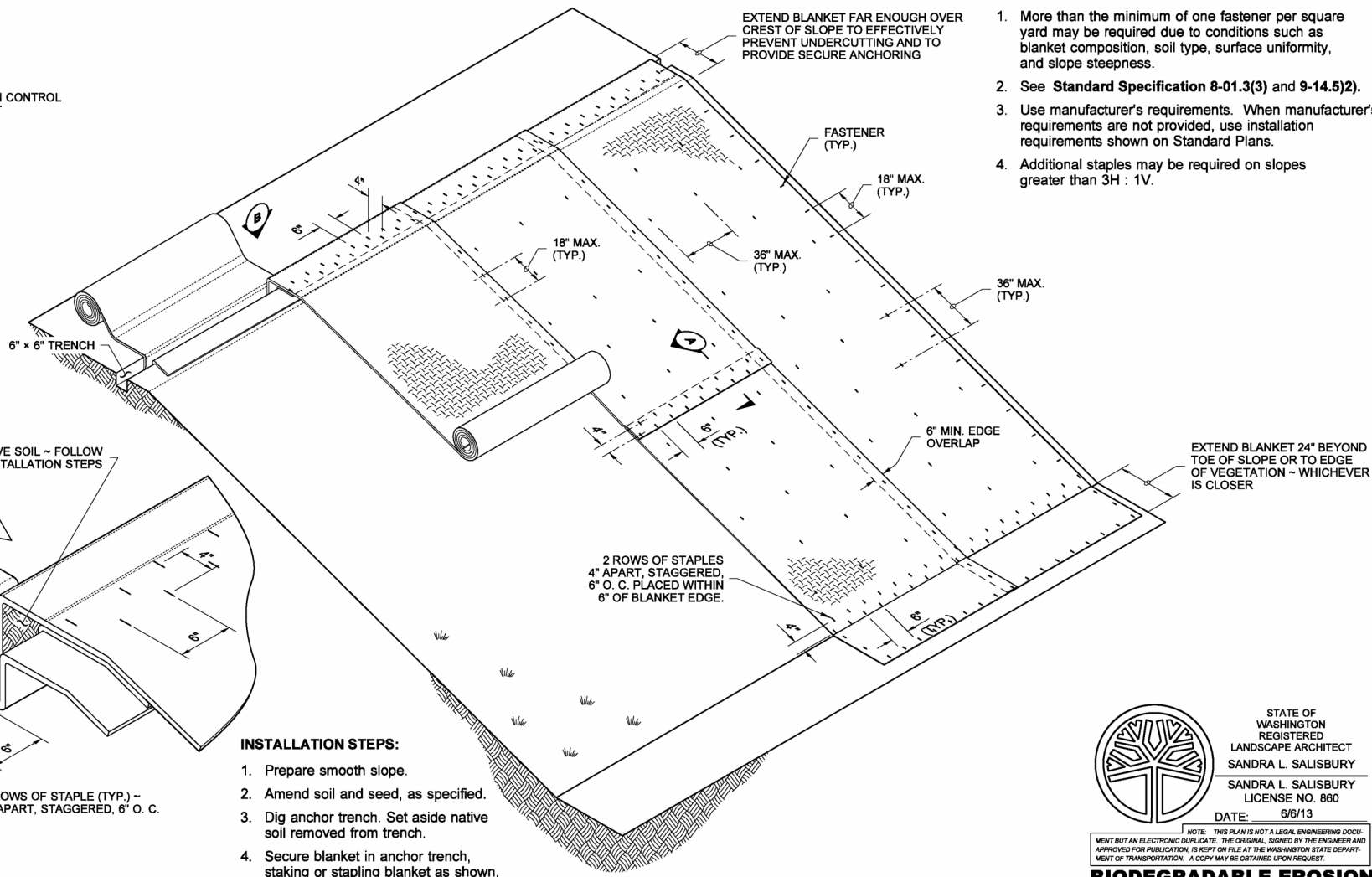
DRAWN BY: LISA CYFORD



SHINGLE SPLICE ~ SECTION A



INITIAL ANCHOR ~ DETAIL B



ISOMETRIC VIEW

INSTALLATION STEPS:

1. Prepare smooth slope.
2. Amend soil and seed, as specified.
3. Dig anchor trench. Set aside native soil removed from trench.
4. Secure blanket in anchor trench, staking or stapling blanket as shown.
5. Replace native soil previously removed from trench.
6. Roll blanket down the slope in a controlled manner, taking care to remove excess slack, and taking care not to stretch blanket.
7. Stake or staple blanket as shown so there are no gaps between the blanket and the soil. Staple while unrolling blanket to minimize walking on blanket.

NOTES

1. More than the minimum of one fastener per square yard may be required due to conditions such as blanket composition, soil type, surface uniformity, and slope steepness.
2. See **Standard Specification 8-01.3(3) and 9-14.5(2)**.
3. Use manufacturer's requirements. When manufacturer's requirements are not provided, use installation requirements shown on Standard Plans.
4. Additional staples may be required on slopes greater than 3H : 1V.



STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
SANDRA L. SALISBURY
LICENSE NO. 860
DATE: 6/6/13

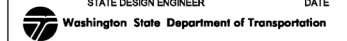
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BIODEGRADABLE EROSION CONTROL BLANKET PLACEMENT FOR SLOPES STANDARD PLAN I-60.10-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 6/10/13
STATE DESIGN ENGINEER DATE



State of Washington
 Department of Labor & Industries
 Prevailing Wage Section - Telephone 360-902-5335
 PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 06/21/2024

<u>County</u>	<u>Trade</u>	<u>Job Classification</u>	<u>Wage</u>	<u>Holiday</u>	<u>Overtime</u>	<u>Note</u>	<u>*Risk Class</u>
King	<u>Asbestos Abatement Workers</u>	Journey Level	\$59.07	<u>5D</u>	<u>1H</u>		<u>View</u>
King	<u>Boilermakers</u>	Journey Level	\$74.29	<u>5N</u>	<u>1C</u>		<u>View</u>
King	<u>Brick Mason</u>	Journey Level	\$69.07	<u>7E</u>	<u>1N</u>		<u>View</u>
King	<u>Brick Mason</u>	Pointer-Caulker-Cleaner	\$69.07	<u>7E</u>	<u>1N</u>		<u>View</u>
King	<u>Building Service Employees</u>	Janitor	\$29.33	<u>5S</u>	<u>2F</u>		<u>View</u>
King	<u>Building Service Employees</u>	Traveling Waxer/Shampooer	\$29.78	<u>5S</u>	<u>2F</u>		<u>View</u>
King	<u>Building Service Employees</u>	Window Cleaner (Non-Scaffold)	\$32.93	<u>5S</u>	<u>2F</u>		<u>View</u>
King	<u>Building Service Employees</u>	Window Cleaner (Scaffold)	\$33.93	<u>5S</u>	<u>2F</u>		<u>View</u>
King	<u>Cabinet Makers (In Shop)</u>	Journey Level	\$22.74		<u>1</u>		<u>View</u>
King	<u>Carpenters</u>	Acoustical Worker	\$74.96	<u>15J</u>	<u>4C</u>		<u>View</u>
King	<u>Carpenters</u>	Bridge, Dock And Wharf Carpenters	\$74.96	<u>15J</u>	<u>4C</u>		<u>View</u>
King	<u>Carpenters</u>	Floor Layer & Floor Finisher	\$74.96	<u>15J</u>	<u>4C</u>		<u>View</u>
King	<u>Carpenters</u>	Journey Level	\$74.96	<u>15J</u>	<u>4C</u>		<u>View</u>
King	<u>Carpenters</u>	Scaffold Erector	\$74.96	<u>15J</u>	<u>4C</u>		<u>View</u>
King	<u>Cement Masons</u>	Application of all Composition Mastic	\$72.87	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Application of all Epoxy Material	\$72.37	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Application of all Plastic Material	\$72.87	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Application of Sealing Compound	\$72.37	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Application of Underlayment	\$72.87	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Building General	\$72.37	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Composition or Kalman Floors	\$72.87	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Concrete Paving	\$72.37	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Curb & Gutter Machine	\$72.87	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Curb & Gutter, Sidewalks	\$72.37	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Curing Concrete	\$72.37	<u>15J</u>	<u>4U</u>		<u>View</u>
King	<u>Cement Masons</u>	Finish Colored Concrete	\$72.87	<u>15J</u>	<u>4U</u>		<u>View</u>

King	Cement Masons	Floor Grinding	\$72.87	15J	4U		View
King	Cement Masons	Floor Grinding/Polisher	\$72.37	15J	4U		View
King	Cement Masons	Green Concrete Saw, self-powered	\$72.87	15J	4U		View
King	Cement Masons	Grouting of all Plates	\$72.37	15J	4U		View
King	Cement Masons	Grouting of all Tilt-up Panels	\$72.37	15J	4U		View
King	Cement Masons	Gunite Nozzleman	\$72.87	15J	4U		View
King	Cement Masons	Hand Powered Grinder	\$72.87	15J	4U		View
King	Cement Masons	Journey Level	\$72.37	15J	4U		View
King	Cement Masons	Patching Concrete	\$72.37	15J	4U		View
King	Cement Masons	Pneumatic Power Tools	\$72.87	15J	4U		View
King	Cement Masons	Power Chipping & Brushing	\$72.87	15J	4U		View
King	Cement Masons	Sand Blasting Architectural Finish	\$72.87	15J	4U		View
King	Cement Masons	Screed & Rodding Machine	\$72.87	15J	4U		View
King	Cement Masons	Spackling or Skim Coat Concrete	\$72.37	15J	4U		View
King	Cement Masons	Troweling Machine Operator	\$72.87	15J	4U		View
King	Cement Masons	Troweling Machine Operator on Colored Slabs	\$72.87	15J	4U		View
King	Cement Masons	Tunnel Workers	\$72.87	15J	4U		View
King	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	\$129.71	15J	4C		View
King	Divers & Tenders	Dive Supervisor/Master	\$93.94	15J	4C		View
King	Divers & Tenders	Diver	\$129.71	15J	4C	8V	View
King	Divers & Tenders	Diver On Standby	\$88.94	15J	4C		View
King	Divers & Tenders	Diver Tender	\$80.82	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	\$93.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	\$98.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	\$102.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	\$107.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	\$109.76	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	\$114.76	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	\$116.76	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	\$118.76	15J	4C		View

King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	\$120.76	15J	4C		View
King	Divers & Tenders	Manifold Operator	\$80.82	15J	4C		View
King	Divers & Tenders	Manifold Operator Mixed Gas	\$85.82	15J	4C		View
King	Divers & Tenders	Remote Operated Vehicle Operator/Technician	\$80.82	15J	4C		View
King	Divers & Tenders	Remote Operated Vehicle Tender	\$75.41	15J	4C		View
King	Dredge Workers	Assistant Engineer	\$79.62	5D	3F		View
King	Dredge Workers	Assistant Mate (Deckhand)	\$79.01	5D	3F		View
King	Dredge Workers	Boatmen	\$79.62	5D	3F		View
King	Dredge Workers	Engineer Welder	\$81.15	5D	3F		View
King	Dredge Workers	Leverman, Hydraulic	\$82.77	5D	3F		View
King	Dredge Workers	Mates	\$79.62	5D	3F		View
King	Dredge Workers	Oiler	\$79.01	5D	3F		View
King	Drywall Applicator	Journey Level	\$75.73	15O	11S		View
King	Drywall Tapers	Journey Level	\$75.73	15O	11S		View
King	Electrical Fixture Maintenance Workers	Journey Level	\$38.69	5L	1E		View
King	Electricians - Inside	Cable Splicer	\$109.35	7C	4E		View
King	Electricians - Inside	Cable Splicer (tunnel)	\$117.52	7C	4E		View
King	Electricians - Inside	Certified Welder	\$105.63	7C	4E		View
King	Electricians - Inside	Certified Welder (tunnel)	\$113.43	7C	4E		View
King	Electricians - Inside	Construction Stock Person	\$51.53	7C	4E		View
King	Electricians - Inside	Journey Level	\$101.92	7C	4E		View
King	Electricians - Inside	Journey Level (tunnel)	\$109.35	7C	4E		View
King	Electricians - Motor Shop	Journey Level	\$48.68	5A	1B		View
King	Electricians - Powerline Construction	Cable Splicer	\$93.00	5A	4D		View
King	Electricians - Powerline Construction	Certified Line Welder	\$85.42	5A	4D		View
King	Electricians - Powerline Construction	Groundperson	\$55.27	5A	4D		View
King	Electricians - Powerline Construction	Heavy Line Equipment Operator	\$85.42	5A	4D		View
King	Electricians - Powerline Construction	Journey Level Lineperson	\$85.42	5A	4D		View
King	Electricians - Powerline Construction	Line Equipment Operator	\$73.35	5A	4D		View
King	Electricians - Powerline Construction	Meter Installer	\$55.27	5A	4D	8W	View
King	Electricians - Powerline Construction	Pole Sprayer	\$85.42	5A	4D		View
King	Electricians - Powerline Construction	Powderperson	\$63.50	5A	4D		View
King	Electronic Technicians	Journey Level	\$65.66	7E	1E		View
King	Elevator Constructors	Mechanic	\$111.26	7D	4A		View
King	Elevator Constructors	Mechanic In Charge	\$120.27	7D	4A		View

King	Fabricated Precast Concrete Products	All Classifications - In-Factory Work Only	\$21.34	5B	1R		View
King	Fence Erectors	Fence Erector	\$50.07	15J	11P	8Y	View
King	Fence Erectors	Fence Laborer	\$50.07	15J	11P	8Y	View
King	Flaggers	Journey Level	\$50.07	15J	11P	8Y	View
King	Glaziers	Journey Level	\$79.16	7L	1Y		View
King	Heat & Frost Insulators And Asbestos Workers	Journey Level	\$87.15	15H	11C		View
King	Heating Equipment Mechanics	Journey Level	\$96.42	7F	1E		View
King	Hod Carriers & Mason Tenders	Journey Level	\$62.49	15J	11P	8Y	View
King	Industrial Power Vacuum Cleaner	Journey Level	\$16.28		1		View
King	Inland Boatmen	Boat Operator	\$61.41	5B	1K		View
King	Inland Boatmen	Cook	\$56.48	5B	1K		View
King	Inland Boatmen	Deckhand	\$57.48	5B	1K		View
King	Inland Boatmen	Deckhand Engineer	\$58.81	5B	1K		View
King	Inland Boatmen	Launch Operator	\$58.89	5B	1K		View
King	Inland Boatmen	Mate	\$57.31	5B	1K		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator	\$49.48	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Foamer Operator	\$49.48	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	\$49.48	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	\$47.41	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	\$41.20	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	TV Truck Operator	\$44.31	15M	11O		View
King	Insulation Applicators	Journey Level	\$74.96	15J	4C		View
King	Ironworkers	Journeyman	\$87.80	15K	11N		View
King	Laborers	Air, Gas Or Electric Vibrating Screed	\$59.07	15J	11P	8Y	View
King	Laborers	Airtrac Drill Operator	\$60.90	15J	11P	8Y	View
King	Laborers	Ballast Regular Machine	\$59.07	15J	11P	8Y	View
King	Laborers	Batch Weighman	\$50.07	15J	11P	8Y	View
King	Laborers	Brick Pavers	\$59.07	15J	11P	8Y	View
King	Laborers	Brush Cutter	\$59.07	15J	11P	8Y	View
King	Laborers	Brush Hog Feeder	\$59.07	15J	11P	8Y	View
King	Laborers	Burner	\$59.07	15J	11P	8Y	View
King	Laborers	Caisson Worker	\$60.90	15J	11P	8Y	View
King	Laborers	Carpenter Tender	\$59.07	15J	11P	8Y	View
King	Laborers	Cement Dumper-paving	\$60.15	15J	11P	8Y	View

King	Laborers	Cement Finisher Tender	\$59.07	15J	11P	8Y	View
King	Laborers	Change House Or Dry Shack	\$59.07	15J	11P	8Y	View
King	Laborers	Chipping Gun (30 Lbs. And Over)	\$60.15	15J	11P	8Y	View
King	Laborers	Chipping Gun (Under 30 Lbs.)	\$59.07	15J	11P	8Y	View
King	Laborers	Choker Setter	\$59.07	15J	11P	8Y	View
King	Laborers	Chuck Tender	\$59.07	15J	11P	8Y	View
King	Laborers	Clary Power Spreader	\$60.15	15J	11P	8Y	View
King	Laborers	Clean-up Laborer	\$59.07	15J	11P	8Y	View
King	Laborers	Concrete Dumper/Chute Operator	\$60.15	15J	11P	8Y	View
King	Laborers	Concrete Form Stripper	\$59.07	15J	11P	8Y	View
King	Laborers	Concrete Placement Crew	\$60.15	15J	11P	8Y	View
King	Laborers	Concrete Saw Operator/Core Driller	\$60.15	15J	11P	8Y	View
King	Laborers	Crusher Feeder	\$50.07	15J	11P	8Y	View
King	Laborers	Curing Laborer	\$59.07	15J	11P	8Y	View
King	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	\$59.07	15J	11P	8Y	View
King	Laborers	Ditch Digger	\$59.07	15J	11P	8Y	View
King	Laborers	Diver	\$60.90	15J	11P	8Y	View
King	Laborers	Drill Operator (Hydraulic, Diamond)	\$60.15	15J	11P	8Y	View
King	Laborers	Dry Stack Walls	\$59.07	15J	11P	8Y	View
King	Laborers	Dump Person	\$59.07	15J	11P	8Y	View
King	Laborers	Epoxy Technician	\$59.07	15J	11P	8Y	View
King	Laborers	Erosion Control Worker	\$59.07	15J	11P	8Y	View
King	Laborers	Faller & Bucker Chain Saw	\$60.15	15J	11P	8Y	View
King	Laborers	Fine Graders	\$59.07	15J	11P	8Y	View
King	Laborers	Firewatch	\$50.07	15J	11P	8Y	View
King	Laborers	Form Setter	\$60.15	15J	11P	8Y	View
King	Laborers	Gabian Basket Builders	\$59.07	15J	11P	8Y	View
King	Laborers	General Laborer	\$59.07	15J	11P	8Y	View
King	Laborers	Grade Checker & Transit Person	\$62.49	15J	11P	8Y	View
King	Laborers	Grinders	\$59.07	15J	11P	8Y	View
King	Laborers	Grout Machine Tender	\$59.07	15J	11P	8Y	View
King	Laborers	Groutmen (Pressure) Including Post Tension Beams	\$60.15	15J	11P	8Y	View
King	Laborers	Guardrail Erector	\$59.07	15J	11P	8Y	View
King	Laborers	Hazardous Waste Worker (Level A)	\$60.90	15J	11P	8Y	View
King	Laborers	Hazardous Waste Worker (Level B)	\$60.15	15J	11P	8Y	View
King	Laborers	Hazardous Waste Worker (Level C)	\$59.07	15J	11P	8Y	View
King	Laborers	High Scaler	\$60.90	15J	11P	8Y	View
King	Laborers	Jackhammer	\$60.15	15J	11P	8Y	View
King	Laborers	Laserbeam Operator	\$60.15	15J	11P	8Y	View

King	Laborers	Maintenance Person	\$59.07	15J	11P	8Y	View
King	Laborers	Manhole Builder-Mudman	\$60.15	15J	11P	8Y	View
King	Laborers	Material Yard Person	\$59.07	15J	11P	8Y	View
King	Laborers	Mold Abatement Worker	\$59.07	15J	11P	8Y	View
King	Laborers	Motorman-Dinky Locomotive	\$62.59	15J	11P	8Y	View
King	Laborers	nozzleman (concrete pump, green cutter when using combination of high pressure air & water on concrete & rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster)	\$62.49	15J	11P	8Y	View
King	Laborers	Pavement Breaker	\$60.15	15J	11P	8Y	View
King	Laborers	Pilot Car	\$50.07	15J	11P	8Y	View
King	Laborers	Pipe Layer (Lead)	\$62.49	15J	11P	8Y	View
King	Laborers	Pipe Layer/Tailor	\$60.15	15J	11P	8Y	View
King	Laborers	Pipe Pot Tender	\$60.15	15J	11P	8Y	View
King	Laborers	Pipe Reliner	\$60.15	15J	11P	8Y	View
King	Laborers	Pipe Wrapper	\$60.15	15J	11P	8Y	View
King	Laborers	Pot Tender	\$59.07	15J	11P	8Y	View
King	Laborers	Powderman	\$60.90	15J	11P	8Y	View
King	Laborers	Powderman's Helper	\$59.07	15J	11P	8Y	View
King	Laborers	Power Jacks	\$60.15	15J	11P	8Y	View
King	Laborers	Railroad Spike Puller - Power	\$60.15	15J	11P	8Y	View
King	Laborers	Raker - Asphalt	\$62.49	15J	11P	8Y	View
King	Laborers	Re-timberman	\$60.90	15J	11P	8Y	View
King	Laborers	Remote Equipment Operator	\$60.15	15J	11P	8Y	View
King	Laborers	Rigger/Signal Person	\$60.15	15J	11P	8Y	View
King	Laborers	Rip Rap Person	\$59.07	15J	11P	8Y	View
King	Laborers	Rivet Buster	\$60.15	15J	11P	8Y	View
King	Laborers	Rodder	\$60.15	15J	11P	8Y	View
King	Laborers	Scaffold Erector	\$59.07	15J	11P	8Y	View
King	Laborers	Scale Person	\$59.07	15J	11P	8Y	View
King	Laborers	Sloper (Over 20")	\$60.15	15J	11P	8Y	View
King	Laborers	Sloper Sprayer	\$59.07	15J	11P	8Y	View
King	Laborers	Spreader (Concrete)	\$60.15	15J	11P	8Y	View
King	Laborers	Stake Hopper	\$59.07	15J	11P	8Y	View
King	Laborers	Stock Piler	\$59.07	15J	11P	8Y	View
King	Laborers	Swinging Stage/Boatswain Chair	\$50.07	15J	11P	8Y	View
King	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	\$60.15	15J	11P	8Y	View
King	Laborers	Tamper (Multiple & Self-propelled)	\$60.15	15J	11P	8Y	View
King	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	\$60.15	15J	11P	8Y	View
King	Laborers	Toolroom Person (at Jobsite)	\$59.07	15J	11P	8Y	View
King	Laborers	Topper	\$59.07	15J	11P	8Y	View
King	Laborers	Track Laborer	\$59.07	15J	11P	8Y	View

King	Laborers	Track Liner (Power)	\$60.15	15J	11P	8Y	View
King	Laborers	Traffic Control Laborer	\$53.54	15J	11P	9C	View
King	Laborers	Traffic Control Supervisor	\$56.73	15J	11P	9C	View
King	Laborers	Truck Spotter	\$59.07	15J	11P	8Y	View
King	Laborers	Tugger Operator	\$60.15	15J	11P	8Y	View
King	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	\$175.79	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	\$180.82	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	\$184.50	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	\$190.20	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	\$192.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	\$197.42	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	\$199.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	\$201.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	\$203.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Guage and Lock Tender	\$62.59	15J	11P	8Y	View
King	Laborers	Tunnel Work-Miner	\$62.59	15J	11P	8Y	View
King	Laborers	Vibrator	\$60.15	15J	11P	8Y	View
King	Laborers	Vinyl Seamer	\$59.07	15J	11P	8Y	View
King	Laborers	Watchman	\$45.51	15J	11P	8Y	View
King	Laborers	Welder	\$60.15	15J	11P	8Y	View
King	Laborers	Well Point Laborer	\$60.15	15J	11P	8Y	View
King	Laborers	Window Washer/Cleaner	\$45.51	15J	11P	8Y	View
King	Laborers - Underground Sewer & Water	General Laborer & Topman	\$59.07	15J	11P	8Y	View
King	Laborers - Underground Sewer & Water	Pipe Layer	\$60.15	15J	11P	8Y	View
King	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	\$45.51	15J	11P	8Y	View
King	Landscape Construction	Landscape Operator	\$82.25	15J	11G	8X	View
King	Landscape Maintenance	Groundskeeper	\$17.87		1		View
King	Lathers	Journey Level	\$75.73	15O	11S		View
King	Marble Setters	Journey Level	\$69.07	7E	1N		View
King	Metal Fabrication (In Shop)	Fitter/Certified Welder	\$42.17	15I	11E		View
King	Metal Fabrication (In Shop)	General Laborer	\$30.07	15I	11E		View
King	Metal Fabrication (In Shop)	Mechanic	\$43.63	15I	11E		View
King	Metal Fabrication (In Shop)	Welder/Burner	\$39.28	15I	11E		View
King	Millwright	Journey Level	\$76.51	15J	4C		View
King	Modular Buildings	Cabinet Assembly	\$16.28		1		View
King	Modular Buildings	Electrician	\$16.28		1		View

King	Modular Buildings	Equipment Maintenance	\$16.28		<u>1</u>		View
King	Modular Buildings	Plumber	\$16.28		<u>1</u>		View
King	Modular Buildings	Production Worker	\$16.28		<u>1</u>		View
King	Modular Buildings	Tool Maintenance	\$16.28		<u>1</u>		View
King	Modular Buildings	Utility Person	\$16.28		<u>1</u>		View
King	Modular Buildings	Welder	\$16.28		<u>1</u>		View
King	Painters	Journey Level	\$51.71	<u>6Z</u>	<u>11J</u>		View
King	Pile Driver	Crew Tender	\$80.82	<u>15J</u>	<u>4C</u>		View
King	Pile Driver	Journey Level	\$75.41	<u>15J</u>	<u>4C</u>		View
King	Plasterers	Journey Level	\$70.91	<u>7Q</u>	<u>1R</u>		View
King	Plasterers	Nozzleman	\$74.91	<u>7Q</u>	<u>1R</u>		View
King	Playground & Park Equipment Installers	Journey Level	\$16.28		<u>1</u>		View
King	Plumbers & Pipefitters	Journey Level	\$103.19	<u>6Z</u>	<u>1G</u>		View
King	Power Equipment Operators	Asphalt Plant Operators	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Assistant Engineer	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Barrier Machine (zipper)	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Batch Plant Operator: concrete	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Boat Operator	\$83.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
King	Power Equipment Operators	Bobcat	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Brokk - Remote Demolition Equipment	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Brooms	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Bump Cutter	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Cableways	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Chipper	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Compressor	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Concrete Finish Machine - Laser Screed	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Conveyors	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	View
King	Power Equipment Operators	Cranes Friction: 200 tons and over	\$86.48	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
King	Power Equipment Operators	Cranes, A-frame: 10 tons and under	\$78.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
King	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$84.77	<u>7A</u>	<u>11H</u>	<u>8X</u>	View
King	Power Equipment Operators	Cranes: 20 tons through 44 tons with attachments	\$83.20	<u>7A</u>	<u>11H</u>	<u>8X</u>	View

King	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$85.66	7A	11H	8X	View
King	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$86.48	7A	11H	8X	View
King	Power Equipment Operators	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	\$83.95	7A	11H	8X	View
King	Power Equipment Operators	Cranes: Friction cranes through 199 tons	\$85.66	7A	11H	8X	View
King	Power Equipment Operators	Cranes: through 19 tons with attachments, a-frame over 10 tons	\$82.56	7A	11H	8X	View
King	Power Equipment Operators	Crusher	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Deck Engineer/Deck Winches (power)	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Derricks, On Building Work	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Dozers D-9 & Under	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Drilling Machine	\$84.46	15J	11G	8X	View
King	Power Equipment Operators	Elevator and man-lift: permanent and shaft type	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Forklift: 3000 lbs and over with attachments	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Forklifts: under 3000 lbs. with attachments	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Gradechecker/Stakeman	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Guardrail Punch	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Horizontal/Directional Drill Locator	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Horizontal/Directional Drill Operator	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	\$82.56	7A	11H	8X	View
King	Power Equipment Operators	Hydralifts/boom trucks: 10 tons and under	\$78.95	7A	11H	8X	View
King	Power Equipment Operators	Leverman	\$85.33	15J	11G	8X	View
King	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$83.62	15J	11G	8X	View

King	Power Equipment Operators	Loaders, Overhead Under 6 Yards	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Loaders, Plant Feed	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Loaders: Elevating Type Belt	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Locomotives, All	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Material Transfer Device	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Mechanics: All (Leadmen - \$0.50 per hour over mechanic)	\$84.46	15J	11G	8X	View
King	Power Equipment Operators	Motor Patrol Graders	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Overhead, bridge type Crane: 20 tons through 44 tons	\$83.20	7A	11H	8X	View
King	Power Equipment Operators	Overhead, bridge type: 100 tons and over	\$84.77	7A	11H	8X	View
King	Power Equipment Operators	Overhead, bridge type: 45 tons through 99 tons	\$83.95	7A	11H	8X	View
King	Power Equipment Operators	Pavement Breaker	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Pile Driver (other Than Crane Mount)	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Posthole Digger, Mechanical	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Power Plant	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Pumps - Water	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Quad 9, Hd 41, D10 And Over	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Quick Tower: no cab, under 100 feet in height base to boom	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Rigger and Bellman	\$78.95	7A	11H	8X	View
King	Power Equipment Operators	Rigger/Signal Person, Bellman(Certified)	\$82.56	7A	11H	8X	View
King	Power Equipment Operators	Rollagon	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Roller, Other Than Plant Mix	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Roto-mill, Roto-grinder	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Saws - Concrete	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Scrapers - Concrete & Carry All	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	\$83.62	15J	11G	8X	View

King	Power Equipment Operators	Service Engineers: Equipment	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Shotcrete/Gunite Equipment	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$84.46	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	\$85.33	15J	11G	8X	View
King	Power Equipment Operators	Slipform Pavers	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Spreader, Topsider & Screedman	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Subgrader Trimmer	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Tower Bucket Elevators	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	\$85.66	7A	11H	8X	View
King	Power Equipment Operators	Tower crane: up to 175' in height base to boom	\$84.77	7A	11H	8X	View
King	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	\$86.48	7A	11H	8X	View
King	Power Equipment Operators	Transporters, All Track Or Truck Type	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Trenching Machines	\$82.25	15J	11G	8X	View
King	Power Equipment Operators	Truck Crane Oiler/Driver: 100 tons and over	\$83.20	7A	11H	8X	View
King	Power Equipment Operators	Truck crane oiler/driver: under 100 tons	\$82.56	7A	11H	8X	View
King	Power Equipment Operators	Truck Mount Portable Conveyor	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Vac Truck (Vactor Guzzler, Hydro Excavator)	\$82.88	15J	11G	8X	View
King	Power Equipment Operators	Welder	\$83.62	15J	11G	8X	View
King	Power Equipment Operators	Wheel Tractors, Farmall Type	\$78.65	15J	11G	8X	View
King	Power Equipment Operators	Yo Yo Pay Dozer	\$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	\$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	\$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	\$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator, Concrete	\$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Boat Operator	\$83.95	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Bobcat	\$78.65	15J	11G	8X	View
King	Power Equipment Operators-	Brokk - Remote Demolition	\$78.65	15J	11G	8X	View

	<u>Underground Sewer & Water</u>	Equipment					
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Brooms	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Bump Cutter	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cableways	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Chipper	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Compressor	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Concrete Finish Machine - Laser Screed	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Conveyors	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes Friction: 200 tons and over	\$86.48	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes, A-frame: 10 tons and under	\$78.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$84.77	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes: 20 tons through 44 tons with attachments	\$83.20	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$85.66	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$86.48	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	\$83.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes: Friction cranes through 199 tons	\$85.66	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Cranes: through 19 tons with attachments, a-frame over 10 tons	\$82.56	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Crusher	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators- Underground Sewer & Water</u>	Deck Engineer/Deck Winches (power)	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>

King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Derricks, On Building Work	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Dozers D-9 & Under	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Drill Oilers: Auger Type, Truck Or Crane Mount	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Drilling Machine	\$84.46	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Elevator and man-lift: permanent and shaft type	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Forklift: 3000 lbs and over with attachments	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Forklifts: under 3000 lbs. with attachments	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Gradechecker/Stakeman	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Guardrail Punch	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Horizontal/Directional Drill Locator	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Horizontal/Directional Drill Operator	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Hydralifts/boom trucks: 10 tons and under	\$78.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Hydralifts/boom trucks: over 10 tons	\$82.56	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Leverman	\$85.33	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Loaders, Overhead Under 6 Yards	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Loaders, Plant Feed	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Loaders: Elevating Type Belt	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Locomotives, All	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Material Transfer Device	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Mechanics: All (Leadmen - \$0.50 per hour over mechanic)	\$84.46	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>

King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Motor Patrol Graders	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Overhead, bridge type Crane: 20 tons through 44 tons	\$83.20	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Overhead, bridge type: 100 tons and over	\$84.77	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Overhead, bridge type: 45 tons through 99 tons	\$83.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Pavement Breaker	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Pile Driver (other Than Crane Mount)	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Plant Oiler - Asphalt, Crusher	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Posthole Digger, Mechanical	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Power Plant	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Pumps - Water	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Quad 9, Hd 41, D10 And Over	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Quick Tower: no cab, under 100 feet in height base to boom	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Rigger and Bellman	\$78.95	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Rigger/Signal Person, Bellman(Certified)	\$82.56	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Rollagon	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Roller, Other Than Plant Mix	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Roller, Plant Mix Or Multi-lift Materials	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Roto-mill, Roto-grinder	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Saws - Concrete	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Scraper, Self Propelled Under 45 Yards	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>

King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Scrapers - Concrete & Carry All	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Scrapers, Self-propelled: 45 Yards And Over	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Shotcrete/Gunite Equipment	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$84.46	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Shovel, Excavator, Backhoes: Over 90 Metric Tons	\$85.33	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Slipform Pavers	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Spreader, Topsider & Screedman	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Subgrader Trimmer	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Tower Bucket Elevators	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Tower Crane: over 175' through 250' in height, base to boom	\$85.66	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Tower crane: up to 175' in height base to boom	\$84.77	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Tower Cranes: over 250' in height from base to boom	\$86.48	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Transporters, All Track Or Truck Type	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Trenching Machines	\$82.25	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Truck Crane Oiler/Driver: 100 tons and over	\$83.20	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Truck crane oiler/driver: under 100 tons	\$82.56	<u>7A</u>	<u>11H</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Truck Mount Portable Conveyor	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Vac Truck (Vactor Guzzler, Hydro Excavator)	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Welder	\$83.62	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Wheel Tractors, Farmall Type	\$78.65	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Equipment Operators-Underground Sewer & Water</u>	Yo Yo Pay Dozer	\$82.88	<u>15J</u>	<u>11G</u>	<u>8X</u>	<u>View</u>
King	<u>Power Line Clearance Tree Trimmers</u>	Journey Level In Charge	\$57.22	<u>5A</u>	<u>4A</u>		<u>View</u>

King	Power Line Clearance Tree Trimmers	Spray Person	\$54.32	5A	4A	View
King	Power Line Clearance Tree Trimmers	Tree Equipment Operator	\$57.22	5A	4A	View
King	Power Line Clearance Tree Trimmers	Tree Trimmer	\$51.18	5A	4A	View
King	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	\$38.99	5A	4A	View
King	Refrigeration & Air Conditioning Mechanics	Journey Level	\$95.89	6Z	1G	View
King	Residential Brick Mason	Journey Level	\$69.07	7E	1N	View
King	Residential Carpenters	Journey Level	\$36.44		1	View
King	Residential Cement Masons	Journey Level	\$46.64		1	View
King	Residential Drywall Applicators	Journey Level	\$74.96	15J	4C	View
King	Residential Drywall Tapers	Journey Level	\$36.36		1	View
King	Residential Electricians	Journey Level	\$48.80		1	View
King	Residential Glaziers	Journey Level	\$28.93		1	View
King	Residential Insulation Applicators	Journey Level	\$28.18		1	View
King	Residential Laborers	Journey Level	\$29.73		1	View
King	Residential Marble Setters	Journey Level	\$27.38		1	View
King	Residential Painters	Journey Level	\$23.47		1	View
King	Residential Plumbers & Pipefitters	Journey Level	\$45.40		1	View
King	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	\$96.42	7F	1E	View
King	Residential Sheet Metal Workers	Journey Level	\$96.42	7F	1E	View
King	Residential Soft Floor Layers	Journey Level	\$57.11	5A	3J	View
King	Residential Sprinkler Fitters (Fire Protection)	Journey Level	\$63.61		1	View
King	Residential Stone Masons	Journey Level	\$69.07	7E	1N	View
King	Residential Terrazzo Workers	Journey Level	\$62.36	7E	1N	View
King	Residential Terrazzo/Tile Finishers	Journey Level	\$24.39		1	View
King	Residential Tile Setters	Journey Level	\$21.04		1	View
King	Roofers	Journey Level	\$64.45	5A	3H	View
King	Roofers	Using Irritable Bituminous Materials	\$67.39	5A	3H	View
King	Sheet Metal Workers	Journey Level (Field or Shop)	\$96.42	7F	1E	View
King	Shipbuilding & Ship Repair	New Construction Boilermaker	\$51.85	7X	4J	View
King	Shipbuilding & Ship Repair	New Construction Carpenter	\$51.85	7X	4J	View
King	Shipbuilding & Ship Repair	New Construction Crane Operator	\$43.16	7V	1	View
King	Shipbuilding & Ship Repair	New Construction Electrician	\$51.85	7X	4J	View
King	Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	\$87.15	15H	11C	View
King	Shipbuilding & Ship Repair	New Construction Laborer	\$51.85	7X	4J	View
King	Shipbuilding & Ship Repair	New Construction Machinist	\$51.85	7X	4J	View

King	Shipbuilding & Ship Repair	New Construction Operating Engineer	\$43.16	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Painter	\$51.95	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Pipefitter	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Rigger	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Sheet Metal	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Shipwright	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	\$43.16	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Welder / Burner	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Boilermaker	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Carpenter	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Crane Operator	\$45.06	7Y	4K		View
King	Shipbuilding & Ship Repair	Ship Repair Electrician	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	\$87.15	15H	11C		View
King	Shipbuilding & Ship Repair	Ship Repair Laborer	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Machinist	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Operating Engineer	\$45.06	7Y	4K		View
King	Shipbuilding & Ship Repair	Ship Repair Painter	\$51.95	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Pipefitter	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Rigger	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Sheet Metal	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Shipwright	\$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	\$45.06	7Y	4K		View
King	Sign Makers & Installers (Electrical)	Journey Level	\$58.04	0	1		View
King	Sign Makers & Installers (Non-Electrical)	Journey Level	\$37.08	0	1		View
King	Soft Floor Layers	Journey Level	\$66.32	15J	4C		View
King	Solar Controls For Windows	Journey Level	\$16.28		1		View
King	Sprinkler Fitters (Fire Protection)	Journey Level	\$95.49	5C	1X		View
King	Stage Rigging Mechanics (Non Structural)	Journey Level	\$16.28		1		View
King	Stone Masons	Journey Level	\$69.07	7E	1N		View
King	Street And Parking Lot Sweeper Workers	Journey Level	\$19.09		1		View
King	Surveyors	Assistant Construction Site Surveyor	\$82.56	7A	11H	8X	View
King	Surveyors	Chainman	\$78.95	7A	11H	8X	View
King	Surveyors	Construction Site Surveyor	\$83.95	7A	11H	8X	View
King	Surveyors	Drone Operator (when used in conjunction with survey work only)	\$78.95	7A	11H	8X	View
King	Surveyors	Ground Penetrating Radar Operator	\$78.95	7A	11H	8X	View
King	Telecommunication Technicians	Journey Level	\$65.66	7E	1E		View

King	Telephone Line Construction - Outside	Cable Splicer	\$40.36	5A	2B		View
King	Telephone Line Construction - Outside	Hole Digger/Ground Person	\$26.92	5A	2B		View
King	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	\$33.74	5A	2B		View
King	Telephone Line Construction - Outside	Telephone Lineperson	\$38.15	5A	2B		View
King	Terrazzo Workers	Journey Level	\$62.36	7E	1N		View
King	Tile Setters	Journey Level	\$62.36	7E	1N		View
King	Tile, Marble & Terrazzo Finishers	Finisher	\$53.19	7E	1N		View
King	Traffic Control Stripers	Journey Level	\$89.54	15L	1K		View
King	Truck Drivers	Asphalt Mix Over 16 Yards	\$74.95	15J	11M	8L	View
King	Truck Drivers	Asphalt Mix To 16 Yards	\$74.02	15J	11M	8L	View
King	Truck Drivers	Dump Truck	\$74.02	15J	11M	8L	View
King	Truck Drivers	Dump Truck & Trailer	\$74.95	15J	11M	8L	View
King	Truck Drivers	Other Trucks	\$74.95	15J	11M	8L	View
King	Truck Drivers - Ready Mix	Transit Mix	\$74.95	15J	11M	8L	View
King	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	\$17.71		1		View
King	Well Drillers & Irrigation Pump Installers	Oiler	\$16.28		1		View
King	Well Drillers & Irrigation Pump Installers	Well Driller	\$18.00		1		View

Overtime Codes

Overtime calculations are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
 - B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
 - G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.
 - J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.
 - K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
 - M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

- 1. N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.
- P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.
- R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.
- U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
- V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.
- W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.
- Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.
- Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

Overtime Codes Continued

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.
 - F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.
 - M. This code appears to be missing. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.
 - R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.
 - U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.
3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.
 - H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.
 - J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

Overtime Codes Continued

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

- A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage
- C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.
- D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:

On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

- E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.
- S. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, work performed in excess of (10) hours shall be paid at one and one half (1-1/2) times the hourly rate of pay. On Monday through Friday, work performed outside the normal work hours of 6:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations).
- All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- Multiple Shift Operations: When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. Special Shifts: The Special Shift Premium is the basic hourly rate of pay plus \$2.00 an hour. When due to conditions beyond the control of the employer or when an owner (not acting as the contractor), a government agency or the contract specifications require more than four (4) hours of a special shift can only be performed outside the normal 6am to 6pm shift then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid the special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday).
- U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

When an employee returns to work without at a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Overtime Codes Continued

11. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

C The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage. All non-overtime and non-holiday hours worked between 4:00 pm and 5:00 am, Monday through Friday, shall be paid at a premium rate of 15% over the hourly rate of wage.

D. All hours worked on Saturdays and holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

E. The first two (2) hours after eight (8) regular hours Monday through Friday, the first ten (10) hours on Saturday, and the first ten (10) hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, and Sundays shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

Overtime Codes Continued

11. F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one-half times the hourly rate of wage for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- G. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.
- All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of nine (9) hours or more. When an employee returns to work without at least nine (9) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the nine (9) hours rest period.
- H. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.
- All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of ten (10) hours or more. When an employee returns to work without at least ten (10) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the ten (10) hours rest period.
- J. All hours worked on holidays shall be paid at double the hourly rate of wage.
- K. On Monday through Friday hours worked outside 4:00 am and 5:00 pm, and the first two (2) hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked over 10 hours per day Monday through Friday, and all hours worked on Saturdays, Sundays, and Holidays worked shall be paid at double the hourly rate of wage.
- L. An employee working outside 5:00 am and 5:00 pm shall receive an additional two dollar (\$2.00) per hour for all hours worked that shift. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

Overtime Codes Continued

11. M. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.
- Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 am to 6:00 pm, then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shift shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten shifts.
- On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay. All work performed after 6:00 pm Saturday to 5:00 am Monday, all work performed over twelve (12) hours, and all work performed on holidays shall be paid at double the straight time rate of pay.
- Shift Pay Premium: In an addition to any overtime already required, all hours worked between the hours of 6:00 pm and 5:00 am shall receive an additional two dollars (\$2.00) per hour.
- N. All work performed over twelve hours in a shift and all work performed on Sundays and Holidays shall be paid at double the straight time rate.
- Any time worked over eight (8) hours on Saturday shall be paid double the straight time rate, except employees assigned to work six 10-hour shifts per week shall be paid double the straight time rate for any time worked on Saturday over 10 hours.
- O. All work performed on Saturdays, Sundays, and Holidays shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Overtime Codes Continued

11. P. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.
- Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 a.m. to 6:00 p.m., then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shifts shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten-hour shifts.
- In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.
- After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.
- Q. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 35% over the hourly rate of wage. Work performed on Sundays shall be paid at double time. All hours worked on holidays shall be paid at double the hourly rate of wage.
- R. On Monday through Saturday hours worked outside 6:00 am and 7:00 pm, and all hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- When a holiday falls on a Saturday, the Friday before shall be the observed holiday. When a holiday falls on a Sunday, the following Monday shall be the observed holiday.
- S. The first ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. In the event the job is down due to weather conditions, or other conditions beyond the control of the Employer, then Saturday may be worked at the straight time rate, for the first eight (8) hours, or the first ten (10) hours when a four day ten hour workweek has been established.
- All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Holiday Codes

- 5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).
- C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
- D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).
- H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).
- I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).
- L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).
- N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.
- Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).
- S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

Holiday Codes Continued

- 6. G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).
- H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).
- T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.

Holiday Codes Continued

- 7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.

Holiday Codes Continued

7. X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.
- Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, Christmas Eve, and Christmas Day (9). Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday. Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Holiday Codes Continued

15. G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- J. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- M. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

Holiday Codes Continued

15. N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- O. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, the day before Christmas day, and Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.
- L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$0.75, Level B: \$0.50, And Level C: \$0.25.
- M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: \$1.00, Levels C & D: \$0.50.
- N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.
- S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: \$2.00, Class B Suit: \$1.50, And Class C Suit: \$1.00. Workers performing underground work receive an additional \$0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional \$0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional \$0.50 per hour.

Note Codes Continued

8. V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.
- Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - \$2.00 per foot for each foot over 50 feet. Over 101' to 150' - \$3.00 per foot for each foot over 101 feet. Over 151' to 220' - \$4.00 per foot for each foot over 220 feet. Over 221' - \$5.00 per foot for each foot over 221 feet.
- Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25' to 300' - \$1.00 per foot from entrance. 300' to 600' - \$1.50 per foot beginning at 300'. Over 600' - \$2.00 per foot beginning at 600'.
- W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.
- X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: \$2.00, Class B Suit: \$1.50, Class C Suit: \$1.00, and Class D Suit: \$0.50. Special Shift Premium: Basic hourly rate plus \$2.00 per hour.
- When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)
- Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.
- Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.
- Z. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.
- Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Note Codes Continued

9. A. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.

Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid \$0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

- (A) – 130’ to 199’ – \$0.50 per hour over their classification rate.
- (B) – 200’ to 299’ – \$0.80 per hour over their classification rate.
- (C) – 300’ and over – \$1.00 per hour over their classification rate.

- B. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

- C. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

- D. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

- E. Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.

Note Codes Continued

- 9. F. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.
- H. One (1) person crew shall consist of a Party Chief. (Total Station or similar one (1) person survey system). Two (2) person survey party shall consist of a least a Party Chief and a Chain Person. Three (3) person survey party shall consist of at least a Party Chief, an Instrument Person, and a Chain Person.

**APPENDIX A
GEOTECHNICAL ENGINEERING REPORT**

CITY OF FEDERAL WAY

SP-103

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293**

CFW SPECIAL PROVISIONS VER. 2024.01B

***** Official bid documents, plan holder's list, and addenda (if applicable) are available on [BXWA.com](https://www.bxwa.com) *****

**Geotechnical Engineering Services
Final Report**

Redondo Creek Culvert Replacement
Federal Way, Washington

for
City of Federal Way

December 28, 2022



**Geotechnical Engineering Services
Final Report**

Redondo Creek Culvert Replacement
Federal Way, Washington

for
City of Federal Way

December 28, 2022



1101 South Fawcett Avenue, Suite 200
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**Geotechnical Engineering Services
Final Report**

**Redondo Creek Culvert Replacement
Federal Way, Washington**

File No. 2207-018-00

December 28, 2022

Prepared for:

City of Federal Way
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CJL:BEL:MM:leh

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Appendix A. Subsurface Explorations and Laboratory Testing

Figure A-1—Key to Exploration Logs

Figure A-2—Log of Boring

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1.0 INTRODUCTION AND PROJECT UNDERSTANDING

This report summarizes our investigation, analysis, and geotechnical design recommendations for the Redondo Creek Culvert Replacement project. The project site is located on the east side of Redondo Way South, about 500 feet north of the intersection of Redondo Way South and South Dash Point Road as shown on the Vicinity Map, Figure 1. Our understanding of the project is based on discussions with the City of Federal Way (City), information provided, correspondence with the design team, and our experience with similar projects.

An existing culvert carries Redondo Creek through an embankment that was constructed to connect Redondo Way South to a utility access road. We understand that the existing culvert will be replaced with a new structure that is adequately sized and can accommodate fish passage. Based on our discussions with the City, we understand that the existing culvert structure will be removed, and a new four-sided buried concrete box structure will be constructed in its place. The new structure will be designed based on the 2017 American Association of State Highway and Transportation Officials (AASHTO) Load Resistance and Factor Design (LRFD) Bridge Design Specifications (AASHTO LRFD). The stream bed will be restored within the new culvert structure and for some distance upstream and downstream from the current crossing. Regrading of the slopes above the stream is also planned in some areas where the slopes are currently overly steep. Details of stream restoration and grading are currently being designed by GeoEngineers and will be provided under separate cover. The design of this project will coordinate with design of a separate project that will create a shared use trail along the utility access road. The shared use trail will also cross above the new culvert.

Our services are being provided in accordance with our signed agreement executed on December 16, 2021. Our specific scope of services is summarized in our revised scope of services dated October 25, 2021.

2.0 SITE CONDITIONS

2.1. Surface Conditions

The culvert area is situated within an existing ravine that is oriented approximately north-south and slopes down to the north. East- and west-facing slopes of the ravine are on the order of 1H:1V (horizontal:vertical) or steeper. Site vegetation generally consists of dense underbrush and scattered young to mature trees up to about 12 to 18 inches in diameter.

The existing culvert (and Redondo Creek) passes through an earthen embankment that is oriented perpendicular to the alignment of Redondo Creek. The embankment provides vehicular access between Redondo Way South and a north-south oriented utility access road located on the eastern side of Redondo Creek. We understand that the embankment also serves as a utility corridor. Approximate locations of existing site features are shown on the Site Plan, Figure 2.

Other development in the project vicinity includes a pond surrounded by chain link fencing, which is located adjacent to the east side of the utility access road. Adjacent properties consist of a multi-family residential development to the east and Redondo Way South to the west.

Site elevations vary between about Elevation (EL) 375 feet at the existing utility access road and about EL 355 feet near the ravine bottom at the northern end of the existing culvert. Elevations in this report are referenced to the North American Vertical Datum of 1988 (NAVD88)

2.2. Geologic Setting

Our understanding of the site geology is based on review of the *Geologic Map of the Poverty Bay 7.5' Quadrangle, King and Pierce Counties, Washington* (Booth et al. 2004). The geologic map indicates that glacial soil deposits underlie the site and surrounding areas. These materials were deposited during the Vashon Stade of the Fraser Glaciation, approximately 10,000 to 15,000 years ago. Surface soils at the site are primarily mapped as glacial till (Qvt) or advance outwash deposits (Qva). Glacial till is described as a highly compact mixture of clay, silt, sand, and gravel. Advance outwash deposits are relatively “cleaner” than glacial till and typically comprise well-bedded sand and gravel. Glacial till and advance outwash are glacially consolidated soils. The upper few feet of these deposits can be weathered and in a loose to dense condition; however, underlying undisturbed soils are typically very dense.

Although not indicated on the reviewed geologic map, we anticipate that alluvial deposits are located near the base of the ravine, deposited from the creek. Alluvial deposits are not glacially consolidated and are typically loose to medium dense. We also anticipate that fill materials are present in the vicinity of the culvert and access road (i.e., earthen embankment fill). Fill materials can vary in composition and consistency/density, based on the source and installation process.

2.3. Natural Resources Conservation Service (NRCS) Description

According to the Natural Resources Conservation Service (NRCS) *Web Soil Survey* (accessed February 9, 2022) the site is underlain by Alderwood and Kitsap soils. Alderwood and Kitsap soils are described as moderately well drained and labeled as Hydrologic Soil Group B, with a very low to moderately low capacity to transmit water. Alderwood and Kitsap soils are described as having a severe erosion hazard.

2.4. City of Federal Way Critical Areas Review

We reviewed the *City of Federal Way Critical Areas Map* and Article II “Geologically Hazardous Areas” of A *Codification of the General Ordinances of the City of Federal Way, Washington* (FWRC) Chapter 19.145.

According to *City of Federal Way Critical Areas Map*, the site is designated as an erosion hazard area. As discussed in Section 2.3. “Natural Resources Conservation Service (NRCS) Description” above, the site is also mapped as having soils with a severe erosion hazard. The map also indicates that there are landslide hazard areas in the project vicinity. While not specifically mapped as a landslide hazard area, the slopes forming the ravine are up to about 25 to 30 feet tall with inclinations of 1H:1V or steeper. Due to size and steepness, in our opinion, some of the site slopes could meet the criteria for a landslide hazard area.

We visited the site on January 28, 2022 to observe existing site conditions. During our site reconnaissance, we did not observe indications of active large-scale global slope instability such as cracking, hummocky terrain, scarps, or large volumes of sloughing within the project area. We also did not observe obvious signs of historical landslide activity in the project area, nor did we observe standing water, areas of seepage, or other indications of a shallow groundwater table within the steep slope area. However, we did observe areas within the west-facing ravine slope that appear to have experienced surficial sloughing and erosion. A portion of this slope has been surfaced with riprap and/or quarry spalls, which we understand may be

related to a previous utility improvement in the area. The observed surficial sloughing was located near the riprap and appears to be ongoing.

FRWC Chapter 19.145 states that erosion hazard areas do not contain standard buffers. Landslide hazard areas have a standard buffer of 50 feet measured from the top and the toe of the slope and structures must be set back 5 feet from the edge of the buffer.

In our opinion it is unlikely that the currently envisioned development will increase the erosion hazard or landslide hazard risk at the site and these hazards are not limiting factors for the proposed improvements. The existing ravine slope that has exhibited surficial movement will be regraded as part of the proposed improvements. The slope regrading process is intended to remove the sloughed surficial material and create a flatter slope than currently exists, which will in our opinion result in increased stability.

The recommendations in Section 3.6.4. "Erosion and Sedimentation Control" of this report should be followed during construction to prevent increasing the erosion hazard at the site. Permanent site development should include provisions to protect steep slopes such as reducing slope inclinations where practical, the use of vegetation, properly controlled drainage measures, and the use of retaining structures.

2.5. Subsurface Conditions

2.5.1. Subsurface Explorations and Laboratory Testing

Our subsurface exploration program consisted of one boring advanced using hollow-stem auger methods. Boring B-1 was advanced near the south end of the existing culvert to a depth of about 30.5 feet below the ground surface (bgs). Ground surface elevation at the boring location is around EL 375 feet, referenced to the North American Vertical Datum of 1988 (NAVD 88). The approximate location of B-1 is shown on Figure 2.

The upper 7 feet of B-1 were excavated using a vacuum truck prior to the start of drilling to check for potential utilities present at the boring location. General observations of soils encountered during vacuum excavation were noted; however, specific soil data such as Standard Penetration Test (SPT) N-values (blow counts) and soils samples were not obtained during vacuum excavation. The boring was advanced using hollow-stem auger methods starting around 7 feet bgs. Details regarding our subsurface exploration program, including summary logs, are included in Appendix A.

Select samples from our explorations were tested in our laboratory to confirm field classifications and correlate with engineering properties. Details of our laboratory testing program and the testing results are provided in Appendix A.

2.5.2. Soil and Groundwater Conditions

At boring B-1 we observed about 4 inches of crushed rock surfacing underlain by what we interpret to be two soil units: fill and glacial till.

Fill material varied in composition and generally consisted of very loose to medium dense sand and gravel with variable silt content. Cobbles and boulders were occasionally observed within the fill material. We also observed occasional debris consisting of dimensional wood within the fill. Fill was observed to extend to a depth of approximately 12 feet bgs (EL 363 feet).

Below the fill we observed what we interpret to be glacial till. Glacial till typically consisted of very stiff sandy silt to very dense silty gravel and sand. The upper approximately 3 feet of glacial till was weathered and in a medium dense condition. Beginning around 16 feet bgs (EL 359 feet) underlying glacial till was relatively undisturbed and was very stiff or very dense. Heavy drill chatter was observed during drilling below about 20 feet bgs (EL 355 feet), glacial till potentially indicating the presence of larger gravels and/or cobbles not collected during SPT sampling. Boring B-1 was completed in very dense glacial till at a depth of about 30.5 feet bgs (EL 344.5 feet).

Groundwater was measured in B-1 at about 16 feet bgs (EL 359 feet) during drilling, which we interpret to be localized groundwater associated with the creek and not representative of the regional groundwater table. We anticipate that creek-influenced groundwater levels will fluctuate throughout the year in response to surface water runoff and precipitation. We expect that the regional groundwater table is on the order of 100 feet bgs or more.

Perched groundwater could also be present above the elevation of the creek within the site slopes, embankment, and utility access road. Interfaces between different material types or at the contact between permeable and relatively impermeable soils are likely locations for perched groundwater to collect. We anticipate that perched groundwater levels will generally be highest during the wet season, typically October through May in Western Washington.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1. Primary Geotechnical Considerations

Based on our understanding of the project, subsurface conditions observed in our boring and our experience, it is our opinion that the proposed improvements can be designed and constructed generally as envisioned with regard to geotechnical considerations. A summary of the primary geotechnical considerations for the project is provided below and is followed by our detailed recommendations.

- The site is mapped as an erosion hazard area and may meet the criteria of a landslide hazard area. In our opinion, the culvert replacement can be completed without increasing the erosion hazard or landslide hazard risk at the site, and the planned slope regrading will reduce the risk of instability in some areas.
- We anticipate that the new culvert structure can be supported on shallow foundations bearing on existing glacial till soils that are proof compacted to a uniformly firm and unyielding condition. If soils present at the design foundation bearing surface elevation cannot be adequately proof compacted or contain deleterious material, they should be removed and replaced with compacted structural fill.
- Most of the soils observed at the site contain a significant amount of fines and could be difficult or impossible to work with when wet or become easily disturbed if exposed to wet weather. Additionally, occasional deleterious debris was observed within the existing fill. Depending on the intended use of the material and the prevailing conditions, it may be difficult to reuse site soils as structural fill. If on-site soils are used a structural fill, deleterious debris should be removed, and it could require moisture conditioning.
- Due to site constraints and variable soil conditions, in our opinion, stormwater infiltration is likely not feasible at the site.

3.2. Seismic Design Considerations

3.2.1. General

We used map-based methods in conjunction with our explorations to develop seismic design parameters in general accordance with the 2017 AASHTO LRFD methodology. The recommended seismic design parameters are shown in Table 1.

TABLE 1. SEISMIC DESIGN CRITERIA

2017 AASHTO Seismic Design Parameters	
Spectral Response Acceleration at Short Periods (S_s)	0.92g
Spectral Response Acceleration at 1-Second Periods (S_1)	0.31g
Site Class	C
Design Peak Ground Acceleration (A_s)	0.42g
Design Spectral Response Acceleration at Short Periods (S_{DS})	0.95g
Design Spectral Response Acceleration at 1-Second Periods (S_{D1})	0.46g

3.2.2. Liquefaction

Liquefaction refers to a condition where vibration or shaking of the ground, usually from earthquake forces, results in development of excess pore pressures in loose, saturated soils and subsequent loss of strength in the deposit of soil so affected. In general, soils that are susceptible to liquefaction include loose to medium dense sands to silty sands that are below the water table.

The *Liquefaction Susceptibility Map of King County, Washington* (Palmer, et al. 2004) indicates the site soils have “very low” liquefaction potential. Additionally, the soils observed in our boring are, in our opinion, not at risk of liquefaction during the design seismic event. There is a potential for encountering saturated alluvial soils around the elevation of the creek. We expect that these soils, if present, will be isolated, relatively thin, and we expect they would be removed from below the proposed culvert structure. Based on our understanding of site conditions and the anticipated construction, in our opinion there is a low risk of liquification occurring at this site.

3.2.3. Lateral Spreading Potential

Lateral spreading related to seismic activity typically involves lateral displacement of large, surficial blocks of non-liquefied soil when a layer of underlying soil loses strength during seismic shaking. Lateral spreading usually develops in areas where sloping ground or large grade changes (including retaining walls) are present. Based on our understanding of the liquefaction risk at the site, it is our opinion that the risk of lateral spreading is low.

3.2.4. Surface Rupture Potential

According to the Washington State Department of Natural Resources Interactive Natural Hazards Map (accessed February 10, 2022), a portion of the Tacoma Fault Zone is located just south of the project site. However, because bedrock in this area is covered by hundreds of feet of glacial soils, it is unlikely that movement of the fault would result in significant surface rupture at the ground surface. In our opinion the risk for surface fault rupture occurring at this site is low.

3.3. Foundation Support

3.3.1. General

The proposed culvert structure will be a four-sided box. Based on our understanding of site conditions, the base of the culvert can provide adequate support, provided that it bears on proof compacted existing site soils. As discussed below, depending on the condition of existing site soils at the bearing surface elevation, it may be necessary to overexcavate some of these soils below foundations and replace them with compacted structural fill.

We recommend that the culvert base be established at least 2 feet below the lowest adjacent grade. This minimum embedment depth does not consider the effects of scour or the impacts of establishing foundations on a slope. Final foundation grades will need to consider the effects of scour, once final hydraulic modeling is complete. The sections below provide our recommendations for foundation bearing surface preparation and foundation design parameters.

3.3.2. Foundation Bearing Surface Preparation

If glacial till soils are present at foundation-bearing surface elevation, we recommend that they be proof compacted in place to a firm and unyielding condition prior to construction of the footing. The deeper footings are embedded at this site, the more likely they will bear directly on glacial till.

If existing fill or relatively loose soils are present at the foundation bearing surface elevation, they should be overexcavated and replaced with compacted structural fill. Overexcavations, if needed, should be extended to expose competent soils or 2 feet below design bottom of footing elevation (depending on the thickness and density of the soils and provided debris and/or organics are not present), whichever is less. If organic-rich soil or other deleterious material is encountered below footings, we recommend complete removal of this material. Overexcavations should be backfilled with compacted structural fill. We recommend structural fill placed in overexcavations extend laterally beyond the foundation perimeter a distance equal to the depth of fill (measured from the base of the footing), or 3 feet, whichever is less.

Foundation bearing surfaces should not be exposed to standing water. If water is present in the excavation, it must be removed before placing formwork and reinforcing steel or precast foundation elements.

Prepared foundation bearing surfaces should be evaluated by a member of our firm prior to placement of formwork or reinforcing steel to verify that bearing surface has been prepared in accordance with our recommendations or to provide recommendations for remediating unsuitable bearing soils.

3.3.3. Foundation Bearing Resistance

Shallow foundation bearing resistance was computed in general accordance with the 2017 AASHTO LRFD Bridge Design Specifications, Section 10.6.3.1.2. Table 2 below provides design bearing resistance for the Service, Strength, and Extreme Limit States considering continuous footings and varying footing widths. The provided bearing resistances assume an embedment of 2 feet below scour depths and therefore do not consider the effects of sloping ground in front of the footings. The recommended bearing pressures assume that footings are established at or below the groundwater level.

The Service Limit State bearing resistance assumes an allowable static settlement of 1 inch. The bearing resistances for the Extreme and Strength Limit States include resistance factors of 0.9 and 0.45,

respectively. These resistance factors are based on recommendations in the 2017 AASHTO LRFD and the Washington State Department of Transportation (WSDOT) Geotechnical Design Manual (GDM).

TABLE 2. BEARING RESISTANCE SUMMARY FOR CONTINUOUS FOOTING

Footing Width (ft)	Unfactored Bearing Resistance (ksf) ¹	Extreme Event Bearing Resistance (ksf) ¹	Strength Bearing Resistance (ksf) ¹	Service Limit State Bearing Resistance 1-inch Deflection (ksf) ¹
6.0	10.9	9.8	4.9	5.3
8.0	13.3	11.9	6.0	4.6
10.0	15.6	14.0	7.0	4.1
12.0	17.9	16.1	8.1	3.6
14.0	20.2	18.1	9.1	3.2
16.0	22.4	20.1	10.1	2.9

Notes:

¹kips per square foot

3.3.4. Lateral Resistance

The ability of the soil to resist lateral loads is a function of the base friction, which develops on the base of footings and slabs, and the passive resistance, which develops on the face of below-grade elements of the structure as these elements move into the soil. For footings founded in accordance with the recommendations presented above, the frictional resistance on the base of the footing may be computed using a nominal coefficient of friction of 0.6 applied to the vertical dead-load forces. The nominal passive resistance on the face of footings or other embedded foundation elements may be computed using an equivalent fluid density of 420 pounds per cubic foot (pcf) for unsubmerged and undisturbed site soils or structural fill extending out from the face of the foundation element a distance at least equal to two-and-one-half times the depth of the element. For submerged undisturbed site soils or structural fill, an equivalent fluid density of 200 pcf should be used. These values do not contain hydrostatic pressure and are ultimate resistances. The resistance factors summarized in Table 3 below should be applied to the values for design.

TABLE 3. LATERAL RESISTANCE FACTORS

Limit State	Resistance Factor	
	Shear Resistance to Sliding	Passive Pressure resistance to Sliding
Strength	0.8 (cast-in-place) 0.9 (precast)	0.5
Service	1.0	1.0
Extreme	0.9	0.9

3.4. Culvert Walls

3.4.1. Subsurface Drainage

Culvert walls will need to include drainage measures (drainpipes or weep holes) to prevent buildup of excessive hydrostatic pressures or be designed for full hydrostatic pressures and submerged structural fill values. Even with drainage measures included, we recommend the culvert walls be designed to withstand at least 1 foot of hydrostatic differential (i.e., a groundwater level behind the structure 1 foot higher than the water level in the creek). This will allow for some time lag in the drainage if the creek level drops suddenly or if the drainage becomes temporarily clogged. A larger design differential might be required based on the location of the drainpipes or weep holes.

We recommend a zone of free-draining material behind culvert walls with perforated pipes to collect water. Most of the site soils encountered in our explorations contain a significant percentage of fines (material passing the U.S. No. 200 sieve). Fine soils are susceptible to particle migration, potentially clogging the drainage. We recommend the drainage zone behind the walls consists of material similar to “gravel backfill for drains” described in Section 9-03.12(4) of the WSDOT *Standard Specifications*. The drainage zone should extend horizontally at least 12 inches from the back of the retaining structure. A filter fabric designed for separation should be placed between the gravel backfill and adjacent wall backfill to prevent soil migration.

3.4.2. Design Parameters

Footings for retaining walls and subsurface structures should be designed in accordance with recommendations in Section 3.3 “Foundation Support” above. We recommend retaining walls, abutments and wing walls, and other subsurface structures be backfilled with imported structural fill as described in the Section 3.7 “Fill Materials” below. Fill should be placed and compacted as described in Section 3.8 “Fill Placement and Compaction” of this report. The following table provides lateral soil pressure parameters suitable for design of retaining walls or subsurface structures.

TABLE 4. LATERAL SOIL PRESSURE PARAMETERS FOR PERMANENT SUBSURFACE STRUCTURES

Soil Parameter	Backfill/Retained Soil Above Groundwater	Submerged Backfill/Retained Soil ²
Soil Unit Weight	Total Weight = 120 pcf	Buoyant Weight = 58 pcf
Friction Angle	34 degrees	34 degrees
Cohesion	0 psf	0 psf
Active Earth Pressure ¹	Ka = 0.28 Equivalent Fluid Pressure: Ka*Unit Weight = 34 pcf	Ka = 0.28 Equivalent Fluid Pressure: Ka*Buoysant Unit Weight = 17 pcf
At-rest Earth Pressure ¹	Ko = 0.44 Equivalent Fluid Pressure: Ko*Unit Weight = 53 pcf	Ko = 0.44 Equivalent Fluid Pressure: Ko*Buoysant Unit Weight = 26 pcf

Notes:

- ¹ Provided lateral soil pressure parameters are appropriate for the level backfill condition only.
- ² These values do not include hydrostatic pressure.

If retaining walls or subsurface structures will be designed for seismic forces, an additional equivalent fluid density of 17 pcf should be added to the appropriate value provided above. This value assumes that 1 to 2 inches of lateral wall movement is likely and acceptable in a seismic event. If the walls will be completely restrained from movement, a higher seismic surcharge pressure will need to be incorporated.

The horizontal pressure from uniform vertical surcharge loads (e.g., typical 250 psf traffic loads) can be estimated by multiplying the vertical pressure by the active (K_a) or at rest (K_o) earth pressure coefficients provided in Table 4 for the appropriate wall restraint condition. The resulting horizontal pressure should be applied as a uniform rectangular load acting over the exposed height of the wall. Other surcharge loads or configurations should be considered on a case-by-case basis.

Appropriate load factors should be applied to the lateral earth pressures and surcharge pressures described above.

3.5. Excavations, Shoring and Dewatering

3.5.1. General

The proposed culvert replacement will require excavation of the existing embankment to remove the existing culvert and construct the foundation for the new culvert. We anticipate that shoring and temporary slopes, surface water management (creek bypass), and potential groundwater management (dewatering) will be required to construct the proposed culvert. Due to space constraints, we expect that the culvert excavation will require temporary soldier pile wall shoring and temporary removal/rerouting of utilities). Depending on the time of year and the creek conditions during excavation, a dewatering system or cofferdam type system could be needed to construct the proposed improvements.

Excavation, shoring, dewatering, and creek by-pass are all interrelated; the design and implementation of these elements must be coordinated and must consider overall construction staging to ensure a consistent and compatible approach. We recommend that the contractor performing the work be made responsible for temporary slopes/shoring and for controlling and collecting groundwater encountered. The contract documents should also specify that the contractor is responsible for selecting excavation and dewatering methods, monitoring the excavations for safety, and providing shoring, as required, to protect personnel and structures.

We provide recommendations for temporary excavations, soldier pile walls and dewatering in the sections below.

3.5.2. Temporary Excavations

Excavations deeper than 4 feet must be shored or laid back at a stable slope if workers are required to enter. Shoring and temporary slope inclinations must conform to the provisions of *Title 296 Washington Administrative Code (WAC)*, Part N, "Excavation, Trenching and Shoring". Regardless of the soil type encountered in the excavation, shoring, trench boxes or sloped sidewalls will be required under *Washington Industrial Safety and Health Act (WISHA)*. We recommend that contract documents specify that the contractor is responsible for selecting excavation and dewatering methods, monitoring the excavations for safety and providing shoring, as required, to protect personnel and structures.

We recommend for planning purposes all temporary cut slopes be inclined no steeper than about 1.5H:1V if workers are required to enter. This guideline assumes all surface loads are kept at a minimum distance

of at least one-half the depth of the cut away from the top of the slope and seepage is not present on the slope face. Flatter cut slopes could be necessary where seepage occurs or if surface surcharge loads are anticipated. Temporary covering with heavy plastic sheeting should be used to protect these slopes during periods of wet weather.

3.5.3. Soldier Pile Walls

Soldier pile walls consist of steel beams that are concreted into drilled vertical holes located along the wall alignment, typically about 8 feet on center. After excavation to specified elevations, horizontal reinforcement elements (such as internal bracing, discussed below) are installed, if necessary. Typically, retaining walls with horizontal reinforcement become more economical when more than 15 feet of soil requires retainment. Timber lagging is typically installed behind the flanges of the steel beams to retain the soil located between the soldier piles. Geotechnical design recommendations for soldier piles and a bracing system are presented in the following sections.

3.5.3.1. Soldier Piles Any difference in treatment between temp soldier pile wall and permanent walls used for winwalls

We recommend that soldier pile walls be designed using the earth pressure diagrams presented in Earth Pressure Diagrams – Temporary Soldier Pile & Tieback Wall, Figure 3. The earth pressures presented in Figure 3 are for full-height cantilever soldier pile walls and for full-height soldier pile walls with a single or multiple levels of horizontal reinforcement such as tiebacks or internal bracing. The earth pressures presented in Figure 3 represent the estimated loads that will be applied to the wall system for various wall heights.

The earth pressures presented in Figure 3 include the loading from traffic surcharge. If the exposed wall height exceeds 15 feet, the traffic surcharge load can be truncated at 15 feet below the top of the wall. Other surcharge loads such as cranes, construction equipment, or construction staging areas should be considered on a case-by-case basis, as shown on Recommended Surcharge Pressures, Figure 4. Seismic pressures have not been included in Figure 3 since the shoring walls will be temporary.

We recommend using an allowable end bearing value of 30 kips per square foot (ksf) for piles embedded into the glacial till. The allowable end bearing value should be applied to the base area of the drilled hole into which the soldier pile is concreted. This value includes a factor of safety of about 2.5. The allowable end bearing value assumes that the shaft bottom is cleaned out immediately prior to concrete placement. If necessary, an allowable pile skin friction of 1.5 ksf may be used on the embedded portion of the soldier piles to resist the vertical loads. This value includes a factor of safety of about 2.

The lateral load performance of soldier piles may be evaluated using the commercial computer program LPILE (Ensoft, Inc.), which uses the p-y method. Recommended static LPILE parameters are presented in Figure 5.

3.5.3.2. Lagging

We recommend that the temporary timber lagging be sized using the procedures outlined in the Federal Highway Administration's Geotechnical Engineering Circular No. 4. The site soils are best described as competent soils. Table 5 presents recommend lagging thicknesses (rough-cut) as a function of soldier pile clear span and depth.

3.4.1 calls for gravel backfill for drains behind culvert walls.

TABLE 5. RECOMMENDED LAGGING THICKNESS

Depth (feet)	Recommended Lagging Thickness (rough-cut) for Clear Spans of:					
	5 feet	6 feet	7 feet	8 feet	9 feet	10 feet
0 to 25	2 inches	3 inches	3 inches	3 inches	4 inches	4 inches
25 to 50	3 inches	3 inches	3 inches	4 inches	4 inches	5 inches

Lagging should be installed promptly after excavation, especially in areas where perched groundwater is present or where clean sand and gravel soils are present and caving soils conditions are likely. The workmanship associated with lagging installation is important for maintaining the integrity of the excavation.

The space behind the lagging should be filled as soon as practicable. Placement of this material will help reduce the risk of voids developing behind the wall and damage to existing improvements located behind the wall. Material used as backfill in voids located behind the lagging should not cause buildup of hydrostatic pressure behind the wall. Lean concrete or controlled density fill (CDF) are suitable options for use as backfill behind the walls. Lean concrete or CDF will reduce the volume of voids present behind the wall. Based on our experience, the voids between each lean concrete or CDF lift are sufficient for preventing the buildup of hydrostatic pressure behind the wall.

3.5.3.3. Internal Bracing

Due to complex adjacencies including limited space at the site and existing utilities, we expect that internal bracing for temporary shoring will be included if additional horizontal support is needed. Internal bracing typically includes vertical steel sections (soldier piles) along with horizontal walers and cross bracing installed at specified elevations and locations. The internal bracing allows for the completion of excavations without having anchors extend beyond the excavation (i.e., into areas with existing utilities, existing right-of-way (ROW), etc.).

As noted in the soldier pile section above, internal bracing should be designed using the earth pressure diagram presented in Figure 3.

3.5.3.4. Drainage

A suitable drainage system should be installed to prevent the buildup of hydrostatic groundwater pressures behind the soldier pile and lagging wall. It may be necessary to cut weep holes through the lagging in wet areas. Providing spacing between pieces of lagging (typically less than ¼ inch) is recommended to help relieve hydrostatic pressures. Seepage flows at the bottom of the excavation should be contained and controlled. **What about the permanent walls?**

3.5.3.5. Shoring Wall Performance

Temporary shoring walls typically move on the order of 0.1 to 0.2 percent of H, where H is the vertical distance between the existing ground surface and the base of excavation.

The deflections and settlements are usually highest at the excavation face and decrease to negligible amounts beyond a distance behind the wall equal to the height of the excavation. Localized deflections may exceed the above estimates and may reflect local variations in soil conditions (such as around side sewers) or may be the result of the workmanship used to construct the shoring wall. Given that some movement is expected, existing improvements located adjacent to the temporary shoring system will

also experience movement. The deformations discussed above are not likely to cause structural damage to structurally sound existing improvements; however, some cosmetic damage should be expected (for instance, cracks in drywall finishes; widening of existing cracks; minor cracking of slabs-on-grade/hardscapes; cracking of sidewalks, curbs/gutter, and pavements/pavement panels; etc.). For this reason, it is important to complete a pre-construction survey and photo documentation of existing buildings and improvements prior to shoring construction.

3.5.3.6. Construction Considerations

Temporary casing or drilling fluid may be required to install the soldier piles where:

- Loose fill is present, as observed in the upper approximately 12 feet of our subsurface exploration
- The native soils do not have adequate cementation or cohesion to prevent caving or raveling
- Perched groundwater or regional groundwater table is present
- Soils contain coarse gravel, cobbles, and boulders

Difficult drilling conditions should be anticipated during installation of soldier piles. The contractor should be prepared to encounter coarse gravels and cobbles during drilling. If boulders are encountered during installation, it could be necessary to core through the boulder or adjust the location of the soldier pile. Changes to the location of soldier piles must be coordinated with the wall designer.

Utilities or right-of-way (ROW) concerns must be considered during design. Utilities should be identified and ~~relocated~~, as necessary, prior to installation of temporary shoring. **Utilities will remain in place and need to be hung from bracing.**

GeoEngineers should be allowed to observe and document the installation of the shoring to verify conformance with the design assumptions and recommendations. **CM Support**

3.5.4. Dewatering

If there is flow in Redondo Creek during construction, it will be necessary to collect and route flow around the work area. If needed, we anticipate that dewatering in excavations that extend to, or just below the groundwater level may be achieved with sumps and pumps in the interior of the excavation. Excavations extending more than a few feet below the groundwater level, if planned, could require dewatering with well points or dewatering wells to control seepage.

3.6. Site Development and Earthwork

3.6.1. General

We anticipate site development and earthwork activities will include excavation within the existing embankment and utility access road, removing the existing culvert, site grading, subgrade preparation and placing and compacting fill and backfill materials. We expect site grading and earthwork can be accomplished with conventional earthmoving equipment.

Based on review of available documentation of the existing site conditions and our observations on site, we anticipate that several utilities extend through the project area. Utilities include, but are not limited to, sewer, water, and fiber optics. Existing utilities that encroach in the improvement area will need to be considered and protected ~~or temporarily rerouted~~ during construction.

3.6.2. Clearing, Stripping, and Demolition

Areas of the site to be developed or graded must be cleared of surface and subsurface deleterious matter, including any debris and organics. If voids are created during clearing and stripping, they should be backfilled with compacted structural fill following the recommendations described in this report. After stripping, excessive disturbance of surficial soils could occur, especially if left exposed to wet weather conditions and construction or vehicle traffic. Disturbed soils may require additional remediation during construction and grading. Based on our explorations, we anticipate existing on-site soils could have a high fines content (material passing the U.S. No. 200 sieve). If exposed, these soils will be susceptible to disturbance when wet. Care should be taken to avoid allowing these soils to become saturated and disturbed. We provide recommendations for subgrade protection in the Section 3.6.6 “Subgrade Protection and Wet Weather Considerations” below.

We encountered cobbles and boulders in our exploration, and they are common in glacial deposits in the project area. The contractor should be prepared to manage these materials if encountered during grading or excavation. Voids caused by removal of large cobbles or boulders should be backfilled with structural fill.

3.6.3. Permanent Cut and Fill Slopes

We recommend permanent slopes be constructed at a maximum inclination of 2H:1V. Where 2H:1V permanent slopes are not feasible, protective facings and/or retaining structures should be considered. This guideline assumes all surface loads are kept at a minimum distance of at least one-half the height of the slope away from the top of the slope and seepage is not present on the slope face. Flatter cut slopes or additional drainage measures could be necessary where seepage occurs or if surface surcharge loads are anticipated.

To achieve uniform compaction, we recommend fill slopes be overbuilt and subsequently cut back to expose well-compacted fill. Fill placement on existing slopes steeper than 5H:1V should be benched into the slope face. The configuration of benches depends on the equipment being used and the inclination of the existing slope. Bench excavations should be level and extend into the existing slope face at least half the width of the compaction equipment used.

Exposed areas should be revegetated as soon as practical to reduce the surface erosion and sloughing. Temporary protection should be used until permanent protection is established.

3.6.4. Erosion and Sedimentation Control

Erosion and sedimentation rates and quantities can be influenced by construction methods, slope length and gradient, amount of soil exposed and/or disturbed, soil type, construction sequencing and weather. Implementing an erosion and sedimentation control plan will reduce impacts to the project where erosion-prone areas are present. The plan should be designed in accordance with applicable county and/or state standards. The plan should incorporate basic planning principles, including:

- Scheduling grading and construction to reduce soil exposure;
- Re-vegetating or mulching denuded areas;
- Directing runoff away from exposed soils;
- Reducing the length and steepness of slopes with exposed soils;

- Decreasing runoff velocities;
- Preparing drainage ways and outlets to handle concentrated or increased runoff;
- Confining sediment to the project site; and
- Inspecting and maintaining control measures frequently.

Temporary erosion protection should be used and maintained in areas with exposed or disturbed soils to help reduce erosion and reduce transport of sediment to adjacent areas and receiving waters. Permanent erosion protection should be provided by paving, structure construction or landscape planting.

Until permanent erosion protection is established, and the site is stabilized, site monitoring may be required by qualified personnel to evaluate the effectiveness of the erosion control measures and to repair and/or modify them as appropriate. Provisions for modifications to the erosion control system based on monitoring observations should be included in the erosion and sedimentation control plan. Where sloped areas are present, some sloughing and raveling of exposed or disturbed soil on slopes should be expected. We recommend that disturbed soil be restored promptly so that surface runoff does not become channeled.

3.6.5. Subgrade Preparation

Subgrades should be thoroughly compacted to a uniformly firm and unyielding condition on completion of stripping. We recommend subgrades be evaluated, as appropriate, to identify areas of yielding or soft soil. Probing with a steel probe rod or proof-rolling with a heavy piece of wheeled construction equipment are appropriate methods of evaluation.

If soft or otherwise unsuitable subgrade areas are revealed during evaluation that cannot be compacted to a stable and uniformly firm condition, we recommend: (1) the unsuitable soils be scarified (e.g., with a ripper or farmer's disc), aerated and recompact, if practical; or (2) the unsuitable soils be removed and replaced with compacted structural fill, as needed.

3.6.6. Subgrade Protection and Wet Weather Considerations

The soils observed in our boring contained a significant amount of fines. These soils will be susceptible to disturbance during periods of wet weather, sensitive to small changes in moisture, and susceptible to disturbance from construction traffic when wet or if earthwork is performed during wet weather. When the moisture content of the soil is more than a few percent above the optimum moisture content, the soil can become muddy and unstable, and it will be challenging to meet the required compaction criteria. The wet weather season generally begins in October and continues through May in western Washington; however, periods of wet weather can occur during any month of the year. In our opinion, earthwork at the site should take place during the summer months or during periods of extended dry weather. If wet weather earthwork is unavoidable, we offer the following recommendations:

- The ground surface in and around the work area should be sloped so that surface water is directed away from the work area. The ground surface should be graded so areas of ponded water do not develop. Measures should be taken by the contractor to prevent surface water from collecting in excavations and trenches. Measures should be implemented to remove surface water from work areas and directed to a proper discharge location.
- Earthwork activities should not take place during periods of heavy precipitation.

- Slopes with exposed soils should be covered with plastic sheeting.
- The contractor should take necessary measures to prevent on-site soils and other soils to be used as fill from becoming wet or unstable. These measures may include the use of plastic sheeting, sumps with pumps and grading. The site soils should not be left uncompacted and exposed to moisture. Sealing exposed soils by rolling with a smooth-drum roller prior to periods of precipitation will help reduce the extent to which these soils absorb water and become wet or unstable.
- Construction traffic should be restricted to specific areas of the site, preferably areas that are surfaced with working pad materials not susceptible to wet weather disturbance.
- Construction activities should be scheduled so that the length of time that soils are left exposed to moisture is reduced to the extent practical.
- Protective surfacing such as placing asphalt-treated base (ATB), cement treated base (CTB), cement treated subgrades, or haul roads made of quarry spalls or a layer of free-draining material such as well-graded pit-run sand and gravel may be necessary to protect completed areas from construction traffic.

3.7. Fill Materials

3.7.1. Structural Fill

Material used for structural fill should be free of debris, organic contaminants, and rock fragments larger than 6 inches in maximum dimension. We recommend structural fill consist of material similar to “Select Borrow” or “Gravel Borrow” as described in Section 9-03.14 of the WSDOT *Standard Specifications*, or “Aggregate for Gravel Base” as described in Section 9-03.10. We recommend crushed rock or select granular fill (described below) be used for structural fill during the wet season.

3.7.2. Select Granular Fill

If imported fill is needed during wet weather conditions, we recommend select granular fill is used. Select granular fill should consist of well-graded sand and gravel or crushed rock with a maximum particle size of 6 inches and less than 5 percent fines by weight based on the minus ¾-inch fraction. Organic matter, debris or other deleterious material should not be present. Material with gradation characteristics similar to “Aggregates for Ballast and Crushed Surfacing” (Section 9-03.9 of the WSDOT *Standard Specifications*), “Gravel Borrow” (Section 9-03.14(1)) or “Select Borrow” (Section 9-03.14(2)) is also suitable for use as select granular fill, provided the fines content is less than 5 percent (based on the minus ¾-inch fraction) and the maximum particle size is 6 inches.

3.7.3. On-Site Soils

3.1page 4 says native would be difficult to

Based on our subsurface explorations and experience, it is our opinion that existing site soils including the existing fill may be considered for use as structural fill provided they can be adequately moisture conditioned, placed and compacted as recommended and do not contain organic or other deleterious material. We observed cobbles and boulders in the existing fill. These oversized particles (greater than about 6 inches in dimension) can inhibit compaction and fine grading and should be removed before the material is used as structural fill.

The majority of the soils observed in our explorations contained a significant amount of fines and will be moisture sensitive and very difficult or impossible to properly compact when wet. In addition, it is possible

We need to provide for the use of imported fill material in the estimate as there is a good chance we won't be able to use the native. Some fill in the area of the culvert might not be garbage

that existing soils will be generated at moisture contents above optimum especially in excavations near the elevation of the creek. If earthwork occurs during a typical wet season, or if the soils are persistently wet and cannot be dried due to prevailing wet weather conditions, we recommend the use of imported structural fill or select granular fill, as described above.

3.8. Fill Placement and Compaction

To obtain proper compaction, fill material should be compacted near optimum moisture content and in uniform horizontal lifts. Lift thickness and compaction procedures will depend on the moisture content and gradation characteristics of the soil and the type of equipment used. Generally, 12-inch-thick loose lifts are appropriate for steel-drum vibratory roller compaction equipment. The maximum allowable moisture content varies with the soil gradation and should be evaluated during construction. Compaction should be achieved by mechanical means. During fill and backfill placement, sufficient testing of in-place density should be conducted to verify adequate compaction is being achieved.

Fill placed under structural areas (such as culverts or wingwalls), under pavements, or to raise site grades should be placed on subgrades prepared as previously recommended. Fill material placed below structural areas or under pavement sections must be compacted to at least 95 percent of the theoretical maximum dry density (MDD) per ASTM International (ASTM) D 1557. In non-structural areas, fill should be compacted to a firm condition that will support construction equipment, as necessary, typically around 85 to 90 percent of the MDD.

3.8.1. Fill Placement Below the Water Table

Where fill placement is required on wet subgrades below the water table, we recommend fill consist of angular rock with few fines. In our opinion, material conforming to WSDOT *Standard Specification 9-03.9(2)* "Permeable Ballast" is suitable for this purpose. Quarry spalls conforming to WSDOT *Standard Specification 9-13.1(5)* could also be considered.

The rock should be placed in lifts and tamped with an excavator bucket. A geotextile may be required between the rock and any overlaying fill to prevent material from being lost into the voids in the rock.

3.9. Stormwater Infiltration

Stormwater infiltration facilities, if planned, will be designed in general accordance with the 2021 King County *Surface Water Design Manual* (SWDM), which has been adopted by the City of Federal Way. According to the manual, design infiltration rates must be estimated based on in situ infiltration testing such as Pilot Infiltration Tests (PITs).

Due to the presence of variable fill material, underlying low permeability glacial till soils and the overall relatively silty nature of site soils observed in our exploration, it is our opinion that design infiltration rates at the site will be variable and relatively slow. Additionally, the site area consists of steep slopes and is relatively small and may not be able to accommodate infiltration facilities. In general, we do not recommend infiltration facilities be considered near or within steep slope areas. In our opinion, facilities requiring full infiltration are likely not feasible for this project. If it is determined that infiltration is required for the project, in situ testing such as PIT(s) would need to be performed at the proposed infiltration facility location(s) to establish design infiltration rates.

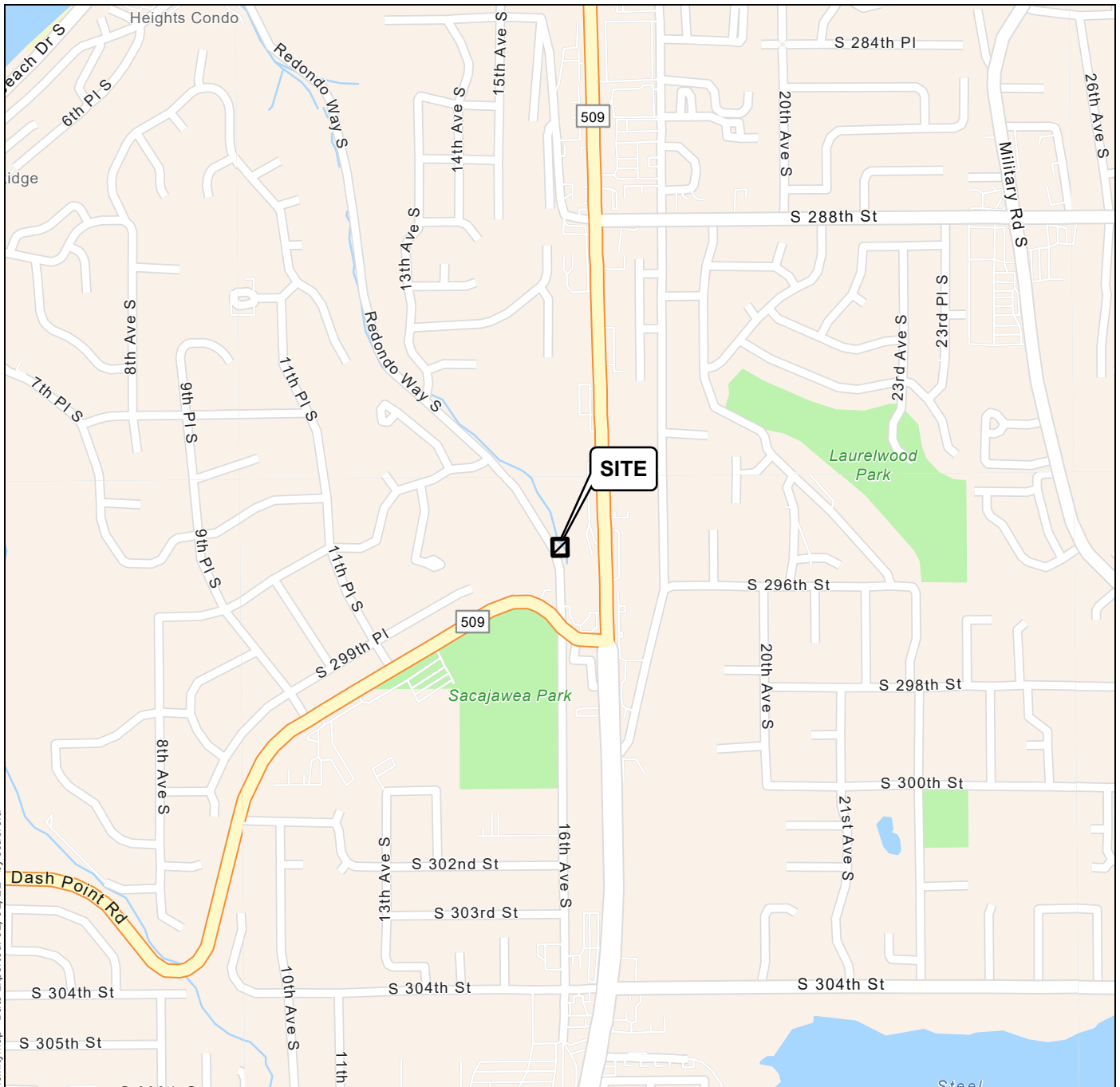
4.0 LIMITATIONS

We have prepared this report for the exclusive use of the City of Federal Way and their authorized agents for the Redondo Creek Culvert Replacement project in Federal Way, Washington. City of Federal Way may distribute copies of this report to owner and owner's authorized agents and regulatory agencies as may be required for the project.

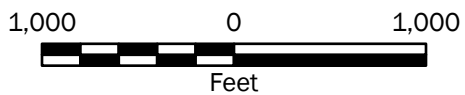
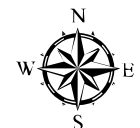
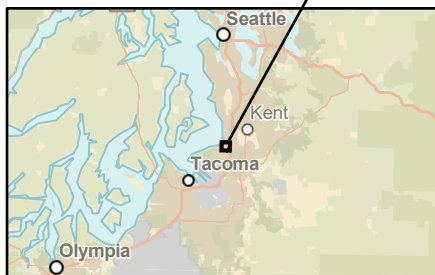
Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this preliminary design report was prepared. The conclusions, recommendations, and opinions presented in this report are based on our professional knowledge, judgment, and experience. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix B, Report Limitations and Guidelines for Use, for additional information pertaining to use of this report.





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Notes:

- 1. The locations of all features shown are approximate.
- 2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.





Data Source: ESRI
 Projection: NAD 1983 UTM Zone 10N

Vicinity Map	
Redondo Creek Culvert Replacement at 16th Avenue South Federal Way, Washington	
	Figure 1

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Legend

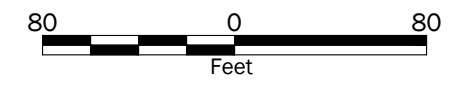
- B-1  Boring by GeoEngineers, Inc., 2022
-  Approximate Location of Redondo Creek
-  Approximate Location of Earthen Embankment
-  Approximate Location of Utility Access Road


Notes:

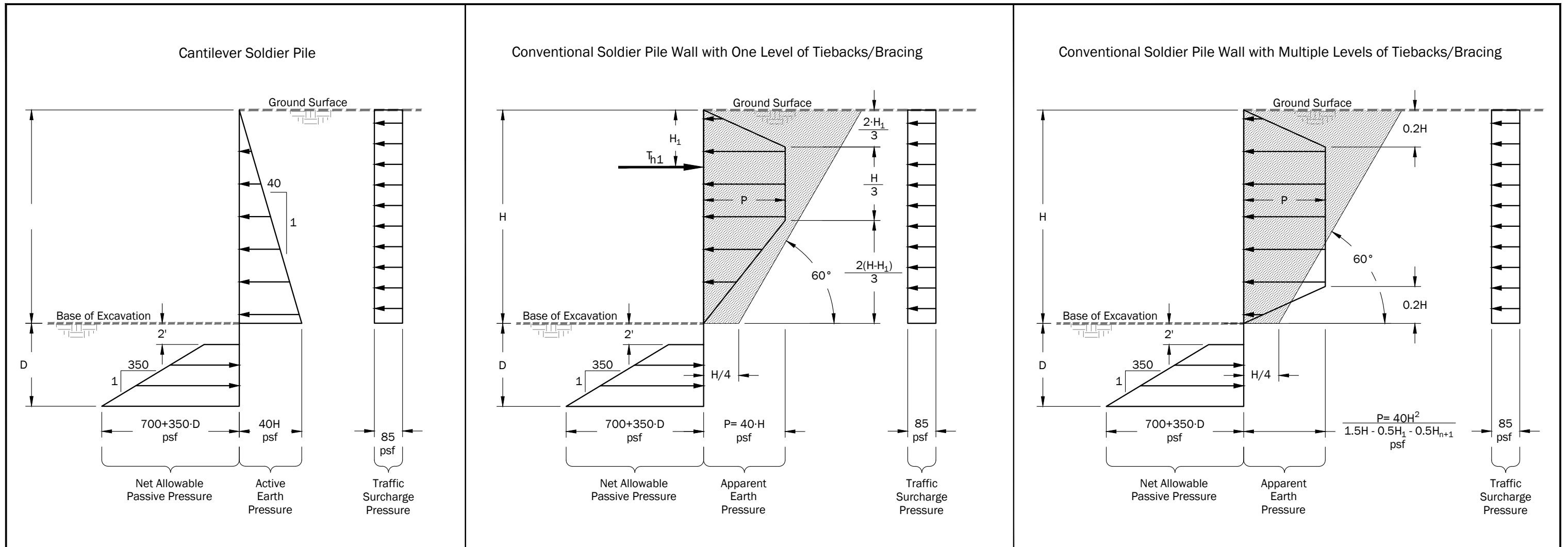
1. The locations of all features shown are approximate.
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Data Source: Aerial from Google Earth Pro dated 08/14/2020.

Projection: Washington State Plane, North Zone, NAD83, US Foot



Site Plan	
Redondo Creek Culvert Replacement at 16th Avenue South Federal Way, Washington	
	Figure 2



Notes:

1. Active/apparent earth pressure and traffic surcharge pressure act over the pile spacing above the base of the excavation.
2. Passive earth pressure acts over 2.5 times the concreted diameter of the soldier pile, or the pile spacing, whichever is less.
3. Passive pressure includes a factor of safety of 1.5
4. This pressure diagram is appropriate for temporary soldier pile and tieback walls and includes surcharge load resulting from a traffic loading of 250 psf. Additional surcharge loading (such as from soil stockpiles, excavators, dumptrucks, cranes, or concrete trucks) should be included in accordance with recommendations provided on Figure 4.

Legend

- No Load Zone
- H = Height of Excavation, Feet
- D = Soldier Pile Embedment Depth, Feet
- H_1 = Distance From Ground Surface to Uppermost Tieback, Feet

- T_{h1} = Horizontal Load in Uppermost Ground Anchor
- P = Maximum Apparent Earth Pressure, Pounds per Square Foot

Not To Scale

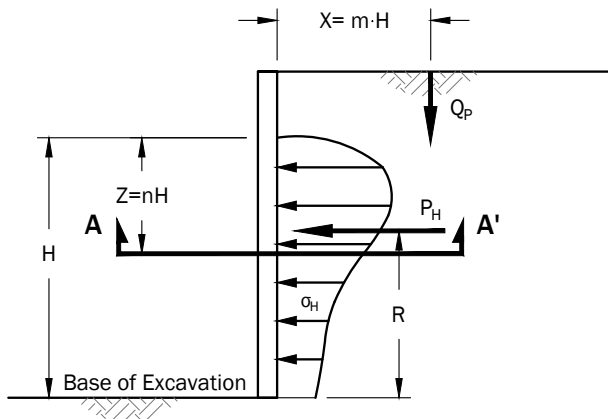
**Earth Pressure Diagrams -
Temporary Soldier Pile & Tieback Wall**

Redondo Creek Culvert Replacement
Federal Way, Washington



Figure 3

Lateral Earth Pressure from Point Load, Q_p
(Spread Footing)

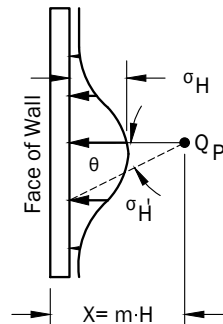


$$\sigma_H = \sigma \cos^2 (1.1\theta)$$

$$\text{For } m \leq 0.4 \quad \sigma_H = \frac{0.33Q_p n^2}{H^2(0.16+n^2)^3}$$

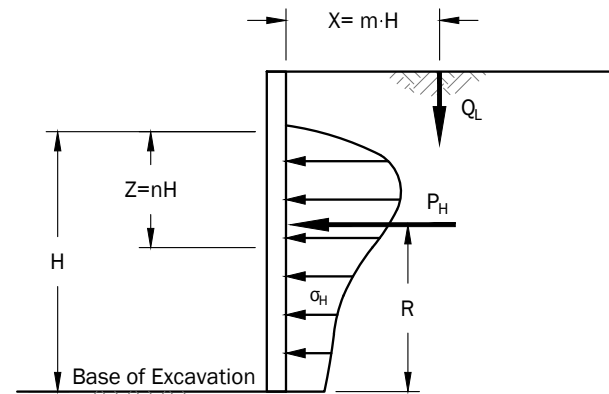
$$\text{For } m > 0.4 \quad \sigma_H = \frac{1.77Q_p m^2 n^2}{H^2(m^2+n^2)^3}$$

m	$P_H \left(\frac{H}{Q_p} \right)$	R
0.2	0.78	0.59H
0.4	0.78	0.59H
0.6	0.45	0.48H



Section A-A'
Pressures from Point Load Q_p

Lateral Earth Pressure from Line Load, Q_L
(Continuous Wall Footing)



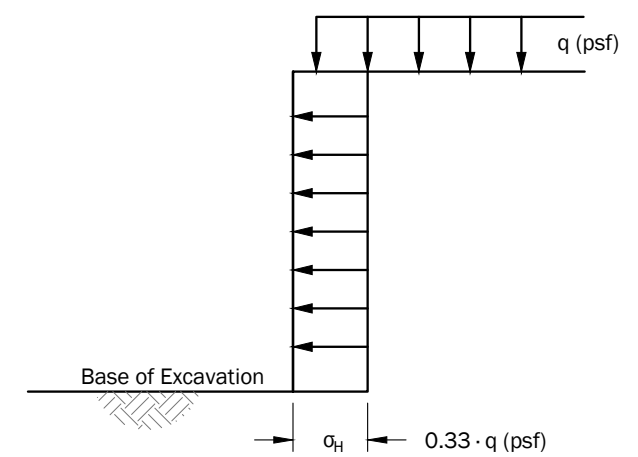
$$\text{For } m \leq 0.4 \quad \sigma_H = \frac{0.2n \cdot Q_L}{H(0.16+n^2)^2}$$

$$\text{For } m > 0.4 \quad \sigma_H = \frac{1.28m^2 n Q_L}{H(m^2+n^2)^2}$$

$$\text{Resultant } P_H = \frac{0.64Q_L}{(m^2 + 1)}$$

m	R
0.1	0.60H
0.3	0.60H
0.5	0.56H
0.7	0.48H

Uniform Surcharges, q (Floor Loads, Large Foundation Elements or Traffic Loads)



σ_H = Lateral Surcharge Pressure from Uniform Surcharge

Definitions:

- Q_p = Point load in pounds
- Q_L = Line load in pounds/foot
- H = Excavation height below footing, feet
- σ_H = Lateral earth pressure from surcharge, psf
- q = Surcharge pressure in psf
- θ = Radians
- σ_H = Distribution of σ_H in plan view
- P_H = Resultant lateral force acting on wall, pounds
- R = Distance from base of excavation to resultant lateral force, feet
- X = Resultant lateral force acting on wall, pounds
- Z = Depth of σ_H to be evaluated below the bottom of Q_p or Q_L
- m = Ratio of X to H
- n = Ratio of Z to H

Notes:

1. Procedures for estimating surcharge pressures shown above are based on Manual 7.02 Naval Facilities Engineering Command, September 1986 (NAVFAC DM 7.02).
2. See report text for where surcharge pressures are appropriate.

Not To Scale

Recommended Surcharge Pressure

Redondo Creek Culvert Replacement
Federal Way, Washington




Figure 4

Elevation (feet)	Soil Unit	USCS Soil Type	Friction Angle (degrees)	Undrained shear Strength/ Cohesion (psf)	Earth Pressure Coefficient		Lateral Analysis Parameters			
					Active (K _a)	Passive (K _p)	LPILE Soil Model	Total Unit Weight (pcf)	Soil Modulus K (pci)	Strain Factor e50
Ground Surface to 360	Loose Existing Fill/Weathered Native Soils	SM	30	-	0.33	3.00	API Sand	120	25	-
360 and below	Glacial Till	SM/GM	38	-	0.24	4.20	API Sand	125	225	-

Notes:

1 Elevations referenced to North American Vertical Datum of 1988 (NAVD 88)

Lateral Soil Parameters	
Redondo Creek Culvert Replacement Federal Way, Washington	
	Figure 5



APPENDIX A
Subsurface Explorations and Laboratory Testing

APPENDIX A SUBSURFACE EXPLORATIONS AND LABORATORY TESTING

Subsurface Explorations

Soil and groundwater conditions at the site were explored by advancing one boring on January 28, 2022. The location of the boring was determined via an electronic tablet with global positioning system (GPS) software and is shown on the Site Plan, Figure 2. The location and elevation of the exploration should be considered approximate. The exploration location was constrained to some degree by site infrastructure.

The boring was completed using track-mounted drilling equipment provided and operated by Holocene Drilling, Inc. under subcontract to GeoEngineers. The boring was advanced using hollow-stem auger drilling methods and advanced to a depth of about 30.5 feet below existing grade (bgs). The boring was backfilled by the driller in accordance with Washington State Department of Ecology requirements. Soil cuttings generated from the boring were placed in metal barrels and hauled off site for disposal.

During the exploration program our field representative continuously monitored the boring, obtained representative soil samples, classified the soils, maintained a detailed log of the exploration and observed groundwater conditions. Soil samples were obtained from the boring using a 1.375-inch inner diameter split-barrel sampler driven into the soil using a 140-pound hammer free-falling a distance of 30 inches. The number of blows required to drive the sampler the last 12 inches or other indicated distance is recorded on the logs as the blow count. Our field representative made sample attempts at 2.5- to 5-foot depth intervals. Samples were retained in sealed plastic bags to prevent moisture loss. The soils were classified visually in general accordance with ASTM International (ASTM) D 2488 and Figure A-1, which includes a Key to the Exploration Logs. A summary log of the exploration is included as Figures A-2.

Laboratory Testing

Soil samples obtained from the exploration were transported to the GeoEngineers laboratory. Representative soil samples were selected for laboratory tests to evaluate the pertinent geotechnical engineering characteristics of the soils and to confirm our field classification. The following paragraphs provide a description of tests performed.

Sieve Analysis (SA)

Sieve analysis was performed on a selected sample in general accordance with ASTM Test Method D 6913. This test method covers the quantitative determination of the distribution of particle sizes in soils. Typically, the distribution of particle sizes larger than 75 micrometers (μm) is determined by sieving. The results of the test were used to verify field soil classification. Figure A-3 presents the results of our sieve analysis.

Percent Fines (%F)

A selected sample was “washed” through the U.S. No. 200 sieve to estimate the relative percentages of coarse- and fine-grained particles in the soil. The percent passing value represents the percentage by weight of the sample finer than the U.S. No. 200 sieve (fines). The test was conducted in general accordance with ASTM D 1140. Test results are used to aid in soil classification and correlation with other pertinent engineering soil properties and are presented on the exploration logs at the respective sample depths.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS <small>(LITTLE OR NO FINES)</small>		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
	SAND AND SANDY SOILS	CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SW	WELL-GRADED SANDS, GRAVELLY SANDS
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SP	POORLY-GRADED SANDS, GRAVELLY SAND
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SM	SILTY SANDS, SAND - SILT MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
		LIQUID LIMIT LESS THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		LIQUID LIMIT LESS THAN 50		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
		LIQUID LIMIT GREATER THAN 50		CH	INORGANIC CLAYS OF HIGH PLASTICITY
		LIQUID LIMIT GREATER THAN 50		OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

Sampler Symbol Descriptions

	2.4-inch I.D. split barrel / Dames & Moore (D&M)
	Standard Penetration Test (SPT)
	Shelby tube
	Piston
	Direct-Push
	Bulk or grab
	Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS		TYPICAL DESCRIPTIONS
GRAPH	LETTER	
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact



Measured groundwater level in exploration, well, or piezometer



Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PL	Point lead test
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
UU	Unconsolidated undrained triaxial compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

Key to Exploration Logs



Figure A-1

Start Drilled	1/28/2022	End	1/28/2022	Total Depth (ft)	31	Logged By	CJL	Checked By	BEL	Driller	Holocene Drilling, Inc.	Drilling Method	Hollow-stem Auger
Surface Elevation (ft) Vertical Datum	375 NAVD88			Hammer Data	Autohammer 140 (lbs) / 30 (in) Drop			Drilling Equipment	Diedrich D-50 Turbo Track-mounted				
Easting (X) Northing (Y)	1273500 126670			System Datum	WA State Plane North NAD83 (feet)			See "Remarks" section for groundwater observed					
Notes:													

Elevation (feet)	Depth (feet)	FIELD DATA				Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
		Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing						
0	0					GP-GM	Approximately 4 inches of crushed rock (fill)			Crushed surfacing; vacuumed excavation to approximately 7 feet bgs, soils visually observed	
						GP-GM	Brown fine to coarse gravel with silt, sand and cobbles (medium dense, moist)			Boulder at approximately 3 feet	
370	5					SM	Brown silty fine to medium sand with gravel and cobbles (loose, moist)			Drilling began at 7 feet bgs; no recovery	
		0	2								
365	10									No recovery	
		0	4								
360	15					SM	Brown-gray with iron oxide staining silty fine sand (medium dense, moist) (glacial till)				
		18	24								
						ML	Gray sandy silt (very stiff, wet)	22	68	Groundwater observed at approximately 16 feet during drilling	
355	20										
		0	58			GM	Gray silty fine to coarse gravel with sand (very dense, moist)			Heavy drill chatter between 20 feet and bottom of boring	
350	25										
		12	61					9	23		
345	30					SM	Gray silty fine to medium sand with gravel (very dense, moist)				
		9	50/5"								

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Google Earth. Vertical approximated based on Google Earth.

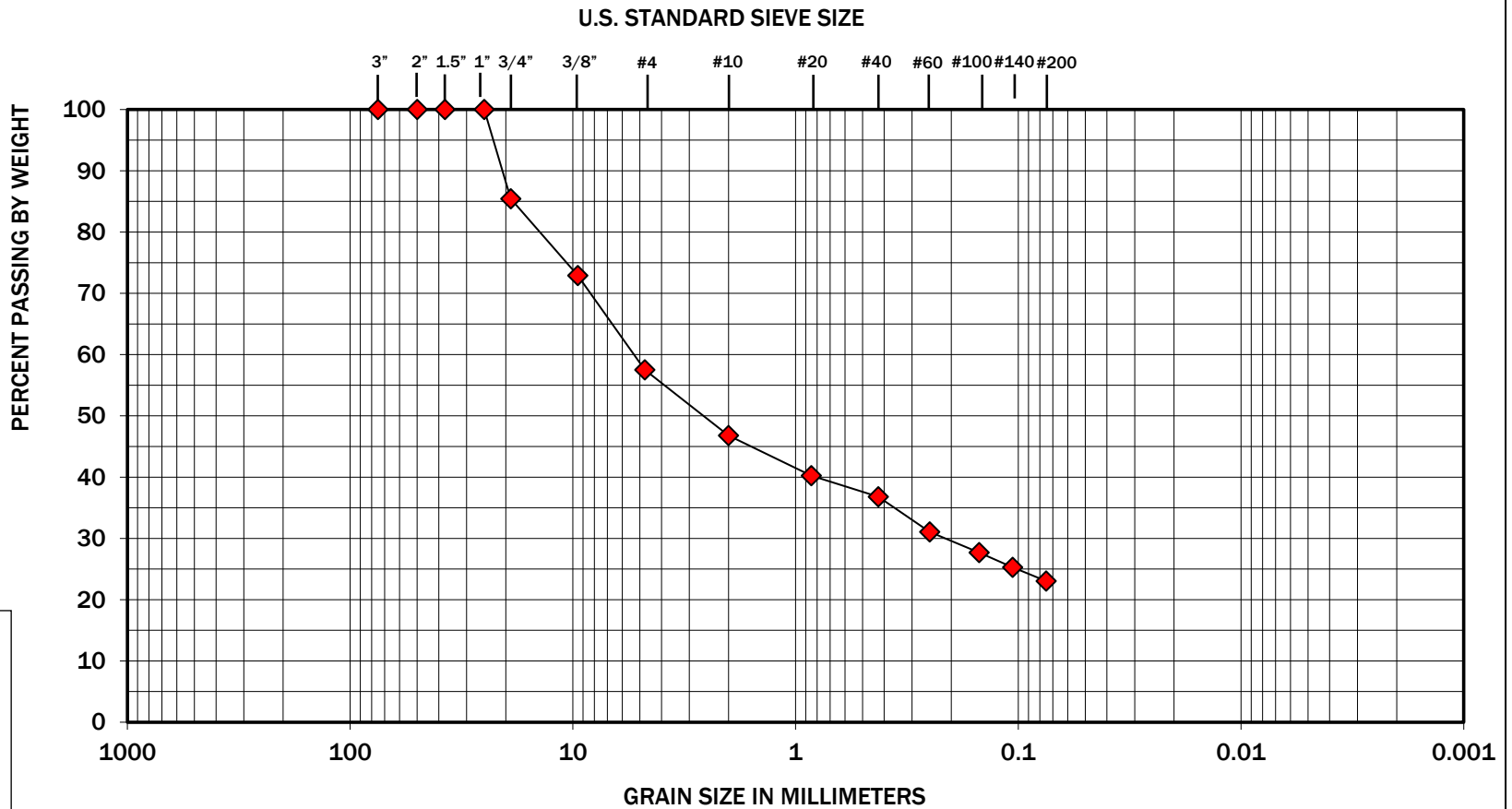
Log of Boring B-1



Project: Redondo Creek Culvert Replacement
Project Location: Federal Way, Washington
Project Number: 2207-018-00

Figure A-2
Sheet 1 of 1

Date: 2/24/22 Path: \\GEOENGINEERS.COM\WAK\PROJECTS\2207018\GINT\220701800.GPJ\DBLibrary\Library\GEOENGINEERS_DF_STD_US_JUNE_2017\GLB\GERB_GEO TECH_STANDARD_SF_NO_GW



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

Symbol	Boring Number	Depth (feet)	Moisture (%)	Soil Description
◆	B-1	25	9	Silty gravel with sand (GM)

GEOENGINEERS



Figure A-3

Redondo Creek Culvert Replacement
Federal Way, Washington

Sieve Analysis Results



Note: This report may not be reproduced, except in full, without written approval of GeoEngineers, Inc. Test results are applicable only to the specific sample on which they were performed, and should not be interpreted as representative of any other samples obtained at other times, depths or locations, or generated by separate operations or processes.

The grain size analysis results were obtained in general accordance with ASTM C 136. GeoEngineers 17425 NE Union Hill Road Ste 250, Redmond, WA 98052

APPENDIX B
Report Limitations and Guidelines for Use

APPENDIX B REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

It is important to recognize that the geoscience practices (geotechnical engineering, geology and environmental science) rely on professional judgment and opinion to a greater extent than other engineering and natural science disciplines, where more precise and/or readily observable data may exist. To help clients better understand how this difference pertains to our services, GeoEngineers includes the following explanatory “limitations” provisions in its reports. Please confer with GeoEngineers if you need to know more how these “Report Limitations and Guidelines for Use” apply to your project or site.

Geotechnical Services are Performed for Specific Purposes, Persons and Projects

This report has been prepared for City of Federal Way and for the Project(s) specifically identified in the report. The information contained herein is not applicable to other sites or projects.

GeoEngineers structures its services to meet the specific needs of its clients. No party other than the party to whom this report is addressed may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed scope of services for the Project, and its schedule and budget, our services have been executed in accordance with our Agreement with City of Federal Way dated December 16, 2021 and generally accepted geotechnical practices in this area at the time this report was prepared. We do not authorize, and will not be responsible for, the use of this report for any purposes or projects other than those identified in the report.

A Geotechnical Engineering or Geologic Report is based on a Unique Set of Project-Specific Factors

This report has been prepared for the Redondo Creek Culvert Replacement project located in Federal Way, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,
- Not prepared for the specific site explored, or
- Completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- The function of the proposed structure;
- Elevation, configuration, location, orientation or weight of the proposed structure;

¹ Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

- Composition of the design team; or
- Project ownership.

If changes occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations. Based on that review, we can provide written modifications or confirmation, as appropriate.

Environmental Concerns are Not Covered

Unless environmental services were specifically included in our scope of services, this report does not provide any environmental findings, conclusions, or recommendations, including but not limited to, the likelihood of encountering underground storage tanks or regulated contaminants.

Information Provided by Others

GeoEngineers has relied upon certain data or information provided or compiled by others in the performance of our services. Although we use sources that we reasonably believe to be trustworthy, GeoEngineers cannot warrant or guarantee the accuracy or completeness of information provided or compiled by others.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the site, new information or technology that becomes available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. If more than a few months have passed since issuance of our report or work product, or if any of the described events may have occurred, please contact GeoEngineers before applying this report for its intended purpose so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Geotechnical and Geologic Findings are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies the specific subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions at other locations. Actual subsurface conditions may differ, sometimes significantly, from the opinions presented in this report. Our report, conclusions and interpretations are not a warranty of the actual subsurface conditions.

Geotechnical Engineering Report Recommendations are Not Final

We have developed the following recommendations based on data gathered from subsurface investigation(s). These investigations sample just a small percentage of a site to create a snapshot of the subsurface conditions elsewhere on the site. Such sampling on its own cannot provide a complete and accurate view of subsurface conditions for the entire site. Therefore, the recommendations included in this report are preliminary and should not be considered final. GeoEngineers' recommendations can be

finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for the recommendations in this report if we do not perform construction observation.

We recommend that you allow sufficient monitoring, testing and consultation during construction by GeoEngineers to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes if the conditions revealed during the work differ from those anticipated, and to evaluate whether earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective means of managing the risks associated with unanticipated conditions. If another party performs field observation and confirms our expectations, the other party must take full responsibility for both the observations and recommendations. Please note, however, that another party would lack our project-specific knowledge and resources.

A Geotechnical Engineering or Geologic Report Could Be Subject to Misinterpretation

Misinterpretation of this report by members of the design team or by contractors can result in costly problems. GeoEngineers can help reduce the risks of misinterpretation by conferring with appropriate members of the design team after submitting the report, reviewing pertinent elements of the design team's plans and specifications, participating in pre-bid and preconstruction conferences, and providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. The logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Photographic or electronic reproduction is acceptable but separating logs from the report can create a risk of misinterpretation.

Give Contractors a Complete Report and Guidance

To help reduce the risk of problems associated with unanticipated subsurface conditions, GeoEngineers recommends giving contractors the complete geotechnical engineering or geologic report, including these "Report Limitations and Guidelines for Use." When providing the report, you should preface it with a clearly written letter of transmittal that:

- Advises contractors that the report was not prepared for purposes of bid development and that its accuracy is limited; and
- Encourages contractors to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer.

Contractors are Responsible for Site Safety on Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and adjacent properties.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.



**APPENDIX B
SPECIAL PROVISIONS AND PROJECT DRAWINGS FOR BID SCHEDULE B: LAKEHAVEN
WATER AND SEWER DISTRICT IMPROVEMENTS**

CITY OF FEDERAL WAY

SP-104

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293**

CFW SPECIAL PROVISIONS VER. 2024.01B

***** Official bid documents, plan holder's list, and addenda (if applicable) are available on [BXWA.com](https://www.bxwa.com) *****

SPECIAL PROVISIONS

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SPECIAL PROVISIONS

SPECIAL PROVISIONS

SPECIAL PROVISIONS

INTRODUCTION

(*****)

The following Special Provisions consist of Lakehaven Water and Sewer District's Construction Standards for potable water transmission and distribution facilities and sanitary sewer facilities in the Lakehaven Water and Sewer District ("LWSD," or "District") with modifications as noted for the current project. These special provisions shall be included within the City of Federal Way's "Redondo Creek at 16th Avenue S Culvert Replacement Project, Project #34293" bid and contract documents and specifications, and shall pertain to the Bid Schedule B work including water and sanitary sewer facility improvements and Bid Schedule B bid items. Where these "Schedule B" special provisions do not cover a specific component of the work, the City of Federal Way Special provisions will override. These Special Provisions, including the Construction Standards, have been developed for use in conjunction with the "Standard Specifications for Road, Bridge, and Municipal Construction, M41-10" 2023 edition, as published by the Washington State Department of Transportation (WSDOT) and the Washington State Chapter of the American Public Works Association (APWA), hereinafter referred to as the "Standard Specifications." Reference in these Special Provisions to "Contracting Agency" should be read and interpreted for this project as the "City of Federal Way."

Paragraph numbering in these Special Provisions is integrated with the section numbering of the Standard Specifications. Each provision in these Special Provisions supplements, modifies, or replaces the comparable Standard Specification or is a new provision. A deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section and in no way should it be interpreted that the balance of the section does not apply.

A project specific Special Provision or modification to the Construction Standards is differentiated with the following under the heading:

(*****)

The General Special Provisions (GSPs) are labeled under the headers of each GSP with the effective date of the GSP and its source. For example:

(March 8, 2013 APWA GSP)

(April 1, 2013 WSDOT GSP)

Current editions of the following are also incorporated into these Special Provisions by reference and where applicable as noted:

- Current Edition of the Standard Plans for Road, Bridge and Municipal Construction, WSDOT/APWA.
- Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), currently adopted edition, with Washington State modifications and jurisdictional road agency modifications.
- City of Federal Way Public Works Development Standards (in City of Federal Way).
- City of Federal Way Addendum to the King County Surface Water Design Manual (2021).

Contractors are responsible for obtaining a copy of applicable referenced publications at their own expense.

SPECIAL PROVISIONS

DIVISION 1 – GENERAL REQUIREMENTS

DESCRIPTION OF WORK

(*****)

This Contract provides for removing and disposing of ductile iron pipe water mains, installing eight-inch (8") diameter ductile iron pipe water main, installing water and sewer steel casing systems, installing a temporary sanitary sewer support system, removing and installing a new sanitary sewer manhole, installing a temporary sanitary sewer flow bypass system, material testing, temporary water service and construction sequencing, utility potholing, and coordination with work in Schedule A and other franchise utility providers and other related work all in accordance with the Contract.

Bid Schedule B is funded with local District revenues. No federal or State of Washington funds are involved.

1-01 DEFINITIONS AND TERMS

1-01.2 Abbreviations

(*****)

1-01.2(1) Associations and Miscellaneous

Supplement this subsection with the following:

NSF	National Science Foundation
ANSI	American National Standards Institute
LWSD	Lakehaven Water and Sewer District
CFW, or COFW	City of Federal Way
AWWA	American Water Works Association

1-01.3 Definitions

Supplement this Section with the following:

All references in the Standard Specifications or WSDOT General Special Provisions, to the terms "Department of Transportation", "Washington State Transportation Commission", "Commission", "Secretary of Transportation", "Secretary", "Headquarters", and "State Treasurer" shall be revised to read "Contracting Agency".

All references to the terms "State" or "state" shall be revised to read "Contracting Agency" unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to "State Materials Laboratory" shall be revised to read "Contracting Agency designated location".

SPECIAL PROVISIONS

1-04 SCOPE OF THE WORK

1-04.1 Intent of the Contract

(*****)

Supplement this section with the following:

All parts of the Bid Schedule B Contract Documents are essential and complementary. A requirement occurring in one is binding as though occurring in all. Omissions from the Contract Documents, or discrepancies in the details of work, which are manifestly necessary to carry out the intent of the Contract Documents or which are clearly implied or customarily performed, shall not relieve the Contractor from performing such omitted or incorrectly described details of the work, but they shall be performed as if fully and correctly set forth and described in the Contract Documents.

1-04.4 Changes

1-04.4(1) Minor Changes

(*****)

Supplement this Section of the “CFW Special Provisions” with the following for the water and sanitary sewer main improvements under Schedule B:

Payments or credits for changes for items of Work under Schedule B amounting to \$25,000 or less may be made under the Bid item “Minor Change for Water Improvements” or “Minor Change for Sewer Improvements.” At the discretion of the Contracting Agency, this procedure for Minor Change for Water or Sanitary Sewer Facilities may be used in lieu of the more formal procedure as outlined in Section 1-04.4, Changes.

The Contractor will be provided a copy of the completed order for Minor Change for Water or Sanitary Sewer Facilities. The agreement for the Minor Change for Water or Sanitary Sewer Facilities will be documented by signature of the Contractor, or notation of verbal agreement. If the Contractor is in disagreement with anything required by the order for Minor Change for Water or Sanitary Sewer Facilities, the Contractor may protest the order as provided in Section 1-04.5.

1-04.6 Variation in Estimated Quantities

(December 30, 2022 APWA GSP, Option B)

Revise the first paragraph to read:

The following applies to Bid Schedule B work only:

Payment to the Contractor will be made only for the actual quantities of Work performed and accepted in conformance with the Contract. When the accepted quantity of Work performed under a unit item varies from the original Proposal quantity, payment will be at the unit Contract price for all Work unless the total accepted quantity of the Contract item, adjusted to exclude added or deleted amounts included in change orders accepted by both parties, increases or decreases by more than 25 percent from the original Proposal quantity and if the total extended bid price for that

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item at time of award is equal to or greater than 10 percent of the total contract price at time of award. In that case, payment for contract work may be adjusted as described herein:

(*****)

Supplement this section with the following:

The quantities for certain Bid Items, specifically identified in the Schedule B Bid Form, have been entered into the Proposal only to provide a common proposal for bidders. Actual quantities will be determined in the field as the Work progresses and will be paid at the original bid price, regardless of final quantity. These Bid Items shall not be subject to the provisions of 1-04.6 of the Standard Specifications.

1-05 CONTROL OF WORK

1-05.4 Conformity With and Deviations from Plans and Stakes

(*****)

Supplement the January 13, 2021 WSDOT General Special Provision (GSP), Option 2 in the “CFW Special Provisions” with the following:

Roadway Surveying for Water and Sanitary Sewer Facilities

For the water and sanitary sewer main improvements referenced in sub-paragraph ‘9’ above, the survey work shall include supplemental survey control, staking and marking, both horizontal and vertical, including reference and offset stakes, necessary to accommodate the Contractor’s performance of the Work for the water main and sanitary sewer improvements, and to assure placement of project elements conforms to the Plans. At a minimum, this shall include staking and marking the following as shown on the Plans or as may be directed by the Engineer:

- Connection points of the new water main(s) to the existing water mains.
- Water main alignment at 50-foot maximum intervals, and at fitting locations, including tees, crosses, reducer, and horizontal and vertical bends, deflections, valves, hydrants, permanent blowoff assemblies, tapping sleeve and valve assemblies, meters, steel casing limits and other water main appurtenances.
- Sanitary Sewer manhole location(s), connection points and steel casing limits

The Contractor shall ensure surveying accuracy within the following tolerances:

	<u>Vertical</u>	<u>Horizontal</u>
Horizontal alignment of new water main	0.1 ft.	0.1 ft.
Connection of new to existing main:	0.1 ft.	0.1 ft.
Fitting	0.1 ft.	0.1 ft.
Valve box	0.1 ft.	0.1 ft.
Fire hydrant	0.1 ft.	0.1 ft.
Permanent blowoff assembly (meter box)	0.1 ft.	0.1 ft.
Meter box	0.1 ft.	0.1 ft.
Sanitary Sewer Manhole (& pipe inverts)	0.1 ft.	0.1 ft.

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See special provision 1-05.18 for additional surveying requirements associated with “As-Built Survey and Record Drawings.”

1-05.4(1) Utility Potholes

(*****)

Add the following new subsection:

1-05.4(1) Utility Potholes

At the general locations as shown in the Plans, at each water main connection (i.e.; new water main to existing water main), and/or at such locations as may be directed by the Engineer, the Contractor shall excavate to and expose a sufficient extent or portion of the utility or utilities to confirm the horizontal location(s), depth(s), alignment(s), diameter(s), material(s), pipe joint or fitting configuration of the utility or respective utilities to establish the associated connection, extension and/or clearance requirements relative to the information included in the Plans and Contract provisions. The Contractor shall exercise extra precautions in excavating to and exposing the utility or utilities to protect the utility(ies) from damage and service disruptions. Special equipment, such as vacuum excavators or excavation with hand tools may be necessary for this work.

Prior to backfilling, the exposed utility or utilities shall also be reviewed by the Engineer or the Contracting Agency Inspector. Following documentation and review, the exposed utility or utilities shall be carefully covered with suitable native material. Backfill for the pothole shall be compacted to match the adjoining materials, to 95 percent of maximum density as specified in Section 2-03.3(14)D, or as the Engineer may direct. For potholes outside the limits of Project improvements, the surface shall be restored to match the pre-existing condition and adjacent section. Otherwise, temporary surfacing may be used subject to the provisions of Section 1-07.23(1).

1-05.6 Inspection of Work and Materials

(*****)

Supplement this section with the following:

The Contractor shall be responsible for providing preliminary and production aggregate gradation, and compaction control testing by a qualified, independent material testing laboratory. Such proposed laboratory shall be subject to the Engineer’s review and approval in advance of the testing required for the Work specified in this section.

Compaction tests shall be performed at a minimum frequency of one (1) per 100 linear feet of each lift of compacted pipe zone bedding and backfill, and trench backfill, for each day that such material is placed. Additional tests or more frequent testing intervals shall be performed as may be requested by the Engineer or jurisdictional agency, and/or as may be required to confirm that the specified minimum compacted density has been achieved. Test methods and procedures shall be as established by the WSDOT Materials Laboratory.

The Contractor shall make necessary arrangements, and shall bear the costs for power and water necessary for the performance of the Work, unless the contract includes power and water as a pay item.

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Add the following new section:

1-05.18 As-Built Survey and Record Drawings

(*****)

As-Built Survey

The following work only applies to Bid Schedule B work.

The following work under “As-Built Survey” must be approved and stamped by a professional licensed surveyor (“PLS”).

During construction, the Contractor’s surveyor shall survey and document all horizontal and vertical locations of all new water and new sanitary sewer facilities within the project limits in anticipation of developing the As-Built survey after construction is complete. These facilities shall include all water and sewer gravity and force-main mainlines, hydrants, laterals, branches or side sewers. See a specific list below for requirements.

It shall be the Contractors responsibility in coordination with the surveyor to record the location prior to the backfilling of the trenches, by centerline station, offset, and elevation and applicable notes on all installed or modified water and sewer appurtenances including, but not limited to:

- Water Facilities
 - Final water main alignment with survey shots every twenty feet (20’) to top of pipe.
 - Top of Horizontal or vertical bends or elbows, tees, crosses, couplings, sleeves, reducers, increasers, tapping sleeves or tees and wyes.
 - Top four (4) corners of thrust collars and/or “deadman” anchors or blocking
 - Top of water valve nuts and valve covers
 - Existing ground surface at fire hydrant(s)
 - Water service lines every twenty feet (20’) to top of pipe
 - Top of water meter, permanent blowoff assembly or air-vacuum assembly box and cube launch.
 - Top and four (4) corners of pressure reducing vault.
 - Top of backflow assemblies or double check valve box.
 - Ends of steel casing(s)
- Sanitary Sewer Facilities
 - Top of manhole covers (“Rim elevation”)

SPECIAL PROVISIONS

- Manhole size and type.
- Manhole sump elevation
- Manhole Ladder and cone orientation
- Invert(s) of all gravity sewer pipes within manholes including pipe size and material.
- Side sewer lines every twenty feet (20') to top of pipe
- Top of side sewer cleanouts.
- Final sewer force main alignment with survey shots every twenty feet (20') to top of pipe.
- Top of sewer force main fittings including horizontal or vertical bends or elbows, tees, crosses, couplings, reducers, increases.
- Top of Sewer force main valves
- Top and four (4) corners of force main vaults
- Ends of steel casing(s)

Appurtenances with round covers should have one survey shot in the center of the manhole or valve cover, or at the center of the fire hydrant.

After construction has been completed the Contractor shall finalize an as-built survey and provide the information in (1) full-size and (1) half-size copy (electronic and paper) and AutoCAD 2021 or later version file to the Engineer. This as-built survey shall consist of the following:

This drawing shall bear the Surveyor's (PLS) seal and signature certifying its accuracy on plan sheet. This following note shall be added to each As-Built survey plan and shall read as follows:

"I hereby certify that the horizontal and vertical locations of the water lines & facilities shown hereon are the result of a field survey performed by myself, a professional surveyor/engineer, or an employee under my supervision, during construction. The above certification is based upon work performed within generally accepted professional survey practices. I make no other warranty either expressed or implied."

Record Drawings

The following work under "Record Drawings" shall be completed by the Contractor. Throughout construction, the Contractor shall keep a set of redline drawings that record as-built information at the project site. This set of drawings shall be provided to the Engineer at the end of the project. This record drawing information shall, at a minimum, consist of the following:

- All changes to the Contract Plans.
- Pothole information gathered by the Contractor.

SPECIAL PROVISIONS

- Existing utility information not included in the Contract Plans, or that differs from the Contract Plans.
- All existing utilities uncovered or crossed with the new water or sanitary sewer facilities including station/offset and depth below existing pavement.

1-06 CONTROL OF MATERIALS

1-06.2 Acceptance of Materials

1-06.2(1) Samples and Tests for Acceptance (***)**

Revise the first paragraph to read:

The Contractor shall deliver material testing and source information (from the Contractor, Producer, Vendor, Material Testing Lab / WSDOT, or Manufacturer / Fabricator) to the Engineer without charge before incorporating the material into the Work. In providing this information to the Engineer, the Contractor shall provide the Engineer with sufficient time and sufficiently complete and reliable source information for review prior to delivery of the material. The Engineer may require samples at any time. Samples not taken by or in the presence of the Engineer will not be accepted for test, unless the Engineer permits otherwise.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.25 Opening of Sections to Traffic (***)**

Replace the title of this section with the following:

1-07.25 Opening of Sections of Traffic and Sewer/Water Systems

Supplement this section with the following:

The Contracting Agency reserves the right to use and occupy any portion of the improvements that have been completed sufficiently to permit use and occupancy and such use and occupancy shall not be construed as an acceptance of the Work as a whole or any part thereof. Any claims that the Contracting Agency may have against the Contractor shall not be deemed to have been waived by such use and occupancy.

1-08 PROSECUTION AND PROGRESS

1-08.3 Progress Schedule

Add the following new subsection:

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1-08.3(1)A Project Specific Scheduling and Order of Work (***)**

The order of work will be at the Contractor's option with the exception (if any) noted below and shall be in keeping with good construction practice and the terms of the Contract. However, the Contractor shall schedule its activities and have all work performed within the time constraints noted in the various documents, permits, and the Contract. The Contractor is cautioned to review said documents and permits and schedule the Work activities appropriately as no separate monies will be paid to the Contractor by the Contracting Agency due to the time constraints imposed by such documents.

Specific Scheduling Items

- The Contractor may elect to begin material procurement once the notice to proceed is issued and receive payment for "Materials on Hand" per standard specification 1-09.8.
- Sanitary Sewer Bypass pumping shall be completed as night work between the hours of 8:00pm to 5:00am. It is anticipated the Contractor will be required to set up a temporary sanitary sewer bypass system a minimum of two (2) separate times including once near the beginning of construction to remove the existing sanitary sewer manhole ahead of culvert excavation and a 2nd time after the culvert is constructed in order to install a new sanitary sewer manhole. See SP 7-17.3(2)I for additional information on bypass pumping.

Measurement and Payment

All costs associated with project specific scheduling and sequencing shall be incidental to the various Bid Items of Bid Schedule B.

1-08.4 Prosecution of Work (***)**

Supplement this section with the following:
(*****)

1-08.4(3) Construction Sequence Criteria (***)**

The Contractor shall be responsible for the planning, scheduling and sequencing of the Work. The potential and suggested construction sequence plan is intended to identify sequencing criteria while maintaining water service to the extent practical and meeting the Contracting Agency's requirements for water facility construction.

The Contractor, at their own cost and expense, shall develop a proposal for construction sequencing suitable to their operations while meeting the requirements for water service disruptions and meeting the Contracting Agency's requirements for water facility construction as set forth in these contract documents.

Water facility work shall not commence prior to the Engineer's approval of the Contractor's proposed construction sequence for the work.

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1-08.4(3)A Allowable Water Service Disruption and Notice

(*****)

The Contractor shall coordinate and confirm with the Engineer a minimum of 72 hours [three (3) business days] in advance of a water main shutoff exceeding four (4) hours or 48 hours [two (2) business days] in advance of a water main shutoff not exceeding four (4) hours, in accordance with the schedule submitted to and reviewed by the Engineer. Any such water service disruption shall be limited to **8:00 a.m. to 5:00 p.m., Monday through Friday**, exclusive of Contracting Agency holidays for which no disruption will be allowed.

The Contractor shall prepare and hand-deliver Contracting Agency-furnished notification forms (“Door Hangers”) a minimum of 48 hours [two (2) business days] in advance of a water service disruption exceeding four (4) hours, or 24 hours [one (1) business day] in advance of a water service disruption not exceeding four (4) hours. The Contracting Agency will provide the locations or addresses of the affected buildings and premises.

1-08.4(3)B Temporary Water Service

The Contractor shall be responsible to develop a proposed plan to provide temporary water service for any scheduled Work requiring a water main or meter shutoff exceeding the following:

- Eight (8) hours during any calendar day,
- Twelve (12) hours on consecutive calendar days,
- Sixteen (16) hours in a seven (7) calendar day period.

Such plan, as a prerequisite for performing the scheduled work, shall be submitted for the Engineer’s review a minimum of 72 hours [three (3) business days] prior to the time that the Contractor needs to commence Work to complete the proposed temporary service(s). Acceptance of a proposed plan for temporary water service shall be at the sole discretion of the Engineer and the Contractor shall not presume that a proposed plan will be accepted. The Contractor shall prepare and hand-deliver Contracting Agency-furnished notification forms (“Door Hangers”) a minimum of 48 hours [two (2) business days] prior to commencing temporary water service installation in accordance with an approved plan.

Temporary water facilities shall be in accordance with Section 7-10 “Temporary Water Service and Construction Sequencing.”

1-08.4(3)C Schedule Development

In developing a proposed project schedule and construction sequence plan, the Contractor shall consider the following, at a minimum:

Bacteriological test sampling occurs on two (2) consecutive days following satisfactory completion of the 24-hour minimum chlorine solution contact time for disinfection. Bacteriological test samples are typically taken only on Monday-Tuesday, Tuesday-Wednesday, or Wednesday-Thursday, excluding holidays, and subject to holiday constraints for the Contracting Agency’s testing laboratory. These sampling days allow the Contracting Agency’s laboratory to obtain 48-hour test

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results (laboratory operations are typically Monday through Saturday, excluding holidays). For this Contract, bacteriological test samples may also be taken on Thursday-Friday, excluding holidays.

Pressure testing, disinfection, draining, filling, and flushing of, and connections to, new or temporary water facilities shall be coordinated with and be performed at the direction of the Contracting Agency inspector. Flushing of disinfected mains and appurtenances following satisfactory completion of the 24-hour minimum chlorine solution contact time shall be performed until satisfactory chlorine residual levels for bacteriological testing have been achieved as determined by the Contracting Agency inspector. Flushing of mains and appurtenances following disinfection and installation, in accordance with Contracting Agency requirements for the “swab and go” process, shall be at a minimum of three (3) feet per second and continue for the greater of: A) a minimum of eight (8) exchanges of water in that segment; B) a minimum of two (2) minutes; C) as necessary until there is no sediment, debris, or other objectionable color, taste, or odor; or D) as necessary to achieve clean, potable water meeting Department of Health and Contracting Agency requirements, as determined by the Contracting Agency inspector. Additional details are specified in Section 7-09.

The contract duration and outlined work sequence as shown and described in the plans of these contract documents anticipate that it will be necessary for certain tasks and activities to be performed at more than one location concurrently during a work shift and for some work such as sawcutting, excavation and placement of anchored temporary steel plates in advance of water main removal or installation may be necessary. The assumptions for the suggested staged construction are presented in more detail in the plans.

The contract duration and the work sequence also anticipate that it may be necessary to utilize specialized equipment and/or procedures for portions of the work such as potholing using vacuum excavation and providing temporary support in coordination with Puget Sound Energy for utility poles during trench work for removal and installation of water facilities in the vicinity of those utility poles.

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DIVISION 2 – EARTHWORK

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

The following section 2-02 pertains to Bid Schedule B work only.

2-02.1 Description

(*****)

Supplement this section with the following:

The Contractor shall remove, and dispose or salvage all items as shown and noted in the Plans, and other miscellaneous items necessary to complete the Work, and as provided herein. The Proposal contains Bid Items for specific items to be removed, including incidental items as described in Section 2-02.5 and Division 10. The Proposal also contains a lump sum Bid Item “Removal of Structures and Obstructions” to cover all other removal items not covered by specific bid items.

When repair bands, clamps, spools, sleeves, and couplings are exposed, salvage to Contracting Agency at the SeaTac water tank site (South 324th Street, east of Pacific Highway South). Site access and off-loading of the pipe materials by the Contracting Agency at the site shall be coordinated a minimum of one (1) business day in advance with the Engineer. Further, appurtenances noted in the plans to be salvaged shall also be delivered to the above address per these specifications.

2-02.2 Vacant

(*****)

Revise this section, including heading, to read:

2-02.2 Materials

Materials shall meet the requirements of the following sections:

Location Wire	9-37.1
Locate Station	9-37.2
Grounding Anode	9-37.3

2-02.3 Construction Requirements

(*****)

Replace the last paragraph in this section with the following:

The Contractor shall arrange to dispose waste, excess materials, and items and materials identified in the Plans for removal. Such items and materials shall be processed as necessary, hauled, and salvaged or disposed at no separate expense to the Contracting Agency except as may be otherwise specified in the Contract. Materials not salvaged, or suitable or designated for resource recovery, shall be disposed at a permitted site in accordance with Section 2-03.3(7)C.

Add the following new subsection:

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2-02.3(5) Removing Existing Water Facilities

(*****)

The Contractor shall remove the existing water facilities (live or abandoned) including mains, valves, valve boxes, hydrants, hydrant laterals, hydrant assemblies, fittings, thrust blocks, water service connections, and other appurtenances as shown and noted in the Plans, as may be directed by the Engineer, and as set forth in these contract provisions.

Removal shall be conducted in such a manner as to prevent damage to other facilities including existing water facilities, storm sewers, sanitary sewers, power poles, underground utilities, or other improvements that are to remain. Any facilities not designated for removal including, but not limited to, water facilities, storm sewers, sanitary sewers, power poles, underground utilities, or other improvements damaged due to the Contractor's operations, shall be repaired or replaced by the Contractor to the satisfaction of the Engineer at no additional expense to the Contracting Agency.

Water main removal shall include the pipe and associated fittings, corporation stops, saddles, repair bands, spools, sleeves, couplings, and thrust blocks, if a separate contract bid item is not included for removal of structures and obstructions or for one (1) or more specifically identified components.

Water valve removal shall include disconnecting the valve from the attached pipe and/or fitting(s) and removing the valve together with the associated valve box, including the base, middle, upper, and sections as applicable, risers, if any, and lid, and associated asphalt or concrete pad, if any.

Hydrant assemblies shall be removed to the branch of the hydrant tee at the water main where shown on the Plans or as may be directed by the Engineer. Where the hydrant assembly is connected to existing water main that is designated for removal, the hydrant assembly tee shall be removed with the water main.

Water service connections shall be removed to the corporation stop at a minimum, including saddle and shutoff valve (if present), service line and fittings, meter box and lid, setter, individual service pressure reducing valve (if present and designated for removal on the Plans), including box and lid. Water meters shall be removed and salvaged by Contracting Agency personnel. Water service connection removal shall also include removal of the portion of customer supply line in right-of-way or easement either shown in the Plans for removal or that conflicts with installation of a new water service connection, including reconnection to the remaining portion of the customer water supply line. In the event that remnant portions of existing water service lines cannot be removed at the corporation stop due to unacceptable disturbance of existing improvements as determined by the Contracting Agency, the service line shall be removed to the maximum extent practical without such disturbance and the exposed end of the remnant portion of the existing water service line shall be plugged with mortar.

Where the water main is to remain in service and the corporation stop of a removed water service connection will not be used, the corporation stop shall be removed together with the pipe saddle, if necessary. A brass plug with rubber grommet or gasket shall be used with either the existing or new saddle to seal the pipe penetration as directed by the Contracting Agency's Inspector.

All removed water facilities shall become the property of the Contractor and shall be processed, hauled, and disposed in accordance with the contract provisions, unless otherwise noted on the

SPECIAL PROVISIONS

Plans or specified in the Special Provisions. If designated on the Plans or Special Provisions, removed hydrants, valves, fittings, and/or special water facility components shall be salvaged to the Contracting Agency and shall be delivered to a location as specified in the Contract or as may be directed by the Contracting Agency's inspector. Cast iron, ductile iron, or steel pipe may be salvaged by the Contractor or disposed by the Contractor at a permitted site. Asbestos cement pipe shall only be disposed at a permitted site.

Sawcutting (full depth) of existing asphalt concrete pavement and/or Portland cement concrete including sidewalks, driveways, and cement concrete curb and gutter, as required for pipe removal shall be in accordance with Section 2-02.3(3).

Trench excavation for the removal of water facilities shall be unclassified and as otherwise provided in Section 2-09.3(3)G including implementation of a trench safety system.

In public rights-of-way, excavated materials shall be removed, hauled, and disposed at a site permitted to receive such materials.

In areas outside of public rights-of-way, or in public rights-of-way outside the limits of existing or proposed structural street sections, including curbs, gutters, driveways, and sidewalks if allowed by the jurisdictional agency, suitable native material may be removed, hauled, and temporarily stockpiled for use as trench backfill. Native material will not be paid for as import crushed surfacing if used as suitable trench backfill. This will be a benefit to the Contractor for savings in disposal and haul-out. Native material backfill determined to be unsuitable shall be removed, hauled, disposed at a permitted site, and replaced with suitable material in accordance with Section 7-09.3(8).

Prior to backfilling the excavation, the remaining portion of existing pipe that is to remain out of service or abandoned in place shall be decommissioned as set forth in Subsection 2-02.3(6).

Where the remaining portion of the existing water main is to remain in service following removal of the designated water main, valve, hydrant assembly, or water service connection, the Contractor shall perform one (1) or more of the following as applicable and as may be directed by the Engineer:

Water Main:

- Install permanent cast iron or ductile iron cap or plug with associated fittings, and thrust block if shown on the Plans; or
- Install temporary blowoff in accordance with Lakehaven Water and Sewer District Standard Plan 10; or
- Install temporary blind flange or restrained MJ plug at exposed run or branch of a tee to remain if a temporary blowoff will not be necessary as determined by the Engineer.

Valve:

See "Water Main" above.

Hydrant Assembly:

Install temporary or permanent blind flange or appropriate cap or plug on the branch of the hydrant tee as may be directed by the Engineer.

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Water Service Connection:

Install temporary cap on the corporation stop or permanent plug as specified or as may be directed by the Engineer.

Following satisfactory removal of the water facilities, and water facility decommissioning as applicable, the vacant trench or excavation shall be backfilled, and completed to grade.

In public rights-of-way, the trench shall be backfilled to subgrade with Crushed Surfacing Top Course for Trench Backfill, compacted in accordance with Method C compaction as provided in Section 2-03.3, and graded to provide a firm, smooth and uniform surface for placement of subsequent surfacing materials to finish grade.

In areas outside of public rights-of-way, or in public rights-of-way outside the limits of existing or proposed structural roadway sections, including curbs, gutters, and sidewalks, if allowed by the jurisdictional agency, the trench shall be backfilled to subgrade with suitable native material from the trench excavation and compacted in accordance with Method C compaction as provided in Section 2-03.3(14)C. Native material will not be paid for as import crushed surfacing if used as suitable trench backfill. Native material backfill determined to be unsuitable shall be replaced with Aggregate for Gravel Base. If suitable native excavated and replacement materials are insufficient to complete the trench backfill to subgrade as determined by the Engineer, Aggregate for Gravel Base shall be placed, compacted in accordance with Method C compaction as provided in Section 2-03.3(14)C, and graded to provide a firm, smooth, and uniform surface for placement of subsequent surfacing materials to finish grade.

Surfacing for completion of the trench restoration shall be in accordance with the trench detail included or referenced in the Plans and Contract provisions. Completion of trench restoration may be partially or completely deferred pending complete installation of the new water main subject to the Contractor's coordination in advance with and approval by the Engineer and the requirements of the jurisdictional road agency.

In areas subject to traffic and/or in areas designated to remain accessible, the Contractor shall be responsible to complete the trench restoration, install temporary steel plates, or otherwise ensure safe access for traffic as provided in the contract provisions and required by the jurisdictional road agency. In no situation shall an incompletely restored trench section remain exposed to traffic or impoundment of incident rainfall or stormwater runoff. Following satisfactory testing, or the permitted duration for the temporary surfacing as may be allowed by the jurisdictional road agency in coordination with the Engineer, the Contractor shall remove temporary backfill, steel plates, or other temporary provisions and complete the trench backfill and surfacing. In areas where new water main is placed in the same trench where the existing water main has been removed, pipe removal shall not be considered complete until the new main has been placed, the trench backfilled, and surfacing placed or restored.

A Puget Sound Energy representative shall be present during work in the vicinity of power or light poles and gas main. The Contractor shall coordinate with Puget Sound Energy's designated representative a minimum of two (2) business days in advance of any such work and adjust work hours as necessary to accommodate the representative's schedule.

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See special provision 7-15.3(5) Removing and Decommissioning Existing Service Connections, for additional construction requirements when removing service lines.

Add the following subsection:

2-02.3(7) Saw Cutting

(*****)

All pavement removed, regardless of type, shall be sawcut with a neat, full depth, vertical edge/line.

Prior to the placement of Hot Mix Asphalt in locations illustrated in the plans, the Contractor shall sawcut a neat, full depth, vertical edge/line within the existing pavement where the proposed pavement adjoins. The sawcut shall also be set at a continuous offset from the face of curb as illustrated in the plans.

The Contractor shall be responsible for ensuring that special precautions are undertaken so that, in accordance with Department of Ecology guidelines, no concrete (asphalt or cement) or concrete by-products are discharged into any storm drain or surface water. Cutting operations will increase the pH of water, therefore filtering is not acceptable.

Thoroughly clean saw cuts where necessary using high pressure water (1,400 psi or greater). All wastewater shall be collected using vacuuming and/or pumped into containers for disposal.

Impervious surfaces contaminated from cutting operations shall be cleaned by sweepers to prevent contaminants from entering storm systems.

Collection and disposal of wasted water shall be considered incidental to and included in the various Bid Items involved with the operation. All pavement removed, regardless of type, shall be sawcut with a neat, full depth, vertical edge/line.

Add the following subsection:

2-02.3(8) Removal and Protection of Private Improvements

(*****)

Where specifically shown and noted in the plans, the Contractor shall remove, protect, or salvage to the owners all these improvements under the private ownership or control and/or maintained by the private owners including, but not limited to, fences, block walls, and landscape vegetation or appurtenances. This work shall be completed by hand and extreme care shall be taken when dealing with existing facilities. The Bid Item contains specific items to be removed and protected including work incidental to listed items as described in this section and Division 10.

Add the following new subsection:

2-02.3(9) Removing Existing Sewer Facilities

(*****)

The Contractor shall remove the existing sewer facilities including gravity mains, force mains, valves, valve boxes, manholes and other appurtenances within the limits identified for removal.

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Sewer Main

Contractor shall verify with the Project Representative the limits of existing sewer main that impedes on trenching or excavation limits of new sewer and/or other utilities. In these locations, the contractor shall remove and dispose offsite sewer materials.

Backfilling of sewer main removal trenches shall not be performed until the new piping is installed and shall be in accordance with Section 7-04.

Sewer Manholes

Where shown in the Plans or where designated by the Engineer, the Contractor shall remove existing manholes and other sewer features in accordance with Section 2-02 of the Standard Specifications. Removal shall be conducted in such a manner as to prevent damage to surrounding facilities including any existing storm sewers, sanitary sewers, water mains, electrical conduits or other facilities to remain. All remaining facilities including, but not limited to storm sewers, sanitary sewers, water mains monuments, valves, vaults, and electrical conduits damaged due to the Contractor's operations shall be replaced by the Contractor to the satisfaction of the Engineer at no additional cost to the Contracting Agency. Manholes, and other sewer structures designated for removal, including all debris, shall be completely removed. All removed manholes, and other sewer structures shall become the property of the Contractor and shall be disposed of in accordance with Section 2-02 of the Standard Specifications. All undamaged frames, grates, and solid covers in a re-useable condition shall become the property of the Lakehaven Water and Sewer District and shall be delivered to a location specified by the Engineer.

Sawcutting (full depth) of existing asphalt concrete pavement and cement concrete curb and gutter surrounding the structure required for removal will be considered incidental to the removal of the manhole, or other sewer structures. Sawcuts shall be in accordance with Section 2-02 of these Special Provisions.

Backfilling of manholes and other structures to be removed and replaced shall not be performed until the new structure is installed and shall be in accordance with Section 7-05. Backfilling of a structure to be replaced shall be considered incidental to the construction and installation of the new manhole.

The Contractor shall maintain existing sewer through bypass in accordance with Section 7-17 until the new system is completely installed, tested, and functioning.

2-09 STRUCTURE EXCAVATION

(*****)

2-09.3(1) General Requirements

Replace this section with the following:

All structure excavation, trenching, and shoring shall be performed in strict compliance with Chapter 39.04.180 RCW, the Washington Industrial Safety and Health Act, Chapter 49.17, as promulgated under the Washington State Safety Code relating to excavation, trenching and shoring

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and as set forth in "Safety Standards for Construction Work," Chapter 296-155 WAC Part N, as well as all other applicable local, Contracting Agency, State, and Federal laws and regulations.

All shoring, including sheeting and bracing, or equivalent trench stabilization and worker protection system required to perform and protect the excavation, and to safeguard the personnel who may enter the excavation, shall be furnished by the Contractor. If workers enter any trench or other excavation four (4) feet or more in depth that does not meet the open pit requirements as generally set forth in Section 2-09.3(3)B, it shall be shored.

The Contractor shall submit a general and detailed project wide shoring plan prior to beginning construction for approval.

The Contractor alone shall be responsible for worker safety and the Contracting Agency assumes no responsibility therefore.

Upon completing the Work, the Contractor shall remove all shoring, unless otherwise shown on the Plans or directed by the Engineer.

The Contractor is advised that the Contracting Agency has not so delegated, and the Engineer does not purport to be, a trench excavation system safety expert, is not so engaged in that capacity under this Contract, and has neither the authority nor the responsibility to enforce construction safety laws, rules, regulations, or procedures, or to order the suspension of work for claimed violations of trench excavation safety.

The furnishing by the Contracting Agency of resident project representation and inspection shall not make the Contracting Agency responsible for the enforcement of such laws, rules, regulations, or procedures, nor shall such make the Contracting Agency responsible for construction means, methods, techniques, sequences, procedures, or for the Contractor's failure to properly perform the Work necessary for proper trench excavation safety.

2-09.3(1)C Removal of Unstable Base Material

Replace this subsection with the following:

When the material at the bottom of an excavation is not stable enough to support the Structure, including where applicable, compacted pipe bedding and backfill, trench backfill, and surfacing materials (i.e., structural roadway or driveway sections, curbs, gutters, sidewalks, topsoil, plantings), the Contractor shall excavate below subgrade and replace the unstable material with compacted gravel backfill as provided in Section 7-09.3(8).

2-09.3(1)D Disposal of Excavated Material

Replace the third paragraph with the following:

If the Contract includes structure excavation, Class A or B, including haul, shoring or extra excavation, Class A or B, or Trench Safety System, the Contract unit price shall include all costs for loading and hauling excavated material to a permitted disposal site, or to and from a temporary stockpile. Any such stockpiled materials either suitable or designated for incorporation in the Project shall be handled in accordance with Subsection 2-09.3(1)E.

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2-09.3(1)E Backfilling

Delete the second sentence in the first paragraph and insert the following:

Backfill material shall be as specified in the respective sections for the item of work involved and as shown on the Plans.

Supplement this section with the following:

Controlled density fill shall be made of blended hydraulic cement type 1-L and include an air entrainer (Daravair 1000 or approved equal meeting ASTM C260) to a rate of approximately 1/2 to 3 ounces per 100 lbs of cement. Mix designs shall be between 150 and 250 psi average 28-day compressive strength. The CDF mix design shall not include malleated rosin.

2-09.3(3) Construction Requirements, Structure Excavation, Class A

(*****)

2-09.3(3)D Shoring and Cofferdams

Replace the first numbered item under the eighteenth (18th) paragraph with the following:

1. Remove all structural shoring, including temporary sheeting, bracing, and fasteners, not designated on the Plans to become part of the completed Work.

Add the following new subsection:

2-09.3(3)F Trench Restoration and Temporary Protection

All trenches shall be closed up and fully backfilled with compacted trench backfill and permanent surfacing as shown on the Plans, graded level and surfaced with temporary compacted crushed surfacing top course and/or pavement, protected with anchored temporary steel plates, or otherwise be secured prior to completing each day's work.

In areas where traffic must be restored between work shifts, the Contractor shall provide a safe, smooth, drivable surface for traffic, including access to fronting parcels.

In areas subject to traffic, trenches not backfilled, protected with steel plates, or otherwise sufficiently restored for the safe flow of traffic and access, shall be protected and delineated with traffic safety and directional devices conforming to OSHA and WISHA requirements and the MUTCD as modified by the WSDOT.

Steel plates shall be treated and have a non-skid surface. Steel plates potentially subject to vehicle traffic loads shall be sufficiently dimensioned and anchored to safely support an HS 25-44 loading at the posted speed limit, including impact loading. Such temporary trench coverage shall either completely cover the incomplete trench section or extend sufficiently beyond the edge of pavement or the travelled way and be supplemented with reflectorized delineators and/or other devices as necessary to ensure traffic safety and provide a smooth transition to and from the adjoining undisturbed travel surface. Adjoining plates shall not have gaps and Commercial HMA shall be used to provide a smooth transition between the plates and the existing travel surface. Signing shall be installed in accordance with the MUTCD as modified by the WSDOT.

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All such costs to install and remove temporary trench backfill, steel plates, and supplemental traffic and Work area safety provisions shall be incidental to the contract prices for water main removal and installation, and related items of Work, and no separate measurement or payment shall be made.

Add the following new subsection:

2-09.3(3)G Trench Safety Systems

The Contractor shall provide all materials, labor, and equipment necessary to shore trenches to protect the Work and existing improvements and natural features not designated for removal and to provide safe working conditions in the trench. The Contractor may elect to use any combination of shoring and overbreak, tunneling, boring, sliding trench shield, or other method of accomplishing the Work consistent with applicable local, State, or Federal safety codes.

If workers enter any trench four (4) feet or more in depth that does not meet the open pit requirements of Section 2-09.3(3)B, the excavation shall be shored as provided in Section 2-09.3(4). The Contractor alone shall be responsible for worker safety and the Contracting Agency assumes no responsibility.

Upon completing the Work, the Contractor shall remove all shoring unless the Plans or the Engineer direct otherwise.

Shoring to be removed, or moveable trench shields or boxes, shall be located at least two and one-half (2-1/2) pipe diameters away from metal or thermoplastic pipe, if the bottom of the shoring, shield, or box extends below the top of the pipe, unless a satisfactory means of reconsolidating the bedding or side support material disturbed by shoring removal can be demonstrated.

Damages resulting from improper shoring or failure to shore shall be the sole responsibility of the Contractor.

The furnishing by the Contracting Agency of resident project representation and inspection shall not make the Contracting Agency responsible for the enforcement of such laws, rules, regulations, or procedures, nor shall such make the Contracting Agency responsible for construction means, methods, techniques, sequences, procedures, or for the Contractor's failure to properly perform the Work necessary for proper trench excavation safety.

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DIVISION 3 – AGGREGATE PRODUCTION AND ACCEPTANCE

3-04 ACCEPTANCE OF AGGREGATE

3-04.1 Description

(*****)

Delete the last paragraph and insert the following:

Nonstatistical evaluation will be used for the acceptance of aggregate materials. Materials not conforming to Contract requirements shall not be installed and installed materials determined to be non-conforming shall be removed and replaced as specified in Section 1-05.7.

3-04.3(5) Nonstatistical Evaluation

(*****)

Revise this subsection to read:

Each lot of aggregate materials produced under nonstatistical evaluation and having all constituents falling within the specification limits shall be accepted with no further evaluation. When one (1) or more constituents fall outside the specification limits, a minimum of three (3) sublots will be sampled and tested or when less than three (3) sublots exist, additional samples shall be tested to provide a minimum of three (3) sets of results for evaluation. If one (1) or more constituents fall outside the specification limits in any of the subsequent samples, the material shall be rejected and any such materials placed in the Work removed and replaced with materials conforming to the constituent specification limits.

3-04.3(7)C Rejection Without Testing

(*****)

Revise the second paragraph to read:

No payment will be made for the rejected materials unless the Contractor requests that the rejected material be tested and such testing determines that the material conforms to the specification limits for the constituents. All costs for such supplemental sampling and testing shall be at the Contractor's sole cost and expense.

3-04.5 Payment

(*****)

Revise this section to read:

The work performed under this Contract is being performed under a permit issued by the City of Federal Way. Nonconforming material, or material that is defective or unauthorized, shall not be used and such material determined to have been placed into the Work shall be removed from the site and disposed and replaced with material conforming to the Contract requirements at no additional cost or expense to the Contracting Agency.

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DIVISION 7 – DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS, AND CONDUITS

7-05 Manholes, Inlets, Catch Basins, and Drywells

7-05.3 Construction Requirements

7-05.3(3) Connections to Existing Manholes (***)**

Supplement with the following:

When connecting to concrete structures, openings must be core-drilled unless an existing knock-out is available. Connections shall be made of watertight rubber boots, sand collars, manhole adapters, or other approved watertight connections.

For cement concrete, ductile iron, or corrugated metal pipes, all connections shall be made with non-shrink Portland cement grout to make a watertight fit.

7-05.3(5) Testing Manholes (***)**

Add the following new subsection:

Vacuum Test - The Contractor shall be fully familiar with the vacuum testing equipment that he/she proposes to use. In addition, the Contractor shall provide a minimum of 4 hours of instruction by a factory authorized representative at the outset of the work. The vacuum test shall be performed prior to backfilling the manhole. The boot clamps shall be properly tightened to prevent the boot from being sucked into the manhole. Proper bracing of stub ends is required.

Testing of all manholes shall be in accordance the following:

1. Initial pressure test - 5 inches Hg (i.e. 34 inches Hg absolute)
2. Test time - A vacuum of 5 inches of Hg shall be drawn and the vacuum pump shut off. With the valve closed, the time shall be measured for the vacuum to drop to 4-1/2 inches. The manhole shall pass if the time is greater than that shown below.

Depth (ft)	Time (seconds)					
	48" Diam	54" Diam	60" Diam	72" Diam	84" Diam	96" Diam
8	20	23	26	33	38	44
10	25	26	33	41	47	55
12	30	36	39	49	53	66
14	35	41	46	57	62	77
16	40	46	52	67	71	88
18	45	52	59	73	80	99
20	50	53	65	81	89	110

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22	55	64	72	89	98	121
24	59	64	78	97	107	132
26	64	75	85	105	116	143
28	69	81	91	113	125	154
30	74	87	98	121	134	165
32	79	93	105	129	143	176
34	84	99	112	137	152	187
36	89	105	119	145	161	197
38	94	111	126	153	170	207
40	99	117	131	161	179	218

3. Manholes shall be tested prior to the contractor applying the interior corrosion protective coating.

If pressure drop exceeds 1/2" Hg in 2 minutes, the unit shall be repaired and retested.

Joint repairs by parging are to be done on the inside of joint to ensure a permanent seal. Vacuum testing draws together the joint and applies high pressure to the elastomeric joint material. Properly placed and sized elastomeric joint material must be used to avoid leakage or to enable sections to be separated if necessary to affect a repair.

Repairs to manholes, required to meet leakage requirements, shall be accomplished using knife grade IGAS mastic, joint sealant (chemical grouting) applied from outside the manhole, or by other methods proposed by the Contractor and approved by the Engineer.

Television Inspection- All portions of the completed pipelines shall be inspected using television equipment. Inspections will be conducted at times agreed upon by the District and the Contractor, and will be scheduled to coordinate with the Project progress schedule.

7-05.3(6) Manhole Liner System

(*****)

Add the following new subsection:

The GU Manhole Liner system, as manufactured by GU Manhole Liner LTD, Aldergrove, B.C., shall be utilized for all pipe connections, unless otherwise approved by the District. The GU liner shall be of one piece construction and of unlayered and homogenous fiberglass reinforced plastic (F.R.P.) with: (1) full flow channels with side walls to the crown of the pipe; (2) watertight gasketed bells to suit specific pipe types and grade alignment; (3) inner surface of the bench to have an anti-skid surface; and (4) the outer surface of the liner to be sand coated and have steel spirals bonded to the F.R.P. Installation of the GU Manhole Liner to concrete manhole bases shall be in accordance with the manufacturer's specifications and these Contract Documents.

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7-05.3(7) Joint Sealant

(*****)

Add the following new subsection:

The standard manhole shall have a manhole joint sealing system utilizing flexible sewage resistant synthetic rubber gaskets conforming to the requirements of ASTM Designation C-443. Gasket joint details shall be subject to approval by the Engineer.

At the direction of the Engineer or where high groundwater is encountered, a preformed joint Lakehaven Water & Sewer District sealant shall be used. This sealant shall be in rope form, conforming to the requirements of Federal Specifications SS-S-210 and shall be "Kent-seal" as manufactured by Hamilton Kent Manufacturing Company, "Ram-nek" as manufactured by K.T. Snyder Company, or approved equal.

7-05.3(8) Corrosion Protective Coating

(*****)

Add the following new subsection:

Where shown on the Contract Drawings, the interior of the manhole shall be painted with a protective coating of Polyshield SS 100 as manufactured by Specialty Products, Inc., of Tacoma or with Ravin 405 as manufactured by Raven Lining Systems of Tulsa, Oklahoma. Materials shall be installed per manufacturers recommendations. The cost of the interior corrosion protective coating shall be included in the unit price for interior coating. Manholes shall be tested in accordance with this section before the interior corrosion protective coating is applied.

7-05.3(9) Exterior Protective Coating

(*****)

Add the following new subsection:

A protective coating shall be applied to the exterior surface of all manholes, including vertical risers and grade rings. Coating shall be applied at the factory in accordance with the manufacturer's recommendations.

The exterior of all concrete manholes shall receive a coating of polyamide epoxy-coal tar, specially formulated for submerged service and exposure to raw sewage. Epoxy-coal tar shall be HI-BUILD TNEME-TAR, as manufactured by Tnemec Co., Inc., or Approved Equal. A minimum dry thickness of fifty (50) mils is required.

Touch up, including all joints and seams, shall be done in the field in accordance with the manufacturer's recommendations.

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7-09 WATER MAINS

7-09.1 Description

(*****)

Revise this section to read:

This Work consists of installing water main and appurtenances in accordance with the Plans, these Standard Specifications, and the Special Provisions, at the locations and depths shown and noted in the Plans, and as may be directed by the Engineer.

7-09.2 Materials

(*****)

Revise this section to delete any references to steel, polyvinyl chloride (PVC), and Polyethylene pipe for permanent water supply facilities. Pipe for water main shall only be ductile iron pipe Special Thickness Class 52, or such thicker-walled pipe as shown in the Plans and specified in Section 9-30. All pipe and fittings for water main shall have restrained joints utilizing thrust restraint systems at locations where shown on the Plans and as specified in Section 9-30. See Section 9-30 for other water Distribution Materials.

Replace the Sections listed for Trench Backfill under the "Aggregates" heading as follows:

Trench Backfill (in Right-of-Way)	9-03.9(3)
Trench Backfill (outside of Right-of-Way)	9-03.15, 9-03.10
Controlled Density Fill	2-09.3(1)E

7-09.3 Construction Requirements

(*****)

Supplement and revise this section with the following:

All construction within public road rights-of-way shall be in conformance with the requirements of the City, County, or State governmental agency having jurisdiction in which the Work is performed, as herein specified and as directed by the Engineer.

All trench excavation required for the installation of water mains and appurtenances shall be unclassified. All material excavated from trenches and piled adjacent to the trench, or in a roadway or public thoroughfare, shall be piled and maintained so that the toe of the slope of the spoil material is at least two (2) feet from the edge of the trench and does not extend beyond the limits of the protected work area as identified in the approved project temporary traffic control plan(s). The spoil material shall be piled in a manner to prevent surface water from flowing into the excavation and in a manner that will cause a minimum of inconvenience to public travel.

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Unencumbered access shall be provided to all fire hydrants, water valves, and meters and clearance shall be left to enable the free flow of storm water in all gutters, conduits, and natural water courses.

All public traffic shall be permitted to pass through the Work with as little inconvenience and delay as possible. The Contractor shall keep existing roads and streets adjacent to or within the limits of the Project open to and maintained in a good and safe condition for traffic at all times. The Contractor shall remove any deposits or debris and shall repair any damage resulting from its operations.

Construction shall be conducted so as to cause as little inconvenience as possible to abutting property owners. Additionally, convenient access to each facility's driveways and buildings along the line of Work shall be maintained at all times.

Upon completion of rough grading or placing any subsequent layer thereon, the surface of any road bed disturbed shall be brought to a smooth, even condition, free of bumps and depression, and satisfactory for the use of public traffic.

On its own responsibility and expense, the Contractor shall provide adequate safeguards, safety devices, and protective equipment and take any other needed actions on its own responsibility or as the Engineer may determine reasonably necessary to protect the life, health, and safety of the public and to protect property in connection with the performance of the Work covered by the Contract. Where shown on the Plans or otherwise directed by the Contracting Agency or City, County, or State governmental agency having jurisdiction, the Contractor shall install silt fences meeting the requirements of the Standard Plans where runoff from areas disturbed by construction activities could impact adjacent undisturbed property. All costs to install silt fences are incidental to the Contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the unit or lump sum bid prices of the Contract.

The types of gravel material that shall be used in trenches or other excavations are divided into several classifications. The descriptions of the materials, the locations where they shall be used, and the method for computing pay quantities are set forth in the following Sections and are shown on the Contract Plans.

Garden areas shall not be disturbed until after the end of the growing season.

The Contractor shall comply with all covenants, requirements, and stipulations of easement documents that provide the right of the Contracting Agency to perform the Work on private property.

7-09.3(5) Grade and Alignment (***)**

Revise this subsection, including title, to read:

7-09.3(5) Grade, Depth, and Alignment

The Contractor shall verify the locations and establish the depth of existing water mains at the points where connections are to be made prior to trenching for the pipelines. A separate contract pay item

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has been provided for this purpose under the current project under “Connect to Existing Water Main _____-Inch Diameter.”

The profile shall be adjusted so neither a high spot nor a low spot is created adjacent to the connection to the existing water mains.

The depth of trenching for water mains shall be such as to provide a minimum cover of:

- 42 inches for 10-inch diameter and smaller water pipes,
- 48 inches for 12-inch to 18-inch diameter water pipes, and
- 56 inches for 20-inch and 24-inch diameter water pipes

over the top of the pipe, or a minimum of twelve (12) inches over the top of valve nut, whichever is deeper, or as otherwise shown on the Plans. Deeper excavation may be necessary due to localized breaks in grade or to install the new main under existing culverts, other utilities, or obstructions.

To provide for future street/road widening, this standard minimum cover shall be measured from the ground surface where the proposed water main is to be located or the adjacent edge of pavement, whichever provides the lower water main elevation.

Where the profile of the pipeline and ground surface is shown on the Plans, the pipeline shall be laid to the elevation shown regardless of depth.

7-09.3(6) Existing Utilities

(*****)

Supplement this subsection with the following:

In addition to those facilities exposed above the ground surface, certain underground utility facilities exist, both known and of record and unknown. The plans have been prepared for the Contractor's convenience in locating, protecting, and avoiding conflicts with existing utilities. It is based upon best available information, but is not intended to be a complete record. The contractor is responsible for independently verifying the locations of utilities prior to construction per RCW 19.122.

The locations of the underground utility facilities shown on the Plans have been provided from available records and may not reflect the exact location of the underground utility facility. The proposed water facilities constituting the Work have been designed to minimize potential conflicts with the existing known underground utility facilities.

If the Plans so indicate, certain existing underground utility facilities shall require removing or relocating the underground utility facility by the utility owner before the Contractor begins Work. If said utility owner has not done so by the time Work begins, the Contractor shall immediately notify the Engineer and Contracting Agency in writing.

The Contractor shall advise the Utilities Underground Location Center of the commencement of the Work by calling 1-800-424-5555 or 811, providing the proposed construction area and the proposed schedule of work sequence, so the respective participating utilities may field-mark their underground utility facilities, as provided for in RCW 19.122. The Contractor shall also individually advise those utilities and private parties not participating in said one number locator service. The

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Contractor shall, by letter and copies thereof, demonstrate to the Contracting Agency its efforts to fully inform both the non-participating utilities and private parties and the Utilities Underground Location Center of its activities. Furthermore, the Contractor shall demonstrate full cooperation with each utility and private party involved in the Project. The Contractor shall conform to all other provisions of RCW 19.122.

As provided for in RCW 19.122, "reasonable accuracy" in field-locating (marking) underground utility facilities means a field mark within 24 inches of the outside dimensions of both sides of an underground utility facility.

The minimum horizontal spacing between water mains and gas mains, power cable, telephone cable, cable TV, and other underground utility facilities, except sanitary sewers and storm drains, shall be three (3) feet, measured horizontally. The minimum vertical clearance/spacing between walls of water main pipelines and pipeline/cable/conduits of other utility facilities, except sanitary sewers and storm drains, shall be twelve (12) inches, except as may be shown on the Plans or as may be authorized by the Engineer. Where vertical separation is less than twelve (12) inches, where shown on the Plans or as may be authorized by the Engineer, the Contractor shall install a polyethylene closed-cell foam pad having a minimum density of 9.5 pounds per cubic foot. The pad shall be installed such that horizontal and vertical pressure is necessary to place the pad between the outer surfaces(s) of the water pipe and proximate utility facility.

The minimum horizontal spacing between water mains and non-potable water, including storm drains and sanitary sewers, shall be ten (10) feet measured horizontally, unless a closer spacing is shown on the Plans, in which case certain pipe protection provisions are shown. For water mains crossing over sanitary sewers or storm drains, a minimum vertical clearance/spacing between the walls of these pipelines shall be eighteen (18) inches, as measured at the intersection thereof, unless a narrower clearance/spacing is shown on the Plans, in which case certain pipe protection measures shall be shown. If these horizontal spacing and/or vertical clearance/spacing requirements cannot be met and are not already provided for in the Plans, the Contractor shall immediately notify the Engineer and Contracting Agency in writing.

Certain alterations in alignment and grade of the proposed water system may be required if an existing underground utility facility, by field-location, is found to occupy that corridor indicated on the Plans to be reserved for construction of the proposed water system or if the standard spacing cannot otherwise be achieved. The Contractor shall do all necessary excavation and potholing to expose such underground utility facilities to prevent damage to them, which may otherwise result from the Work. The Contractor shall protect all existing underground utility facilities from damage resulting from the Work. The alignment and grade of the proposed water system shown on the Plans shall only be altered upon the written express approval of the Engineer.

The Contractor shall also notify those owners of underground utility facilities within close proximity of the proposed water system, within a reasonable period of time prior to construction at a particular location, so said owner and the Contractor can coordinate the precautions necessary to facilitate construction of the proposed water system and protect that particular underground utility facility.

Any damages or disruptions to underground utility facilities resulting from the Contractor's operation shall be reported to the owner of said underground utility facility and to the Contracting

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Agency. Repairs to the damaged or disrupted underground utility facility shall immediately be made by the owner of said underground utility facility or by the Contractor, at the sole discretion of the owner of said underground utility facility. The cost for repairs to damaged or disrupted underground utility facilities shall be borne by the Contractor, unless the underground utility facility was not field-marked within "reasonable accuracy" defined by RCW 19.122.

Whenever existing drainage channels, ditches, culverts, storm drains, or structures are disturbed, the Contractor shall provide suitable means for diverting and maintaining all flows during construction in that area. After construction has been completed in that area, all channels, ditches, culverts, storm drains, or structures shall be returned to their original location and functional use.

Where the proposed water system is in close proximity of existing utility poles, the Contractor shall coordinate construction procedures with the owners of the affected utility poles. The Contractor shall give to the owners of affected utility poles reasonable advance notice so that the Contractor and owners of affected utility poles can properly protect the integrity of the utility poles by temporarily holding or moving the utility poles during construction of the proposed water system.

To efficiently perform the Work, the Contractor shall be fully responsible to coordinate the Work and make the necessary arrangements, including permits and payment of any associated charges, with the respective owner of underground utility facilities to relocate, move, remove, or alter their underground utility facilities to attempt to minimize or eliminate conflicts during construction of the proposed water system in ways not otherwise shown on the Plans.

Any authorized agent of the Contracting Agency or owners of underground utility facilities may enter the site of the water system improvements at any time to repair, rearrange, alter, or connect their facilities. The Contractor shall cooperate with such efforts and shall avoid creating delays or hindrances to those doing the work. As needed, the Contractor shall arrange to coordinate work schedules.

All utility facilities including, but not limited to, water main valve boxes, gas main valve boxes, water meter boxes, and the like shall remain accessible and marked by the Contractor at all times during construction.

All costs to comply with this Section, including any repair and/or restoration of facilities necessitated by the Contractor's operations, are incidental to the Contract and are the responsibility of the Contractor, except as otherwise provided in RCW 19.122. The Contractor shall include all related costs in the Contract bid prices.

7-09.3(7) Trench Excavation

(***)**

Revise this subsection to read:

All excavation performed on this Project shall be considered unclassified. Excavation shall consist of the removal of any and all material encountered, including cutting and removal of existing surfacing, tree stumps, trees, logs, abandoned railroad ties, piling, riprap, etc., if necessary. Excavation limits for applicable contract Bid Items are shown on the Plans.

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The Contractor shall perform all excavation of every description and of whatever materials encountered to the depth indicated on the Plans. All excavations shall be made by open cut unless provided for otherwise. All trenches shall be excavated to true and smooth bottom grades and in accordance with the lines given by the Engineer. The trench bottom shall provide uniform bearing and support for each length of pipe. Bell holes shall be excavated to the extent necessary to permit accurate work in making and inspecting the joints. The banks of the trenches shall be kept as nearly vertical as soil conditions will permit. Where required to control trench width or to protect adjacent structures, the trench shall be sheeted and braced. Trench widths to one (1) foot above the top of the pipe shall not exceed thirty (30) inches maximum or 1-1/2 times the outside diameter of the pipe plus eighteen (18) inches, whichever is greater. Standard excavating equipment shall be adjusted so as to excavate the narrowest trench possible.

Trench excavation shall be not more than fifty (50) linear feet ahead of the pipe laying and backfilling operation and all trenches shall be closed up and fully backfilled, leveled, and temporarily patched or graveled, or protected with an anchored steel plate at the end of each day as provided in Section 1-07.23(1). In certain circumstances such as high-risk of trench sidewall cave-in, paralleling in close proximity with another utility which could slough into the open trench, critical street crossings, etc., this distance shall be shortened accordingly by the Contractor.

The Contractor shall exercise sound engineering and construction practices in excavating the trench and maintaining it so that no damage will occur to any foundation, structure, utility pole or anchor, pipeline, or other facility because of sloughing or slopes, or from any other cause. If, as a result of the excavation, there is disturbance of the ground which may endanger other property, the Contractor shall immediately take remedial action. No act, representation, or instruction of the Engineer or Contracting Agency shall in any way relieve the Contractor from liability for damages or costs that result from trench excavation.

Care shall be taken not to excavate below the depth specified. Excavation below that depth shall be backfilled with select backfill material and compacted as specified herein.

The Contractor shall prevent damage to major tree roots, particularly those equal to or larger than two (2) inches in diameter. Specialized equipment and excavation methods including, but not limited to, vacuum excavation or excavation with hand tools may be necessary to ensure that such tree roots are not damaged by the Contractor's operations.

In public rights-of-way, excavated materials shall be removed, hauled, and disposed at a site permitted to receive such materials.

In areas outside of public rights-of-way, or in public rights-of-way outside the limits of existing or proposed structural street sections, including curbs, gutters, driveways, and sidewalks if allowed by the jurisdictional agency, suitable native material may be removed, hauled, and temporarily stockpiled for use as trench backfill. Native material will not be paid for as import crushed surfacing if used as suitable trench backfill. Native material backfill determined to be unsuitable shall be removed, hauled, disposed at a permitted site, and replaced with suitable material in accordance with Section 7-09.3(8).

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7-09.3(7)A Dewatering of Trench

(*****)

Revise this subsection to read:

Where water is encountered in the trench and other excavations for structures, it shall be removed during pipe-laying and backfilling operations and the trench and/or excavation so maintained until the ends of the pipe are sealed and provisions are made to prevent floating of the pipe, or the structure is placed or constructed and provisions are made to prevent it from floating. Trench water or other deleterious materials shall not be allowed to enter the pipe at any time.

The Contractor shall furnish all equipment necessary to dewater the excavation and shall dispose of the water in such a manner as not to cause a nuisance or menace to the public or damage or cause deterioration of existing improvements or natural features, which includes at a minimum discharging to steel roll off tanks per 7-10.3(3) (Baker tanks or approved equal). The dewatering system shall be installed and operated by the Contractor so that the groundwater level outside the excavation is not reduced to the extent that adjacent structures or property are endangered or damaged. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soil, prevent disturbances of backfill, and prevent movement of structures and pipelines. Containment and discharge of such collected groundwater shall be in accordance with the TESC Plan as reviewed by the Engineer and shall include baker tanks (or approved equal) or other measures to dechlorinate and reduce turbidity to acceptable levels (maximum 25 NTU) prior to discharge.

Prior to construction, the Contractor shall submit a dewatering plan that describes proposed dewatering methods and equipment that will be used to keep excavations above the pipe foundation level free from water during construction. The plan shall also identify the method and location for disposing collected water, including methods for controlling turbidity.

7-09.3(7)B Rock Excavation

(*****)

Revise this subsection to read:

Rock excavation shall cover the removal and disposal of rock that requires systematic drilling and blasting for its removal and also boulders exceeding two (2) cubic yards in volume. Ledge rock, stone larger than 1-1/2 inches, or boulders shall be removed to provide a minimum clearance of four (4) inches under the pipe, with additional clearance required for pipe bells as necessary to provide uniform bearing and support for each length of pipe and permit accurate Work in making and inspecting the joints.

Hardpan, hard clay, glacial till, sandstone, silt stone, shale, or other sedimentary rocks that are soft, weathered, or extensively fissured will not be classified as rock excavation, even though it may be advantageous to use explosives in its removal. Rock is defined as one which has a modulus of elasticity of more than 200,000 psi or unconfined compressive strength at field moisture content of more than 2,000 psi.

Materials removed shall be replaced with selected native materials from adjacent trenches or from imported bedding or backfill as designated by the Engineer.

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It is anticipated that solid rock will not be encountered. When such material is anticipated to be encountered, it will be paid for through an established Bid Item.

7-09.3(7)C Extra Trench Excavation

(*****)

Revise this subsection to read:

Changes in grades of new water main, including hydrant laterals, from those shown on the Plans may be necessary because of unmarked or unknown utilities or for other reasons. If, in the opinion of the Engineer, it is necessary to adjust, correct, relocate or in any way change the line and grade, such changes shall be made by the Contractor as specified herein.

When pipeline grade is lowered in excess of one (1) foot below the grade indicated on the Plans, the Contractor shall make extra excavation as necessary.

When the pipeline horizontal alignment is changed by more than one (1) foot from the line indicated on the Plans, after the trench has been excavated, the Contractor shall excavate the trench at the changed location and backfill and compact the previous trench.

Additional excavation so required will be classified as extra trench excavation.

Any additional width made in excess of the designated neat line width of the trench as shown on the Plans by the Contractor shall be backfilled with the same material and in the same manner as specified herein for backfilling within the neat line limits of the trench.

7-09.3(8) Removal and Replacement of Unsuitable Materials

(*****)

Revise this subsection to read:

When so directed by the Engineer, excavation shall be extended below the structure or pipeline grades to permit the placing of foundation material.

Whenever in excavating a trench for water mains the bottom of the trench exposes peat, soft clay, quicksand, or other unsuitable foundation material, such material shall be removed to the depth directed by the Engineer and backfilled with foundation material to the plan depth of the trench bottom. Unsuitable foundation materials may include silty soils, fine, sandy soils, or saturated clay, peat, or other soft material as determined by the Engineer. Silty soils or fine, sandy soils usually flow in the presence of a stream of water. Saturated clays, peats, or other soft materials do not break down into fine particles and flow. Any such removed unsuitable foundation material that is removed shall be replaced with compacted Crushed Surfacing Base Course.

When native excavated material is shown on the Plans or directed by the Engineer to be used for trench backfill, any such material removed from the trench that is determined by the Engineer to be unsuitable for trench backfill shall be removed, loaded directly into trucks, and hauled to a waste site permitted to receive such material. Stockpiling of unsuitable material at the Project site will not be allowed.

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When native excavated material is shown on the Plans or directed by the Engineer to be used for trench backfill and sufficient suitable native excavated material is not available for backfilling the trench, aggregate material meeting the requirements of Section 9-03.9(3) "Crushed Surfacing Top Course for Trench Backfill" or the aggregate material as shown on the Plans shall be furnished and placed to complete the trench backfill.

7-09.3(9) Bedding the Pipe

(*****)

Revise this subsection, including title, to read:

7-09.3(9) Pipe Zone Bedding and Backfill

Gravel backfill for pipe zone bedding shall be placed to depths shown on the Plans, and shall be rammed and tamped around the pipe to 95 percent of maximum density by the use of shovels or other approved hand-held tools, so as to provide firm and uniform support for the full length of the pipe, valves, and fittings. Care shall be taken to prevent any damage to the pipe or its protective coating.

Gravel backfill for pipe zone bedding for pipe zone backfill shall be placed in uniform lifts on each side of and above the pipe as shown on the Plans, and shall be compacted to 90 percent of maximum density.

7-09.3(10) Backfilling Trenches

(*****)

Revise this subsection to read:

Trench backfill material, placement and compaction for ductile iron pipe shall be as shown in the Plans.

When all pipe, fittings, valves, valve boxes, and other appurtenances have been properly installed and inspected, the trench shall be backfilled. Prior to backfilling, all shoring or other trench safety system components and debris shall be removed from the trench. Shoring and trench safety system components used by the Contractor shall be removed just ahead of the backfilling operation. Backfill up to twelve (12) inches over the top of the pipe shall be evenly and carefully placed. Materials capable of damaging the pipe or its coating including, but not limited to, large rocks, stumps, logs, brush, broken concrete, frozen dirt clumps, pavement pieces, and other deleterious material shall be removed from the backfill material. The remainder of the material shall be continually placed from the end of the trench.

In public rights-of-way, the trench shall be backfilled to subgrade with Crushed Surfacing Top Course for Trench Backfill, compacted in accordance with Method C compaction as provided in Section 2-03.3, and graded to provide a firm, smooth, and uniform surface for placement of subsequent surfacing materials to finish grade.

In areas outside of public rights-of-way, or in public rights-of-way outside the limits of existing or proposed structural roadway sections, including curbs, gutters, and sidewalks, if allowed by the jurisdictional agency, the trench shall be backfilled to subgrade with suitable native material from

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the trench excavation and compacted in accordance with Method C compaction as provided in Section 2-03.3(14)C. Native material will not be paid for as import crushed surfacing if used as suitable trench backfill. Native material backfill determined to be unsuitable shall be replaced with Aggregate for Gravel Base. If suitable native excavated and replacement materials are insufficient to complete the trench backfill to subgrade as determined by the Engineer, Aggregate for Gravel Base shall be placed, compacted in accordance with Method C compaction as provided in Section 2-03.3(14)C, and graded to provide a firm, smooth, and uniform surface for placement of subsequent surfacing materials to finish grade.

A minimum 3-inch sand cushion, neoprene pad, or high-density polyethylene closed-cell foam with a minimum density of 9.5 lb/cf shall be placed between the water main and existing pipelines, conduits, or other facilities when encountered during construction and as directed by the Engineer.

Suitable native excavated material in excess of the quantity for compacted trench backfill, when such material would be allowable as set forth above, shall be removed from the site and hauled to and disposed at a site permitted to receive such material. Stockpiling of such excess material at the project site shall not be allowed.

7-09.3(11) Compaction of Backfill

(*****)

Revise this subsection to read:

Unless the density of the trench backfill within a road right-of-way is required to be greater by the jurisdictional road agency, the trench backfill material shall be compacted to at least 95 percent of the maximum density as specified in Section 2-03.3(14)D, "Compaction and Moisture Control Tests," for the purposes of this project, the trench backfill materials and compaction shall be as shown on the Plans.

Maximum density and optimum moisture for non-granular materials will be determined using WSDOT Test Method No. 609. Maximum density and optimum moisture for granular materials will be determined using WSDOT Test Method No. 606.

In-place density and moisture content will be determined using the Washington Densometer method or Nuclear Gauge as outlined in the WSDOT Construction Manual.

The backfill material shall be placed in successive layers not exceeding twelve (12) inches in loose thickness and each layer shall be mechanically compacted to the density specified herein as the trench is backfilled.

At locations where paved streets, roadway shoulders, driveways, or sidewalks will be constructed or reconstructed over the trench, the backfill shall be spread in layers and be compacted by mechanical tampers. In such cases, the backfill material shall be placed in successive layers not exceeding six (6) inches in loose thickness and each layer shall be compacted with mechanical tampers to the density specified herein. Mechanical tampers shall be of the impact type as approved by the Engineer.

The Contractor shall provide the proper size and type of mechanical compaction equipment and select the proper method of utilizing said equipment to attain the required compaction density. The

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thickness of layers and the number of passes shall be adjusted to the extent necessary to attain the required compaction density. Impact compactors shall be operated with the least practical amount of pressure or weight applied and vibratory compactors shall be operated with no more weight applied than the unsupported weight of the machine's pad and boom, all to achieve the required compaction density without overloading the pipe or structure.

Moisture content of the backfill material may be adjusted to achieve the required compaction density. This adjustment may be attained by sprinkling the backfill material, by adding and mixing dry backfill material, or by windrowing the backfill material and allowing it to dry prior to placement in the trench.

Contracting Agency, at its sole discretion, may perform compaction tests on the compacted backfill material at any time to supplement Contractor provided material testing. Areas to be tested shall be at the direction of the Engineer. The Contractor shall perform all work necessary to allow compaction tests to be conducted. The compaction tests shall be performed by a testing consultant/laboratory selected by the Contracting Agency and the costs expended for the services of said testing consultant/laboratory shall be borne by the Contracting Agency.

The Contractor, at its sole expense, shall remove and recompact material that does not meet the specified compaction requirements; shall promptly and properly refill, regrade, restore, or otherwise repair any trench settlement; and shall otherwise remedy any defects that appear in the backfill. Where the required compaction density cannot be achieved on the existing backfill material, the Contractor shall remove and replace said backfill with material able to meet said compaction densities.

7-09.3(12) General Pipe Installation

(*****)

Supplement this subsection with the following new subsections:

7-09.3(12)A Laying Ductile Iron Pipe, Fittings, and Appurtenances

Ductile iron pipe shall be handled and installed in accordance with AWWA C-151 and the recommendations of the pipe manufacturer. The pipe shall be laid to the line and grade shown on the Plans, in the Standard Plans, and as may be directed by the Engineer.

All pipe, fittings, and appurtenances shall be carefully checked by the Contractor upon delivery to the project site as well as just prior to their installation and placement in the trench. Any pipe, fitting, or appurtenance that is damaged or defective, or where interior is not clean and free from contaminants or other deleterious substance or foreign object, or which could contaminate the installed pipe, fitting, or valve, shall not be installed. The Contractor shall immediately notify the Engineer of any defect or damage. At the discretion of the Engineer, the defective or damaged pipe, fitting, or appurtenance shall either be repaired by an authorized representative of the pipe or fitting manufacture prior to installation or shall be removed from the site.

The pipe, fittings, and appurtenances shall be carefully bedded, joined, and protected. All pipe, fittings, and appurtenances shall be kept free from contamination by dirt, gravel, water, vector, or introduction of other deleterious material or foreign object. To ensure cleanliness inside the pipe and fittings and better ensure the effectiveness of the disinfection process, pipe openings shall be

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closed with water-tight plugs, as reviewed by the Contracting Agency, until the pipe is placed in the trench and when pipe laying is stopped at the end of a work shift or breaks in the progress of the work.

The bottom of the trench shall be finished to grade in such a manner that the pipe will have bearing along the entire length of the barrel. Any standing water shall not be allowed to remain, but shall be immediately removed from the trench and disposed in accordance with the SWPP.

Except where necessary to make connections with other pipelines and where otherwise authorized by the Engineer, ductile iron pipe shall be laid with bells facing the direction of laying. The bells shall face upward where pipelines are laid on an appreciable slope, as authorized by the Engineer. A non-toxic pipe lubricant, as recommended by the pipe manufacturer and approved for use in potable-water applications, shall be applied to the gasket and pipe mating surfaces. Bolts on mechanical joint and flanged pipe, fittings, spools, and appurtenances shall be tightened uniformly to the torque recommended by the manufacturer.

All joints in the pipe, fittings, valves, flexible couplings, etc., shall be fully seated with small clearances allowed for pipe expansion. Where flexible couplings are required, the space between pipe ends shall not exceed 1/4-inch to prevent pipe movement. When the space between pipe ends is excessive, short sections of pipe may be inserted as a spacer ring to limit such pipe movement within the coupling or mechanical joint sleeve fitting, to obtain the 1/4-inch spacing limitation provided herein.

All fittings and pipe that will come in contact with cement concrete, such as from concrete pipe encasement and thrust blocking, shall be protected by a layer of heavy building paper or plastic sheeting. The material shall be wrapped loosely around the pipe and need not be water tight, but no part of the pipe or fittings shall be exposed to the cement concrete. Care shall be exercised during backfilling to prevent the plastic film wrap from becoming punctured or otherwise damaged. The Contractor shall comply with other requirements for placing concrete thrust blocking provided in Section 7-09.3(21) "Concrete Thrust Blocking."

Only mechanical joint sleeve fittings shall be used to connect plain ends of ductile iron pipe and/or spools; flexible couplings shall not be used for this purpose.

Fittings shall not be backfilled until first approved by the Engineer, or Contracting Agency, for compliance with the Plans and Specifications.

Where shown on the Plans or otherwise directed by the Engineer, the Contractor shall install pipe anchor blocks, sacked slope retainer, and timber baffles meeting the requirements of the Standard Plans in the backfilled trench where water mains are installed on slopes 20 percent or greater.

7-09.3(12)B Taste and Odor

No water main pipe, fitting, or other appurtenances will be accepted by the Contracting Agency in which an objectionable taste and/or odor is detected in water which has been in contact with the interior surface(s) of said material, either before or after the material has been installed. Taste and odor testing, if determined necessary by the Contracting Agency, shall be conducted and timing for this shall be subject to the third party taste and odor testing agency's schedule. All such testing by

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the City of Seattle, and resulting corrective actions required by the Contracting Agency to remedy a defect or defects as may be determined by such testing, shall be at the Contractor's sole expense.

7-09.3(13) Handling of Pipe

(*****)

Delete the first paragraph and replace with the following:

Pipe shall be handled in a manner that will prevent damage to the pipe, pipe lining, or coating. Pipe and fittings shall be loaded and unloaded using hoists and slings in a manner to avoid shock or damage and under no circumstances shall they be dropped, skidded, or rolled against other pipe. If any part of the coating or lining is damaged, repair thereof shall be made by the Contractor at no additional expense to the Contracting Agency and in the following manner:

- For cement-mortar lining and seal coat - Damages to cement mortar linings or sealcoat shall be repaired at an institution or shop that adheres to ANSI/AWWA C104/A 21.4 standards.
- For epoxy coating – Damages to epoxy coating shall be repaired at an institution or shop that adheres to ANSI/AWAA C550 standard.

If the Contractor is unable to meet the above repair procedures, the pipe or fitting shall be replaced at the Contractor's expense. Field repairs of damaged pipe or fittings will not be considered. Damaged pipe shall be rejected and the Contractor shall immediately place damaged pipe apart from the undamaged and shall remove the damaged pipe from the site within 24 hours.

Supplement this subsection with the following:

Each pipe, fitting, or other accessory shall be carefully inspected and thoroughly cleaned of any dirt or deleterious material which might be present on the inside prior to its installation. Such cleaning shall be accomplished prior to lowering the pipe or other accessories into the trench and after the materials are placed in the trench, care shall be taken to keep them internally clean. To minimize risks and expedite the Work, it is suggested that the open ends of stockpiled pipe be plugged or sealed with a polyethylene bag or equivalent mechanism to prevent the introduction of dirt or deleterious material and that the pipe be cleaned using and/or swabbed with a clean foam cube designed for that purpose and saturated in a 1 percent hypochlorite solution.

The Contractor shall exercise particular care to guard against the entrance of stormwater or sewage into the trench during the course of construction. All sanitary sewers and storm drain lines, house side sewers, and/or other subsurface drains shall be located prior to excavation. The Contractor shall employ provisions to protect the Work from contamination by deleterious liquids.

7-09.3(14) Cutting Pipe

(*****)

Revise this subsection to read:

Whenever it becomes necessary to cut a length of pipe, the cut shall be made by abrasive saw or by special pipe cutter. All pipe ends shall be square with the longitudinal axis of the pipe and shall be reamed or otherwise smoothed so that good connections can be made. Threads shall be cleanly cut. Oxyacetylene torch cutting of ductile iron pipe shall not be allowed.

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Flaring of copper tubing shall be accurately and smoothly performed with tools designed specifically for this task.

7-09.3(15) Laying of Pipe on Curves

7-09.3(15)A Ductile Iron Pipe

(*****)

Revise this subsection to read:

Long radius curves, either horizontal or vertical, may be laid with standard pipe by deflecting the joints. If the pipe is shown curved on the Plans and no special fittings are shown, the Contractor can assume that the curves can be made by deflecting the joints with standard lengths of pipe. If shorter lengths are required, the Plans will indicate maximum lengths that can be used. The amount of deflection at each pipe joint when pipe is laid on a horizontal or vertical curve shall not exceed the manufacturer's printed recommended deflections. For the purposes of this project, the maximum allowable deflection shall be three (3) degrees or the manufacturer's recommendation, whichever is least.

Where field conditions require deflection or curves not anticipated by the Plans, the Engineer will determine the methods to be used. No additional payment will be made for laying pipe on curves as shown on the Plans, nor for field changes involving standard lengths of pipe deflected at the joints. When special fittings not shown on the Plans are required to meet field conditions, additional payment will be made for special fittings.

When rubber-gasketed pipe is laid on a curve, the pipe shall be jointed in a straight alignment and then deflected to the curved alignment. Trenches shall be made wider on curves for this purpose.

7-09.3(16) Cleaning and Assembling Joints

(*****)

Revise this subsection to read:

Joints shall be "made-up" in accordance with the manufacturer's recommendations. Standard joint materials, including rubber ring gaskets, shall be furnished with the pipe. Materials shall be suitable for the specified pipe sizes and pressures.

All parts of the pipe ends, couplings, fittings, and appurtenances shall be cleaned to remove oil, grit, or other foreign matter from the joint. Care shall be taken to keep the joint from contacting the ground.

Pipe not furnished with a depth mark shall be marked before assembly to ensure visual observation of the work.

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7-09.3(19) Connections

(*****)

7-09.3(19)A Connections to Existing Mains

Revise this subsection to read:

No connection to the existing water system shall be made until all provisions for hydrostatic pressure testing, as required in Section 7-09.3(23) "Hydrostatic Pressure Test," and disinfection, as required in Section 7-09.3(24) "Disinfection of Water Mains," have been met.

At least one (1) connection to the existing water system shall be made within 96 consecutive hours of the time that written acceptable results of the most recent bacteriological sampling are available as provided in Section 7-09.3(24)W., "Subsequent Bacteriological Sampling." If at least one (1) connection is not made within the specified time period, additional sampling meeting the requirements of Section 7-09.3(24)O., "Repetition of Flushing and Testing" shall be conducted.

Connections to the existing system shall not be made without first making the necessary arrangements with the Contracting Agency at least 24 hours in advance. Work shall not be started until all of the materials, equipment and labor necessary to properly complete the work, including that for temporary surface repair, are assembled on the site. When work is once started on a connection, it shall proceed continuously without interruption and as rapidly as possible until completed and under continuous observation by Contracting Agency. All existing mains shall be restored to service overnight and on weekends and holidays.

The Contractor shall coordinate its work on connections to the existing system with that of Contracting Agency's main cleaning efforts as provided for in Section 7-09.3(24)X., "Main cleaning." In certain cases, foam rubber cubes used for main cleaning must be inserted into the new system prior to its connection to the existing system.

If the connection to the existing system involves temporarily discontinuing water service to customers, the Contractor shall be responsible for notifying the customers affected by the service interruption, as well as the fire protection authority having jurisdiction, at least 24 hours, but preferably 48 hours, in advance of said service interruption. Contracting Agency shall advise the Contractor as to which customers are affected by the service interruption and shall provide the forms ("door-hangers") to be used for said notification efforts. The Contractor shall fill in the appropriate spaces in said forms. The Engineer may, under certain special circumstances, require this connection work to be performed during times other than normal working hours at no additional expense to Contracting Agency.

Valves in the existing system, or between the existing system and the new system, shall be operated only by Contracting Agency personnel or by others under the Engineer's specific direction.

The work anticipated for each connection to the existing system is detailed on the Plans. If conditions are subsequently found to differ from those shown on the Plans, revisions to the connections to the existing system must first be approved by the Engineer.

The interior of all pipe and fittings used to make connections to the existing system shall be cleaned of all deleterious material, including contaminants and foreign objects, and swabbed and/or sprayed

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with a clean, 1 percent hypochlorite solution, mixed in a clean container, before they are installed. If any portion of the new system becomes contaminated during the connection work by the inadvertent entry of ditch water or any other reason, the new system shall again be disinfected in accordance with the provisions of Section 7-09.3(24), "Disinfection of Water Mains" before said connection work is continued.

"Swab-and-Go" Procedure

The Contractor shall use the "swab-and-go" process as outlined below for connecting a new section or segment of water main to the existing ("active") water system, or installing a segment of new water main between existing sections of existing water main, only under the following conditions:

1. The section of new water main to be connected, including any stubbed service connections, attached hydrant assemblies, or other connected water system improvements, has successfully passed the hydrostatic pressure and disinfection tests;
2. The length of pipe to be installed to complete the connection to either extend the existing water system or to complete the connection to the new water system is twenty (20) feet or one (1) full standard length of water pipe or less, except as provided below;
3. The section of new water main as described in Item '1' above or segment of new water main as described in Item '2' above, proposed to be connected to the existing water system, has been protected from contamination or the introduction of deleterious substances or foreign objects;
4. Provisions are in place to ensure that draining the isolated segment of existing water main to which connection is to be made, or the section of new water main as described in Item '1' above, can be performed without introducing standing water into the trench or otherwise compromising the physical, chemical, or biological integrity of the existing water main(s) and section or segment of new water main or lateral;
5. Provisions are in place to allow water system source water to fill and flush the connecting section of existing main and the new section or segment of water main or lateral; and
6. Connection is approved by the Contracting Agency.

The Contractor shall remove previously installed end protections from the new segment or length of pipe to be installed and connected to the existing water system and protect the pipe from any subsequent introduction of any contaminant or other deleterious substance or foreign object. The Contractor shall inspect the interior and exterior of the pipe for any defects or damage and immediately remove and dispose at an appropriate location any contaminant or other deleterious or foreign object observed in the pipe. The Contractor shall immediately notify the Engineer of any defect or damage. At the discretion of the Engineer, or Contracting Agency, the defective or damaged pipe shall either be repaired by an authorized representative of the pipe manufacture prior to installation or shall be removed from the site.

The segment or length of new pipe that has been inspected and determined acceptable for installation shall then be swabbed and/or sprayed with a clean, 1 percent hypochlorite solution, mixed in a clean container, before they are installed. The swab shall be new, clean, and unused and shall be formulated for the specific purpose of swabbing the interior surface of cement-mortar lined ductile iron water pipe for potable service with a hypochlorite solution without degradation of the

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swab or generation of ancillary debris. The sprayer shall be dedicated to the purpose of applying hypochlorite solution. If any portion of the new system becomes contaminated during the connection work by the inadvertent entry of ditch water or any other reason, the new system shall again be disinfected in accordance with the provisions of Section 7-09.3(24) "Disinfection of Water Mains" before said connection work is continued.

In certain situations, lengths of pipe in excess of twenty (20) feet, or one full standard length of water pipe, may be installed under the "Swab-and-Go" procedure subject to the determination and discretion of the Contracting Agency. If the length of pipe from the existing water system to the new water system is longer than ten (10) feet, but no longer than sixty (60) feet, this section of new pipe, together with any downstream section of existing main, shall be subject to bacteriological testing as specified in Section 7-09.3(24) "Disinfection of Water Mains." The Contractor shall install temporary blowoff assemblies as necessary to conduct these tests.

All pipe and fittings exposed by the excavation for a connection to an existing asbestos cement water main shall be bedded with pea gravel meeting the requirements of Section 9-03.25 "Pea Gravel for Asbestos-Cement Pipe Connections." The pea gravel shall be carefully placed around the exposed section of existing asbestos-cement pipe and fitting to ensure that the pipe and fitting are fully supported and that no stress is transferred from the new pipe, including fittings and valves, to the existing asbestos cement pipe, including any proximate fittings or valves.

Where asbestos-cement water main pipe is encountered and removal of a section thereof is required in order to complete installation of the new water main, the Contractor shall comply with all applicable statutes, regulations, and requirements for disposal of said removed section of asbestos-cement pipe promulgated by the Puget Sound Air Pollution Control Agency and any other City, County, State, or Federal governmental agency having jurisdiction. For the purposes of the current project, the Contractor shall comply with the requirements of these Special Provisions for asbestos cement pipe removal and disposal.

7-09.3(21) Concrete Thrust Blocking

(*****)

Revise this subsection to read:

Concrete thrust blocking, including "deadman" blocks and "thrust collars," as detailed on the Plans and in the Standard Plans, shall be placed at bends, tees, caps, plugs, crosses, and other fittings as required. Concrete used for the blocking shall be poured-in-place and conform to the requirements of Section 6-02.2 "Concrete Structures-Materials."

Concrete blocking shall bear against solid, undisturbed earth at the sides and bottom of the trench excavation. The Contractor shall determine the size to be of sufficient proportions and installed so as to withstand the required test pressure and operating conditions. The Contracting Agency reserves the right to require the Contractor to retain the services of a qualified soils engineer to determine adequate thrust blocking size. Blocking shall be placed behind all fittings with

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unbalanced thrust. Precast blocking or blocking made from timber or other materials shall not be used.

If the Contractor unnecessarily disturbs soil which is meant to bear new concrete thrust blocks, the concrete thrust block shall be resized to obtain a bearing area as specified in the contract plans against undisturbed soil at the expense of the Contractor.

The Contractor shall not backfill those thrust blocks installed by the Contractor without first being observed by the Engineer.

All fittings shall be protected by a layer of jute, 15-pound building paper, or polyethylene sheeting before placing concrete. Blocking shall be formed so that bolts, joints, gaskets, and flanges of adjacent joints are clear of the concrete and so that bolts and joints can be dismantled without removing the concrete.

At caps and plugs, where connection to future mains is anticipated, the Contractor shall provide a precast concrete brick of sufficient dimensions between the fitting surface and the poured-in-place concrete.

Concrete thrust blocking shall be in place for at least 24 hours prior to the hydrostatic pressure test to allow the concrete to sufficiently hydrate.

7-09.3(22) Blowoff Assemblies

(*****)

Revise this subsection to read:

Blowoff assemblies shall be constructed at the locations shown on the Plans and in accordance with the Standard Plans.

Blowoff assemblies shall not be backfilled until first approved by the Contracting Agency for compliance with the Plans and Specifications.

7-09.3(23) Hydrostatic Pressure Test

(*****)

Revise this subsection to read:

All water mains and appurtenances including, but not limited to, water service connection taps, service saddles, corporation stops, and service pipe and fittings, shall be tested in sections of convenient length under a hydrostatic pressure equal to 250 pounds per square inch (250 psi).

Sections to be tested shall normally be limited to 1,500 feet in length. The Engineer may require that the first section of pipe, not less than 1,000 feet in length, installed by each of the Contractor's working crews, be tested in order to qualify the crew and the material. Pipelaying shall not be continued more than an additional 1,000 feet until the first section has been tested successfully.

Prior to requesting the Engineer to witness the "official" pressure test, the Contractor shall have all equipment set up, completely ready for operation, and shall have successfully performed an acceptable "pre-test" to assure that the pipe is in a satisfactory condition.

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All costs to comply with this Section are incidental to the Contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the unit or lump sum bid prices of the Contract.

7-09.3(23)A Testing Extensions from Existing Mains

(*****)

Revise this subsection to read:

When 1) the existing water system is extended with new pipe to connect to a new system; 2) the new water system has successfully passed the hydrostatic pressure and disinfection tests; 3) connection is approved by the Contracting Agency; and 4) the length of pipe from the existing water system to the new water system is sixty (60) feet or less, this section of new pipe and fittings shall require no hydrostatic test. However, all pipe and fittings required to effect this connection shall be disinfected according to Section 7-09.3(19)A. "Connections to Existing Mains." Any visible leakage detected from pipe, valves, and fittings required to effect the connection shall be corrected by the Contractor, and witnessed by the Contracting Agency, at no additional expense to the Contracting Agency.

Where the length of pipe between the existing water system and the new water system exceeds sixty (60) feet, this section of new pipe shall pass the hydrostatic pressure test and undergo the disinfection procedure, all as specified herein. The Contractor shall install temporary blowoff assemblies as necessary to conduct these tests.

7-09.3(23)C Testing Hydrants Installed on Existing Mains

(*****)

Revise this subsection to read:

For hydrants installed and connected to existing water mains, and the connection/lateral pipe is sixty (60) feet or less, the hydrant assembly including hydrant tee, connection/lateral pipe, auxiliary gate valve, and other fittings shall not be subject to a hydrostatic pressure test. All pipe, fittings, and appurtenances for the fire hydrant assembly shall be disinfected using the same procedure provided in Section 7-09.3(19)A. "Connections to Existing Mains." Any visible leakage detected from the pipe, valves and fittings for the hydrant assembly shall be corrected by the Contractor and witnessed by the Contracting Agency, at no additional expense to the Contracting Agency, when subjected to the normal working pressure of the existing water system.

Where the connection/lateral pipe exceeds sixty (60) feet, the connection/lateral pipe and fittings between the auxiliary gate valve and main hydrant valve shall be subjected to the hydrostatic

SPECIAL PROVISIONS

pressure test and disinfection procedures as specified in Section 7-09.3(24) "Disinfection of Water Mains" and Section 7-09.3(23) "Hydrostatic Pressure Test."

Add the following new subsection:

7-09.3(23)D Equipment for Hydrostatic Pressure Test

All pumps, gauges, plugs, saddles, corporation stops, miscellaneous hose and piping, and measuring equipment necessary for performing the test shall be furnished and operated by the Contractor and witnessed by the Engineer.

A clean container of water from which the pressure pump suction shall draw shall be provided while pumping pressure into the water system being tested.

This "make-up" water shall contain a minimum concentration of approximately fifty (50) parts per million (50 ppm) of free chlorine by the addition of a 12 percent hypochlorite solution. All pumps and other equipment used for this hydrostatic pressure test shall be properly disinfected to prevent the introduction of contamination to the section being tested.

Gauges used in the test shall be accompanied with certifications of accuracy from a laboratory approved by the Contracting Agency. If the gauge proposed for use by the Contractor by its appearance could possibly provide erroneous test results, the Contracting Agency will provide its own gauge for use during the hydrostatic pressure test(s).

The quantity of water required to restore the pressure (the "make-up" water) shall be accurately determined by pumping through a positive displacement water meter with a sweep unit hand registering one (1) gallon per revolution. The meter shall be approved by the Engineer. As an alternative, the Contractor may provide a volumetric graduated container approved by the Engineer to accurately record the quantity of the "make-up" water.

Add the following new subsection:

7-09.3(23)E Hydrostatic Pressure Test Procedure

The section of pipeline to be tested shall be backfilled sufficiently to prevent movement of the pipe under test pressure. All thrust blocks shall be in place and time allowed for the concrete to sufficiently cure before testing. Where permanent blocking is not otherwise required, the Contractor shall furnish and install temporary blocking and remove it after testing is complete.

The water system to be tested shall be filled with a chlorinated water solution in accordance with Section 7-09.3(24)S., "Filling Procedure." The chlorinated water solution shall be allowed to stand in the water system to be tested a sufficient length of time (approximately 24 hours) to allow the escape of air and allow the lining of the pipe to absorb water, all before hydrostatic pressure testing is conducted.

The test shall be accomplished by pumping the water system to be tested up to the required test pressure, stopping the pump for fifteen (15) minutes, and then pumping the water system to be tested up to the beginning test pressure again. During the test, the water system being tested shall be observed to detect any visible leakage.

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Acceptability of the hydrostatic pressure test shall be determined by two (2) factors:

1. The quantity of chlorinated water solution required to restore the pressure (the "make-up" water) shall not exceed the volume as determined by the formula:

$$L = \frac{ND(P)^{0.5}}{29,600}$$

in which:

L = allowable leakage/"make-up" water volume within a fifteen (15) minute period in gallons

N = number of joints in the length of pipeline tested

D = nominal inside diameter of the pipe in inches

P = average test pressure during the leak test in pounds per square inch (gauge) (PSIG)

[Table 7-09.3(12)-A provides the solution to this formula for different diameters and lengths of water main assuming an average test pressure of 250 psig and an assumed number of joints per 100 feet of water main of seven (7).]

2. There shall be no appreciable or abrupt loss in pressure during the fifteen (15) minute test period.

The hydrostatic pressure test shall be conducted with the hydrant auxiliary gate valve(s) opened and the main hydrant valve(s) closed. At the acceptable conclusion of this hydrostatic pressure test and when the water system is placed into service, each hydrant will be inspected for visible leakage under working pressure conditions while the hydrant ports are capped and the main hydrant valve is fully opened (to close the hydrant barrel drain valve). Any visible leakage or defects discovered from this visual inspection shall be corrected by the Contractor.

(Continued on Next Page)

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TABLE 7-09.3(23)E

**MAXIMUM ALLOWABLE LEAKAGE/"MAKE-UP" WATER VOLUME (L)
FOR 15-MINUTE HYDROSTATIC PRESSURE TEST**

$$L = \frac{ND(P)^{0.5}}{29,600}$$

ASSUMED AVERAGE TEST PRESSURE (P): 250 PSIG

ASSUMED NUMBER OF JOINTS PER 100 FEET OF WATER MAIN (N): 7

DIAMETER (D) = 4 INCHES

LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	(PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
50	0.007	0.030	0.060	1.728	0.006	0.103
100	0.015	0.060	0.120	3.455	0.013	0.206
150	0.022	0.090	0.179	5.183	0.019	0.308
200	0.030	0.120	0.239	6.910	0.026	0.411
250	0.037	0.150	0.299	8.638	0.032	0.514
300	0.045	0.179	0.359	10.365	0.039	0.617
350	0.052	0.209	0.419	12.093	0.045	0.720
400	0.060	0.239	0.479	13.820	0.051	0.823
450	0.067	0.269	0.538	15.548	0.058	0.925
500	0.075	0.299	0.598	17.275	0.064	1.028
550	0.082	0.329	0.658	19.003	0.071	1.131
600	0.090	0.359	0.718	20.730	0.077	1.234
650	0.097	0.389	0.778	22.458	0.084	1.337
700	0.105	0.419	0.838	24.185	0.090	1.440
750	0.112	0.449	0.897	25.913	0.096	1.542
800	0.120	0.479	0.957	27.640	0.103	1.645
850	0.127	0.509	1.017	29.368	0.109	1.748
900	0.135	0.538	1.077	31.095	0.116	1.851
950	0.142	0.568	1.137	32.823	0.122	1.954
1000	0.150	0.598	1.197	34.550	0.129	2.057
1050	0.157	0.628	1.256	36.278	0.135	2.159
1100	0.165	0.658	1.316	38.005	0.141	2.262
1150	0.172	0.688	1.376	39.733	0.148	2.365
1200	0.179	0.718	1.436	41.460	0.154	2.468

* For a 32-gallon garbage can with a top diameter equaling approximately 18.5 inches.

SPECIAL PROVISIONS

TABLE 7-09.3(23)E

**MAXIMUM ALLOWABLE LEAKAGE/"MAKE-UP" WATER VOLUME (L)
FOR 15-MINUTE HYDROSTATIC PRESSURE TEST**

$$L = \frac{ND(P)^{0.5}}{29,600}$$

ASSUMED AVERAGE TEST PRESSURE (P): 250 PSIG

ASSUMED NUMBER OF JOINTS PER 100 FEET OF WATER MAIN (N): 7

DIAMETER (D) = 6 INCHES

LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	(PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
50	0.011	0.045	0.090	2.591	0.010	0.154
100	0.022	0.135	0.179	5.183	0.019	0.308
150	0.034	0.202	0.269	7.774	0.029	0.463
200	0.045	0.269	0.359	10.365	0.039	0.617

* For a 32-gallon garbage can with a top diameter equaling approximately 18.5 inches.

SPECIAL PROVISIONS

TABLE 7-09.3(23)E

**MAXIMUM ALLOWABLE LEAKAGE/"MAKE-UP" WATER VOLUME (L)
FOR 15-MINUTE HYDROSTATIC PRESSURE TEST**

$$L = \frac{ND(P)^{0.5}}{29,600}$$

ASSUMED AVERAGE TEST PRESSURE (P): 250 PSIG

ASSUMED NUMBER OF JOINTS PER 100 FEET OF WATER MAIN (N): 7

DIAMETER (D) = 8 INCHES

LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
50	0.015	0.060	0.120	3.455	0.013	0.206
100	0.030	0.120	0.239	6.910	0.026	0.411
150	0.045	0.179	0.359	10.365	0.039	0.617
200	0.060	0.239	0.479	13.820	0.051	0.823
250	0.075	0.299	0.598	17.275	0.064	1.028
300	0.090	0.359	0.718	20.730	0.077	1.234
350	0.105	0.419	0.838	24.185	0.090	1.440
400	0.120	0.479	0.957	27.640	0.103	1.645
450	0.135	0.538	1.077	31.095	0.116	1.851
500	0.150	0.598	1.197	34.550	0.129	2.057
550	0.165	0.658	1.316	38.005	0.141	2.262
600	0.179	0.718	1.436	41.460	0.154	2.468
650	0.194	0.778	1.555	44.915	0.167	2.673
700	0.209	0.838	1.675	48.370	0.180	2.879
750	0.224	0.897	1.795	51.825	0.193	3.085
800	0.239	0.957	1.914	55.280	0.206	3.290
850	0.254	1.017	2.034	58.735	0.219	3.496
900	0.269	1.077	2.154	62.190	0.231	3.702
950	0.284	1.137	2.273	65.645	0.244	3.907
1000	0.299	1.197	2.393	69.100	0.257	4.113
1050	0.314	1.256	2.513	72.555	0.270	4.319
1100	0.329	1.316	2.632	76.010	0.283	4.524
1150	0.344	1.376	2.752	79.465	0.296	4.730
1200	0.359	1.436	2.872	82.920	0.308	4.936
1250	0.374	1.496	2.991	86.375	0.321	5.141
1300	0.389	1.555	3.111	89.830	0.334	5.347
1350	0.404	1.615	3.231	93.285	0.347	5.553
1400	0.419	1.675	3.350	96.740	0.360	5.758
1450	0.434	1.735	3.470	100.195	0.373	5.964

SPECIAL PROVISIONS

LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
1500	0.449	1.795	3.590	103.650	0.386	6.170
1550	0.464	1.855	3.709	107.105	0.398	6.375
1600	0.479	1.914	3.829	110.560	0.411	6.581
1650	0.494	1.974	3.949	114.015	0.424	6.787
1700	0.509	2.034	4.068	117.470	0.437	6.992
1750	0.523	2.094	4.188	120.925	0.450	7.198
1800	0.538	2.154	4.308	124.380	0.463	7.404
1850	0.553	2.214	4.427	127.835	0.476	7.609
1900	0.568	2.273	4.547	131.290	0.488	7.815
1950	0.583	2.333	4.666	134.745	0.501	8.020
2000	0.598	2.393	4.786	138.200	0.514	8.226
2050	0.613	2.453	4.906	141.655	0.527	8.432
2100	0.628	2.513	5.025	145.110	0.540	8.637
2150	0.643	2.573	5.145	148.565	0.553	8.843
2200	0.658	2.632	5.265	152.020	0.566	9.049
2250	0.673	2.692	5.384	155.475	0.578	9.254
2300	0.688	2.752	5.504	158.930	0.591	9.460
2350	0.703	2.812	5.624	162.385	0.604	9.666
2400	0.718	2.872	5.743	165.840	0.617	9.871
2450	0.733	2.932	5.863	169.295	0.630	10.077
2500	0.748	2.991	5.983	172.750	0.643	10.283

* For a 32-gallon garbage can with a top diameter equaling approximately 18.5 inches.

SPECIAL PROVISIONS

TABLE 7-09.3(23)E

**MAXIMUM ALLOWABLE LEAKAGE/"MAKE-UP" WATER VOLUME (L)
FOR 15-MINUTE HYDROSTATIC PRESSURE TEST**

$$L = \frac{ND(P)^{0.5}}{29,600}$$

ASSUMED AVERAGE TEST PRESSURE (P): 250 PSIG

ASSUMED NUMBER OF JOINTS PER 100 FEET OF WATER MAIN (N): 7

DIAMETER (D) = 12 INCHES

LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	(PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
50	0.022	0.090	0.179	5.183	0.019	0.308
100	0.045	0.179	0.359	10.365	0.039	0.617
150	0.067	0.269	0.538	15.548	0.058	0.925
200	0.090	0.359	0.718	20.730	0.077	1.234
250	0.112	0.449	0.897	25.913	0.096	1.542
300	0.135	0.538	1.077	31.095	0.116	1.851
350	0.157	0.628	1.256	36.278	0.135	2.159
400	0.179	0.718	1.436	41.460	0.154	2.468
450	0.202	0.808	1.615	46.643	0.174	2.776
500	0.224	0.897	1.795	51.825	0.193	3.085
550	0.247	0.987	1.974	57.008	0.212	3.393
600	0.269	1.077	2.154	62.190	0.231	3.702
650	0.292	1.167	2.333	67.373	0.251	4.010
700	0.314	1.256	2.513	72.555	0.270	4.319
750	0.337	1.346	2.692	77.738	0.289	4.627
800	0.359	1.436	2.872	82.920	0.308	4.936
850	0.381	1.526	3.051	88.103	0.328	5.244
900	0.404	1.615	3.231	93.285	0.347	5.553
950	0.426	1.705	3.410	98.468	0.366	5.861
1000	0.449	1.795	3.590	103.650	0.386	6.170
1050	0.471	1.885	3.769	108.833	0.405	6.478
1100	0.494	1.974	3.949	114.015	0.424	6.787
1150	0.516	2.064	4.128	119.198	0.443	7.095
1200	0.538	2.154	4.308	124.380	0.463	7.404
1250	0.561	2.244	4.487	129.563	0.482	7.712
1300	0.583	2.333	4.666	134.745	0.501	8.020
1350	0.606	2.423	4.846	139.928	0.521	8.329
1400	0.628	2.513	5.025	145.110	0.540	8.637
1450	0.651	2.602	5.205	150.293	0.559	8.946

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LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	(PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
1500	0.673	2.692	5.384	155.475	0.578	9.254
1550	0.695	2.782	5.564	160.658	0.598	9.563
1600	0.718	2.872	5.743	165.840	0.617	9.871
1650	0.740	2.961	5.923	171.023	0.636	10.180
1700	0.763	3.051	6.102	176.205	0.656	10.488
1750	0.785	3.141	6.282	181.388	0.675	10.797
1800	0.808	3.231	6.461	186.570	0.694	11.105
1850	0.830	3.320	6.641	191.753	0.713	11.414
1900	0.853	3.410	6.820	196.935	0.733	11.722
1950	0.875	3.500	7.000	202.118	0.752	12.031
2000	0.897	3.590	7.179	207.300	0.771	12.339
2050	0.920	3.679	7.359	212.483	0.790	12.648
2100	0.942	3.769	7.538	217.665	0.810	12.956
2150	0.965	3.859	7.718	222.848	0.829	13.265
2200	0.987	3.949	7.897	228.030	0.848	13.573
2250	1.010	4.038	8.077	233.213	0.868	13.882
2300	1.032	4.128	8.256	238.395	0.887	14.190
2350	1.054	4.218	8.436	243.578	0.906	14.499
2400	1.077	4.308	8.615	248.760	0.925	14.807
2450	1.099	4.397	8.795	253.943	0.945	15.116
2500	1.122	4.487	8.974	259.125	0.964	15.424

* For a 32-gallon garbage can with a top diameter equaling approximately 18.5 inches.

SPECIAL PROVISIONS

TABLE 7-09.3(23)E

**MAXIMUM ALLOWABLE LEAKAGE/"MAKE-UP" WATER VOLUME (L)
FOR 15-MINUTE HYDROSTATIC PRESSURE TEST**

$$L = \frac{ND(P)^{0.5}}{29,600}$$

ASSUMED AVERAGE TEST PRESSURE (P): 250 PSIG

ASSUMED NUMBER OF JOINTS PER 100 FEET OF WATER MAIN (N): 7

DIAMETER (D) = 16 INCHES

LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	(PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
50	0.030	0.120	0.239	6.910	0.026	0.411
100	0.060	0.239	0.479	13.820	0.051	0.823
150	0.090	0.359	0.718	20.730	0.077	1.234
200	0.120	0.479	0.957	27.640	0.103	1.645
250	0.150	0.598	1.197	34.550	0.129	2.057
300	0.179	0.718	1.436	41.460	0.154	2.468
350	0.209	0.838	1.675	48.370	0.180	2.879
400	0.239	0.957	1.914	55.280	0.206	3.290
450	0.269	1.077	2.154	62.190	0.231	3.702
500	0.299	1.197	2.393	69.100	0.257	4.113
550	0.329	1.316	2.632	76.010	0.283	4.524
600	0.359	1.436	2.872	82.920	0.308	4.936
650	0.389	1.555	3.111	89.830	0.334	5.347
700	0.419	1.675	3.350	96.740	0.360	5.758
750	0.449	1.795	3.590	103.650	0.386	6.170
800	0.479	1.914	3.829	110.560	0.411	6.581
850	0.509	2.034	4.068	117.470	0.437	6.992
900	0.538	2.154	4.308	124.380	0.463	7.404
950	0.568	2.273	4.547	131.290	0.488	7.815
1000	0.598	2.393	4.786	138.200	0.514	8.226
1050	0.628	2.513	5.025	145.110	0.540	8.637
1100	0.658	2.632	5.265	152.020	0.566	9.049
1150	0.688	2.752	5.504	158.930	0.591	9.460
1200	0.718	2.872	5.743	165.840	0.617	9.871
1250	0.748	2.991	5.983	172.750	0.643	10.283
1300	0.778	3.111	6.222	179.660	0.668	10.694
1350	0.808	3.231	6.461	186.570	0.694	11.105
1400	0.838	3.350	6.701	193.480	0.720	11.517
1450	0.867	3.470	6.940	200.390	0.745	11.928
1500	0.897	3.590	7.179	207.300	0.771	12.339
1550	0.927	3.709	7.419	214.210	0.797	12.750
1600	0.957	3.829	7.658	221.120	0.823	13.162
1650	0.987	3.949	7.897	228.030	0.848	13.573
1700	1.017	4.068	8.136	234.940	0.874	13.984
1750	1.047	4.188	8.376	241.850	0.900	14.396

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LENGTH OF MAIN (FEET)	MAX ALLOWABLE LEAKAGE/ "MAKE-UP" WATER VOLUME				DEPTH IN GARBAGE CAN *	
	(GALLONS)	(QUARTS)	(PINTS)	(CU IN)	DECIMAL INCHES	16TH INCHES
1800	1.077	4.308	8.615	248.760	0.925	14.807
1850	1.107	4.427	8.854	255.670	0.951	15.218
1900	1.137	4.547	9.094	262.580	0.977	15.630
1950	1.167	4.666	9.333	269.490	1.003	16.041
2000	1.197	4.786	9.572	276.400	1.028	16.452
2050	1.226	4.906	9.812	283.310	1.054	16.864
2100	1.256	5.025	10.051	290.220	1.080	17.275
2150	1.286	5.145	10.290	297.130	1.105	17.686
2200	1.316	5.265	10.530	304.040	1.131	18.097
2250	1.346	5.384	10.769	310.950	1.157	18.509
2300	1.376	5.504	11.008	317.860	1.183	18.920
2350	1.406	5.624	11.247	324.770	1.208	19.331
2400	1.436	5.743	11.487	331.680	1.234	19.743
2450	1.466	5.863	11.726	338.590	1.260	20.154
2500	1.496	5.983	11.965	345.500	1.285	20.565

* For a 32-gallon garbage can with a top diameter equaling approximately 18.5 inches.

7-09.3(23)F Repetition of Pressure Test Procedure

Add the following new subsection:

**7-09.3(23)F Repetition of Pressure Test Procedure
(*****)**

Any visible leakage detected shall be corrected by the Contractor regardless of the allowable leakage specified above. Should the water system being tested fail to successfully meet the hydrostatic pressure test as specified, the Contractor shall, at no expense to the Contracting Agency, locate and repair the defects and then re-test the water system as herein specified. The Contracting Agency shall witness said repairs of the defects found.

Defective materials or work, discovered as a result of the hydrostatic pressure test, shall be replaced by the Contractor at no expense to the Contracting Agency. Whenever it is necessary to replace defective material or correct the work, the hydrostatic pressure test procedure shall be repeated by the Contractor at its own expense until a satisfactory hydrostatic pressure test is obtained.

**7-09.3(24) Disinfection of Water Mains
(*****)**

Revise this subsection to read:

All new water mains, water service connection pipelines and appurtenances thereof, and repaired portions of existing water mains or extensions thereto, shall be filled, flushed, and disinfected using this procedure.

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All costs to comply with this Section 7-09.3(24) are incidental to the Contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the unit or lump sum bid prices of the Contract.

7-09.3(24)M Chlorinating Connections to Existing Water Mains and Water Service Connections

Revise this subsection to read:

The disinfection procedure for connections to existing mains shall be as specified in Section 7-09.3(19)A., "Connections to Existing Mains." The disinfection procedure for service connections shall be as specified in Section 7-15.3(5), "Pressure Testing and Disinfection of Water Service Connections."

7-09.3(24)N Final Flushing and Testing

Revise this subsection to read:

When satisfactory results of the intermediate chlorine residual test(s) have been achieved, the disinfection solution shall be thoroughly flushed and expelled from all parts of the water system to be tested, including from the water service connection pipelines. Replacement water shall be fed into the water system to be tested through a flushing box obtained and connected by the Contractor. To ensure expulsion of the solution, chlorine residual tests shall be conducted at the designated non-source sample points and at the end of each water service connection pipeline and the tests shall show a residual not in excess of that carried in the Contracting Agency's system in the vicinity of the "feed point(s)."

Due to the restricted capacity of the flushing box, low flushing velocities should be anticipated.

Before flushing has commenced, the hydrant barrel and the flushing box and its appurtenances shall be disinfected using the procedure as that provided in Section 7-09.3(24)S., "Filling Procedure."

Flushing overnight will not be permitted.

7-09.3(24)O Repetition of Flushing and Testing

Revise this subsection to read:

Should the first disinfection procedure [consisting of the initial and subsequent bacteriological tests constituting one (1) "round" of tests] yield unsatisfactory bacteriological test results, the disinfection procedure shall be repeated by the Contractor at its own expense until satisfactory results are obtained. Failure to obtain satisfactory test results shall be considered as failure by the Contractor to keep the pipe clean before and during construction, and/or failure to properly disinfect the water system.

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Add the following new subsection:

7-09.3(24)P Sequence of Hydrostatic Pressure Testing and Water for Testing

The hydrostatic pressure test shall be performed after the water system to be tested has been initially filled, but before bacteriological sampling is conducted. The Contractor shall comply with the requirements for this procedure provided in Section 7-09.3(23), "Hydrostatic Pressure Test."

The Contracting Agency shall provide a reasonable quantity of water for the testing procedures described herein. The Contracting Agency shall first provide approval to the Contractor for use of said water, based upon its determination whether supply in excess of normal domestic demands is available at that particular time. Excessive wasting of water shall not be permitted. The cost for water in excess of a quantity deemed reasonable by the Engineer shall be borne by the Contractor in accordance with the Contracting Agency's latest fee schedule.

Add the following new subsection:

7-09.3(24)Q Equipment for Main Filling, Flushing, and Disinfection

In order to prevent possible contamination of the water system and to reduce wasting of water, the Contracting Agency shall provide to the Contractor one (1) of two (2) devices each time the Contractor requests water to be supplied to the water system to be tested. For the filling procedure hereinafter detailed in Section 7-09.3(24)S. "Filling Procedure," the Contracting Agency shall provide a backflow prevention device (hereinafter referred to as a "chlorinator box") for this purpose. For the chlorine residual testing, flushing, and sampling procedures hereinafter detailed in Section 7-09.3(24)T. "Intermediate Chlorine Residual Test," Section 7-09.3(24)N. "Final Flushing and Testing," Section 7-09.3(24)V. "Initial Bacteriological Sampling," and Section 7-09.3(24)W. "Subsequent Bacteriological Sampling," the Contracting Agency shall provide a different backflow prevention device, hereinafter referred to as the "flushing box."

The chlorinator box is equipped with an electrically-driven chemical feed pump which can be adjusted to provide a free chlorine concentration of approximately fifty parts per million (50 ppm) at a variety of flow rates. The chlorinator box is also provided with a short section of 2-1/2-inch diameter inlet hose adaptable to a 2-1/2-inch diameter NST hose thread and is equipped with a meter and double check valve assembly. A power source with a minimum capacity of 110 volts A.C. and 500 watts shall be supplied by the Contractor to operate the pump. The flushing box is also provided with a short section of 2-1/2-inch diameter inlet hose adaptable to a 2-1/2-inch NST hose thread and is equipped with a meter and double check valve assembly, but has no chemical feed pump. Both the chlorinator box and flushing box shall be checked out by the Contractor at the Contracting Agency's Water Operations Building on an "as-available" basis, upon execution of an agreement holding the Contracting Agency harmless from any damage to either device while in the Contractor's custody. Other sections of 2-1/2-inch diameter hose to be used for connecting either device to the water system to be tested can also be provided to the Contractor on an "as-available" basis. The Contractor shall supply all labor and equipment necessary to load and unload either device at the Water Operations Building. The chlorinator box shall be returned to the Water Operations Building after each day's use by the Contractor.

No other method of disinfection/chlorine solution injection will be acceptable unless, prior to use, the Contractor obtains written approval from the Engineer. The use of dry chlorine compounds

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inserted into the water system during installation is prohibited and deemed an unacceptable disinfection procedure by the Contracting Agency.

To provide access at all extremities of the water system to be tested and in the absence of a permanent blowoff assembly or fire hydrant assembly necessary for filling, disinfecting, and hydrostatically testing the water, the Contractor shall furnish temporary blowoff assemblies meeting the requirements of the Standard Plans, including provisions for temporary thrust restraint. During testing procedures, the Contractor shall furnish a standpipe assembly for permanent blowoff assemblies as that shown for temporary blowoff assemblies in the Plans. All hoses used for connecting the chlorinator box or flushing box will be furnished by the Contracting Agency at the Water Operations Shop building. The Contractor shall furnish all hoses, dechlorination equipment and materials, velocity dissipaters, and/or containment vessels for flushing, draining, and disposing the disinfection solution from the water main.

In addition, the Contractor shall furnish containers of 12 percent hypochlorite solution and a chlorine residual testing kit (capable of detecting a range from 0 to no more than 250 ppm free chlorine residual) required for the disinfection procedure.

Add the following new subsection:

7-09.3(24)R Sample Collection and Bacteriological Testing Results

Bacteriological samples shall remain in the custody of the Contracting Agency at all times. Sample bottles will be brought to the Project site and samples collected and delivered to the laboratory by the Contracting Agency or an authorized agent thereof. Contracting Agency collections of the first sample shall be limited to Monday, Tuesday, and Wednesday between 8:00 a.m. and 2:00 p.m., excluding holidays. Second day samples shall be limited to Tuesday, Wednesday, and Thursday between 8:00 a.m. and 2:00 p.m., excluding holidays.

Copies of the written reports of bacteriological tests shall be obtained from the laboratory only by employees of the Contracting Agency or an authorized agent thereof.

Add the following new subsection:

7-09.3(24)S Filling Procedure

Each extremity of the water main system to be tested shall be equipped with a fire hydrant assembly or permanent blowoff assembly, as shown on the Plans. Other pipe extremities shall be equipped with a temporary blowoff assembly meeting the requirements of the Standard Plans. The end of each water service connection pipeline shall be equipped with a temporary valve to be used during this main filling, flushing, disinfection, and hydrostatic pressure testing procedure, if the meter setter has not been installed.

The water system to be tested, including water service connection pipelines, shall be filled with a chlorinated water solution by use of the chlorinator box, so that all parts of the water system to be tested shall have an initial free chlorine residual of at least fifty (50) parts per million (50 ppm), but not more than 100 parts per million (100 ppm). The Contractor shall connect the chlorinator box between the existing water system and a point on the water system to be tested, which is selected

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by the Contractor and approved by the Engineer. Representatives of the Contracting Agency shall observe this filling process.

If water is drawn from a fire hydrant on the existing water system, the flow shall be regulated from said hydrant by use of the auxiliary gate valve, with the main hydrant valve fully opened (to close the hydrant barrel drain valve).

The Contractor shall disinfect the hydrant barrel and the chlorinator box and its appurtenances by infusing a 1 percent hypochlorite solution into a hydrant port after the auxiliary gate valve is closed and after the main hydrant valve is opened. This solution shall be discharged from the hydrant barrel through the chlorinator box before it is connected to the water system to be tested.

The initial chlorine content shall be tested at pipe extremities and other representative points, the number of which is a function of the size of the water system to be tested, and shall be determined by and at the direction of the Engineer and witnessed by representatives of the Contracting Agency. These points shall hereinafter be referred to as the "designated non-source sample points."

During the filling process, all valves and other appurtenances to the water system to be tested shall be operated by the Contractor.

The hydrostatic pressure test shall be undertaken at this time, before proceeding further, in accordance with Section 7-09.3(23) "Hydrostatic Pressure Test."

Add the following new subsection:

7-09.3(24)T Intermediate Chlorine Residual Test

The disinfection solution shall be retained in the water system to be tested for a period of at least 24 hours. After this period, the Contractor shall obtain and connect a flushing box from the existing system to the water system to be tested in order to conduct a test for free chlorine residual. This test shall be performed by the Contractor and witnessed by the Engineer. The test will be deemed acceptable if the residual measured at the designated non-source sample points is no lower than forty (40) parts per million (40 ppm) less than the initial free chlorine residual recorded during the filling procedure. If this residual is not achieved, the Contractor shall clean and/or disinfect the water system by use of the chlorinator box to refill the system with more disinfection solution and provide for a further retention period. The hydrant barrel and flushing box and its appurtenances shall be disinfected using the procedure as that provided in Section 7-09.3(24)S., "Filling Procedure."

Add the following new subsection:

7-09.3(24)U Discharge of Disinfection Solution

The environment to which the chlorinated water disinfection solution is to be discharged shall be inspected by the Contractor and if there is any question that the chlorinated discharge will cause damage to the environment, a reducing agent shall be applied to the water to be wasted to neutralize the chlorine residual remaining in the water (such as sodium thiosulfate in burlap sacks placed across the water stream). Disposal may be made to any available sanitary sewer, provided the rate of disposal does not overload the sewer and the disposal is approved by the sewer agency having jurisdiction.

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Where necessary, Federal, State, and local regulatory agencies should be contacted to determine special provisions for the disposal of heavily chlorinated water.

Add the following new subsection:

7-09.3(24)V Initial Bacteriological Sampling

Bacteriological samples shall be collected by the Contracting Agency from the source(s) and the designated non-source sample points using the flushing box obtained and connected by the Contractor. The hydrant barrel and the flushing box and its appurtenances shall be disinfected using the procedure as provided in Section 7-09.3(24)S., "Filling Procedure." The Contractor shall not disconnect the box, nor its appurtenances, nor otherwise cause any disturbance prior to the collection of the samples. At least fifteen (15) minutes prior to the scheduled time for collection of the samples, the flow from the source tap(s) and the designated non-source sample points shall be regulated by the Contractor to a flow conducive to the collection of the samples.

Bacteriological samples will be analyzed for total coliform bacteria, and for heterotrophic bacteria by the heterotrophic plate count (HPC) analysis. The maximum allowable coliform content of the flushed sample shall be zero (0). The maximum allowable HPC population count in all source samples shall be eighty (80) counts per milliliter (80/ml). The maximum allowable HPC population count for samples from any of the designated non-source sample points shall be no greater than twenty (20) counts per milliliter (20/ml) above the highest HPC population count from a source sample.

The HPC population count from any source sample that exceeds eighty (80) counts per milliliter (80/ml) shall be deemed as an indeterminate test and the Contractor shall obtain and connect a flushing box to allow new samples to be drawn for initial bacteriological testing in accordance with the procedures provided herein.

Add the following new subsection:

7-09.3(24)W Subsequent Bacteriological Sampling

A subsequent bacteriological sample shall be collected by the Contracting Agency at each point where an initial bacteriological sample was collected, again using a flushing box obtained and connected by the Contractor. The hydrant barrel and the flushing box and its appurtenances shall be disinfected using the procedure as provided in Section 7-09.3(24)S., "Filling Procedure." The Contractor shall not disconnect the box nor its appurtenances nor otherwise cause any disturbance prior to the collection of the samples. At least fifteen (15) minutes prior to the scheduled time for collection of the samples, the flow from the source tap(s) and the designated non-source sample points shall be regulated by the Contractor to a flow conducive to the collection of the samples.

These subsequent bacteriological samples shall be collected at least 24 hours, but no longer than 48 hours after the initial bacteriological samples were collected. However, the subsequent bacteriological samples may be collected later than 48 hours after the initial bacteriological samples were collected upon concurrence of the Contractor. The results of the tests performed by the laboratory on these samples shall meet the same criteria as those allowed for the initial bacteriological samples. No flushing of the water system to be tested will be allowed between initial and subsequent bacteriological sampling procedures. The Contractor may charge the system with

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the flushing box and run no more than sixty (60) seconds of flow at each designated non-source sample point to purge the sample station prior to collecting the test sample.

The water system shall be deemed disinfected when written results of both the initial and subsequent bacteriological tests, constituting one (1) "round" of tests, meet the criteria herein set forth. Before placing the water system into service, a satisfactory written report shall be received by the Contracting Agency from the certified laboratory evidencing successful tests. The Contractor's attention is directed to Section 7-09.3(19)A., "Connections to Existing Mains," which provides for the maximum allowable period when a connection to the existing system is to be made by the Contractor after the water system has been deemed disinfected.

Add the following new subsection:

7-09.3(24)X Main Cleaning

The Contractor shall flush and drain the section of new main as directed by the Contracting Agency's on-site representative immediately following satisfactory completion of all bacteriological testing. After the main has been flushed to the satisfaction of the Contracting Agency's on-site representative, the Contractor shall connect the new water main improvements to the existing water system and the new water main improvements will be placed into service as approved and as may be directed by the Contracting Agency's representative.

In the event that the new water system improvements fail more than two (2) cycles of initial and subsequent bacteriological tests, the Contractor may request to have the Contracting Agency perform main cleaning. The Contractor must notify the Contracting Agency one (1) week in advance of the time such main cleaning is desired to be performed. The Contractor shall cooperate with the main cleaning efforts.

The main cleaning procedure will require the furnishing and installation by the Contractor, at its own expense, temporary cube launch facilities at the extremities of the water system to be tested. For water mains less than or equal to 8-inch diameter, permanent blowoff assemblies meeting the requirements of Section 7-09.3(22) "Blowoff Assemblies," temporary blowoff assemblies meeting the requirements of Section 7-09.3(24)Q. "Equipment for Main Filling, Flushing and Disinfection," and fire hydrants are acceptable for use as cube launch facilities. For water mains larger than 8-inch diameter, the temporary cube launch facility shall consist of ductile iron pipe and fittings connected to each end of the water main, extended to a point between one (1) and three (3) feet above the ground surface with a blind flange tapped 2-inch and providing the minimum size as follows:

- 12-inch water main – 8-inch cube launch facility
- 16-inch and 24-inch water main – 12-inch cube launch facility

The interior of all pipe and fittings used for temporary cube launch facilities shall be cleaned of all deleterious material and swabbed and/or sprayed with a clean, 1 percent hypochlorite solution mixed in a clean container, before they are installed. At the conclusion of main cleaning, the Contractor shall remove and dispose of the temporary cube launch facilities and restore the water system and ground surface to meet the requirements of the Plans and these Specifications, all at its own expense.

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The Contractor shall repair and restore, at its own expense, any damage caused by the main cleaning procedure including, but not limited to, erosion caused by water flow from blowoffs, fire hydrants, and cube launch facilities.

This main cleaning procedure shall not relieve the Contractor of its responsibility for ensuring the proper disinfection of the water system it installed.

Add the following new subsection:

7-09.3(25) Surface and Subsurface Facility Preservation and Restoration (***)**

7-09.3(25)A General

The Contractor shall be responsible for preserving and protecting existing improvements outside the limits of the improvements as shown on the Plans or that are not shown on the Plans for removal, modification, or other improvement, for preserving the safe movement of traffic through and adjacent to the Work area, and for restoring any such improvements disturbed or damaged by the Work to their original or superior condition prior to performance of the Work.

The Contractor shall be responsible for obtaining the final release from the jurisdictional land-use and/or right-of-way permit issuing agency and other jurisdictional agencies, as applicable, including conformance to the requirements of the respective agency or agencies.

Where the Contractor is permitted to use private property adjacent to the Work, which permission is provided in writing by the property owner and to the Contracting Agency, the property so used shall be returned to its original or superior condition as determined by the property owner and the Contracting Agency.

7-09.3(25)C Ballast and Crushed Gravel Surfacing

This work shall consist of constructing one (1) or more courses of crushed stone upon a prepared subgrade or backfilled trench in conformity with the lines, grades, depth, and typical cross-sections shown on the Plans or as established by the Contracting Agency or the jurisdictional agency. Unless otherwise provided, the Contractor shall comply with the requirements of Section 4-04 "Ballast and Crushed Surfacing."

The surface which will receive crushed stone shall first be brought to a uniform grade prior to aggregate. Immediately prior to the placement of the crushed stone, all drainage ditches, shoulders, driveways, parking lots, and other areas disturbed or damaged by the Contractor's operations shall be graded to their original smooth contours that existed prior to the Work.

When the existing gravel shoulder is damaged by the operations of the Contractor, the Contractor shall reconstruct and otherwise repair the shoulder in accordance with the City, County, or State governmental agency having jurisdiction. Where existing gravel driveways are disturbed or otherwise damaged by the Contractor's operations, the driveway shall be restored in a manner equal to or better than the condition that existed prior to performing the Work, to the original lines, grades, widths, and depth of crushed surfacing material.

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Construction of crushed surfacing preparatory to asphalt concrete, cement concrete, or asphalt-over-cement concrete pavement repair shall meet the requirements of the appropriate subsection of this Section.

Crushed surfacing top course shall be used for restoration of the gravel streets, shoulders, and driveways, as directed by the Engineer. Crushed surfacing shall be spread in layers not exceeding two (2) inches, unless otherwise directed by the Engineer, and thoroughly compacted as hereinafter specified.

Immediately following spreading and final shaping, each layer of surfacing shall be compacted to at least 95 percent) of the standard density determined by WSDOT Test Method No. 606 before a next succeeding layer of surfacing or pavement is placed. The determination of field in-place density shall be made by the Nuclear Gauge or the Washington Densometer. When the thickness of surfacing is less than 0.15-foot, density testing will not be required and the Engineer will determine the number of passes required for the particular compaction equipment available.

Vibratory compactors and rollers shall obtain the specified density for each layer. A mist spray of water shall be applied as needed to replace moisture loss by evaporation. The completed layer shall have a smooth, tight, uniform surface true to the line, grade, and cross-section shown in the Plans or as staked by the Engineer.

Damage to graveled areas shall be held to a minimum, consisting of the actual trench width and the necessary width to stockpile excavated materials. The Contractor shall repair and replace, at its own expense, crushed stone in areas damaged or disturbed by the Contractor beyond the above-defined immediate construction area.

Final grading shall include complete grading, leveling, surface restoration, and shaping of the entire area to make it neat and smooth in appearance and shall require hand labor over and above what can be performed with equipment. Ruts or ridges that are apparent to the eye shall be repaired to the satisfaction of the Engineer. All surfaces shall be well-graded to provide uniform slopes and to provide shaped surfaces capable of carrying off the surface water without ponding. To obtain the neat appearance desired, the Contractor shall use hand labor in areas not graveled and remove exposed rocks.

During dry periods, the Contractor shall provide water sprinkling prior to and during the placement of crushed surfacing material to control dust emissions.

Unless required sooner by the City, County, or State governmental agency having jurisdiction, the permanent shoulder restoration shall be completed within 72 consecutive hours after the initial trench excavation that disturbed and/or damaged the existing street improvement.

Add the following new subsection:

7-09.3(26) Placing New Water Facilities Into Operation (***)**

Subsequent to satisfactory completion of hydrostatic pressure testing, disinfection, and bacteriological testing, and taste and odor testing, the Contracting Agency will allow the new water facilities to be directly connected to the existing Contracting Agency's water supply system. The

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Contractor shall complete any remaining connections between the new water facilities and existing water facilities, and the new facilities placed into active service, within 72 hours of the satisfactory completion of the water quality testing. Opening of new or existing valves to place the new water facilities into operation shall only be performed by the Contracting Agency.

Before final acceptance, the new water facilities shall remain in operation for a period of at least ten (10) calendar days. Any leaks or other defects in the Work detected in that period shall be promptly corrected by the Contractor to the satisfaction of the Contracting Agency at the sole expense of the Contractor.

Add the following new subsection:

7-09.3(27) Steel Casing (***)**

Water main casing method of installation shall be determined by the Contractor and submitted for Engineer approval.

The annular space between the pipe and the casing pipe or tunnel liner shall be filled by sluicing or blowing sand into the space. Care shall be exercised to insure that the entire space is filled and that the pipe is not disturbed during the placement of the backfill between the pipe and the casing. The Contractor shall remove the pipe and reinstall it if the pipe is not within the tolerances shown on the drawings and as specified.

Contractor Submittals

Submit all procedures or material descriptions requiring the Engineer's approval prior to mobilizing. Include the following information in the operations and design submittal:

Submittal requirements include, but are not limited to the following:

1. Verification of Line and grade calculations relative to water main installation and final grade.
2. Copies of field notes used to establish grade.
3. Material list.
4. Details on casing spacer and end seal materials, dimensions and installation procedures and recommendations.

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7-10 VACANT

(*****)

Revise this section, including heading, to read:

7-10 TEMPORARY WATER MAINS AND WATER SERVICE CONNECTIONS

7-10.1 Description

This work consists of constructing, operating, maintaining, and removing temporary water mains and construction sequencing in support of permanent water system improvements in accordance with the Plans and Specifications.

7-10.2 Materials

Materials shall meet the requirements of the following sections:

Pipe	9-30.1
Ductile Iron Pipe	9-30.1(1)
Steel Pipe (4-inch and Under)	9-30.1(4)B
Polyvinyl Chloride (PVC) Pressure Pipe (under 4-inch)	9-30.1(5)B
Polyethylene Pressure Pipe (under 4-inch)	9-30.2(10)
Temporary Water Mains	9-30.9(1)
Fittings	9-30.2
Ductile Iron Pipe	9-30.2(1)
Steel Pipe (4-inch and Under)	9-30.2(4)B
Restrained Joints	9-30.2(6)
Transition, Reducing and Flexible Couplings	9-30.2(12)
For Temporary Water Mains	9-30.9(1)
Valves	9-30.3
Tapping Sleeve and Valve Assembly	9-30.3(4)
End Connections	9-30.3(5)
Gate Valves (4-inch to 12-inch)	9-30.3(6)
Bronze Gate Valves (Under 3-inch)	9-30.3(9)
Ball Valves for Temporary Water Main and Service Connections	9-30.9(1)
Water Service Connections (2-inch and Smaller)	9-30.6
Saddles	9-30.6(1)
Corporation Stops	9-30.6(2)
Polyethylene Tubing	9-30.6(3)A
Service Fittings	9-30.6(4)
Brass Nipples and Fittings	9-30.6(6)
Insulating Service Couplings	9-30.6(8)
Temporary Water Service Connections	9-30.9(2)
Temporary Pipe and Hose Ramps	9-37.2

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The Contractor shall provide to the Engineer the names of the manufacturer(s) of the water distribution materials proposed for inclusion in the Work, which materials shall conform in every respect to these Specifications, and shall provide the Manufacturer's Certificate of Compliance meeting the provisions of the General Conditions for the materials proposed for inclusion in the Work. As used in this Specification, the term "lot of material delivered to the Work" shall mean a shipment of the water distribution materials as it is delivered to the job site.

The Engineer shall have free access to all testing and records pertaining to material to be delivered to the job site. The Engineer may elect to be present at any or all material testing operations.

7-10.3 Construction Requirements

The Contractor shall furnish and install temporary water facilities, including a protected connection or connections to active water facilities, temporary water mains and service connections, and other temporary improvements as described in this Section when and as shown on the Plans, in accordance with a proposed plan for Temporary Water Service as approved by the Engineer, and as necessary to maintain water service and prevent water service disruptions exceeding the threshold time limits set forth in subsections 1-08.4(3)A, "Allowable Water Service Disruption and Notice," and 1-08.4(3)B, "Temporary Water Service."

Prior to commencing the Work under this Section, the Contractor shall prepare and submit for the Engineer's review a proposed plan for temporary water service as generally provided in subsection 1-08.4(3)B. At a minimum, the Plans shall include the proposed general configuration and location of the temporary water mains, specific configuration for a typical temporary water service connection, and provisions for:

- Protecting the temporary facilities from damage due to traffic, weather, and vandalism.
- Accommodating the safe movement of vehicular and pedestrian traffic.
- Controlling discharges without damage to public or private improvements.
- Responding to temporary water main and service connection issues during work and non-work hours.

Generally, temporary water facilities shall be installed in protected areas outside of traffic areas. Where necessary to facilitate the safe movement of vehicles and pedestrians, and to protect the temporary water facilities from damage or disruption, temporary pipe or hose ramps shall be installed.

Temporary pipe or hose ramps across traveled public roadways shall be aligned on a slight diagonal from perpendicular to centerline of the roadway to allow for staggered wheel and impact loadings. Any such installation shall be subject to the review and approval of the jurisdictional agency and such supplemental conditions as may be imposed and shall be accompanied by temporary traffic control signs as shown on the Plans or reviewed Traffic Control Plan. A Plan or proposed Plan for Temporary Water Service shall limit the number of roadway crossings to the maximum practical extent.

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The design and installation of the temporary pipe or hose ramps shall provide for the safe movement of traffic across the surface of the ramp, and protect the pipe or hose without displacement or damage to the pipe or pavement under the temporary ramp.

Open cutting of driveways, roadways, or other paved surface for temporary water facilities will not be allowed except in locations as shown on the Plans for removal and replacement of existing surfacing. In lieu of temporary ramps, the Contractor may pneumatically bore and install temporary water facilities under paved surfaces. The depth of the pneumatic bore shall be sufficient to protect the temporary water facilities and surface improvements from damage, and shall otherwise be aligned both horizontally and vertically to avoid damaging other subsurface or surface facilities or other improvements.

Water in the temporary water mains shall be used only to provide temporary water service to Contracting Agency water service accounts.

Disruptions of water service shall conform to the coordination and notification requirements of Section 1-08.4(3)A, "Allowable Water Service Disruption and Notice."

Following satisfactory completion of the new water main and/or restoration of water service, the Contractor shall remove, dispose and/or salvage the used temporary water facilities, including temporary pipe and hose ramps, and restore any improvements disturbed by such temporary facilities.

7-10.3(1) Temporary Water Mains

Connection to the existing active water main or main shall be protected by an approved backflow prevention device, whether a chlorination or flush box, as furnished by the Contracting Agency. The connection configuration shall be in accordance with the "Temporary Water Main Assembly" detail as shown in the Plans and described in this subsection.

The Contractor shall be responsible to apply for and obtain the chlorination or flush box from the Contracting Agency at the Water Operations building, including payment of the standard deposit. No rental charge will be applied for water use through either the chlorination or flush boxes when used in conjunction with Contracting Agency projects. The backflow device shall either be connected to an available fire hydrant or temporary blowoff as identified in the Plans or approved Temporary Water Service Plan.

The Contractor shall furnish and install security measures to ensure the integrity of the temporary connection and water mains. At a minimum, the backflow prevention device shall be installed outside the traffic clear zone and be secured to one (1) or more ecology or equivalent concrete blocks with stainless steel aircraft cable and high-strength steel padlock(s). Temporary anchors and insulation shall be placed along the temporary water mains as necessary to secure the pipe and minimize the potential for freezing or other damage.

The Contractor shall furnish and install manifolds, fabricated or cut-in tees, control valves, and temporary water main blowoff assembly as shown on the Plans or the approved Temporary Water Service Plan to isolate and control flow to, drainage from, or flushing of the main or mains. Temporary water main blowoff assemblies shall be placed and secured in a similar manner as the backflow prevention device.

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Handling of temporary water main materials shall be in accordance with Section 7-09 and AWWA C651.

Prior to placing the temporary water main and connected temporary water service connection stubs into service, the water main shall be hydrostatically tested to a minimum pressure of 150 psi, disinfected, and subjected to bacteriological testing as otherwise provided in Section 7-09. If authorized by the Contracting Agency inspector, the method for chlorination as provided in Section 4.5 of AWWA C615-14, modified to include use of a flushing cube as furnished by the Contracting Agency, may be used to disinfect the temporary water main.

7-10.3(2) Temporary Water Service Connections

The Contractor shall furnish and install temporary water service connections as shown on the Plans, or the approved Temporary Water Service Plan, as necessary to maintain water service to customers in accordance with subsections 1-08,4(3)A, "Allowable Water Service Disruption and Notice," and 1-08.4(3)B, "Temporary Water Service" and as provided in this subsection.

Temporary water service lines shall have a minimum nominal diameter of 1-inch or the dimension shown on the Plans, whichever is larger. The temporary water service line shall be connected to the temporary water main at a fabricated tee or corporation stop and saddle. If connected at a fabricated tee, a ball valve or curb stop valve shall be installed after the tee to control the flow to the service line.

The temporary water service lines shall be terminated with a temporary cap pending confirmation of sound connections and flushing to clear and disinfect the temporary service lines prior to connection to the back (customer) side of the meter setter. A 90-degree street el or swing joint shall be used with short segment of pipe and appropriate connector as shown on the Plans or as necessary to complete the connection to the meter setter. The meter will be removed in advance by the Contracting Agency.

Following confirmation of sound connections and completion of disinfection and flushing to the satisfaction of the Contracting Agency inspector, the Contractor shall complete the temporary connection to the back (customer) side of the meter setter. The Contractor shall perform and coordinate with the Contracting Agency inspector any subsequent flushing of the temporary service connection and customer supply line as determined by the Contracting Agency inspector.

7-10.3(3) Steel Roll Off Storage Tanks

The Contractor shall furnish and install temporary steel roll off storage tanks (Baker tank or approved equal) to discharge all water that is drained from water mains, required to dewater trenches, or pumped from project excavations.

If required, overnight storage of steel roll off storage tanks shall not be on 1st Avenue South and shall be completely within the right-of-way.

Drained or stored water shall not be discharged to sanitary or storm sewer systems and shall be treated including dechlorination, decreasing the turbidity to a maximum of 25 NTUs, and decreasing the transparency to maximum 33cm prior to discharging treated water.

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7-17 Sanitary Sewers

7-17.1 Description

(*****)

Delete this subsection and replace with the following:

This Work shall include the installation and replacement of sanitary sewer main sections, connections to existing structures/mains, and force mains. It shall also consist of providing the design, installation, and operation of a temporary bypass pumping systems as needed to complete the sewer pipe and side sewer replacement installations in accordance with the Plans, these specifications and the Standard Plans.

7-17.2 Materials

(*****)

Delete this subsection and replace with the following:

Trench excavation, trench backfill, and pipe bedding shall be as specified in Section 7-08 of these special provisions and the Standard Specifications and as shown on the Contract Plans.

Pipe used for sanitary sewers may be:

Ductile Iron Sewer Pipe	9-05.13
High Density Polyethylene (HDPE) Pipe	9-05.23(1)
Gravity Polyvinyl Chloride Pipe (GPVC)	9-05.12(1)
Pressure Polyvinyl Chloride (PPVC)	9-05.12(3)
Polyethylene Pressure Pipe	9-05.23(2)

Where pipe types are specifically shown on the contract drawings, only those pipe types shall be installed and no alternative pipe types allowed. When a pipe type is not specified the contractor may choose from the following pipe types for each specific application.

Pipeline Type	Size (Inches)	Allowable Pipe Material Types
Gravity Sewer	6,8, & 10	GPVC, PPVC, DIP, HDPE
Gravity Sewer	12	GPVC, DIP, HDPE
Gravity Sewer	15 & 18	GPVC, DIP, HDPE
Gravity Sewer	21 and larger	GPVC, DIP, HDPE
Pressure Pipe/Force Main	2 & 4	Polyethylene Pressure Pipe
Pressure Pipe/Force Main	4, 6, 8, 10, & 12	PPVC, HDPE, Polyethylene Pressure Pipe
Pressure Pipe/Force Main	14 and larger	DIP, HDPE

DI Transition Couplings shall be per Section 9-30.2(1) Ductile Iron Pipe.

Other Sewer Distribution Materials

Split Steel Casing	9-37.3
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SPECIAL PROVISIONS

Split Steel Casing Spacers and End Seals 9-37.4

7-17.3 Construction Requirements

7-17.3(1) Protection of Existing Sewerage Facilities (***)**

Supplement this subsection with the following:

Installation of sewer pipe and side sewer connections in the same location will require bypassing sewerage. The Contractor shall provide for the flow of sewage around the section or sections of pipe designated for replacement. Plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system shall make the bypass. The pump(s) and bypass line(s) shall be of adequate capacity to accommodate the sewage flow. The Contractor shall submit a plan for sewerage bypass for approval by the District prior to work on the sanitary sewer system.

7-17.3(2) Temporary Sewer Bypass Pumping (***)**

Add this new subsection:

Bypass pumping shall be completed as night work, see section 1-08.3(1)A Project Specific Scheduling and Order of Work.

Ensure sequence of Work and bypass operations to maintain continual wastewater flow. Wastewater flow is continuous and cannot be stopped or reduced. Specifically schedule and control all Work to be performed in the manner and at the time that will not disrupt the continual flow of wastewater.

Cooperate with Project Representative on inspection of bypass system components prior to and during setup and leakage and pressure testing and in evaluating suitability to confirm bypass system components are in reasonably good condition.

Temporary sewer bypass system shall include, but not be limited to, the following:

1. Bypass pump(s) and motor(s).
2. Suction piping and temporary connections.
3. Provide screen sized to remove solids greater than 3-inch diameter.
4. Discharge piping or hoses or both.
5. Discharge throttling plug valve(s) and check valve(s).
6. Temporary suction and discharge pipe restraint systems.
7. Level or pressure sensing equipment or both.
8. Automatic primary and redundant control systems and accessories.
9. Laborer for continual monitoring during operation.

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10. Vactor Truck onsite/standby during all sewer pumping.
11. Advance coordination with private property owners and protection of private facilities including, but not limited to, fences, landscaping, trees, and various privately owned facilities where upstream or downstream manholes and pipe alignments are within easement(s).
12. Flexible Hoses and Associated Couplings and Connectors – Flexible hose and couplings shall be abrasive resistant and suitable for the intended services (i.e., fire hoses are not permitted). They shall be rated for external and internal loads anticipated including test pressure. External load design shall incorporate anticipated traffic loadings, including traffic impact loading where applicable. When subjected to traffic loading, the system shall be composed of traffic ramps and covers maintaining an H-20 loading requirement while in use or as directed by the City.
13. High Density Polyethylene (HDPE) piping shall be homogenous throughout, free of visible cracks, discoloration, pitting, varying wall thickness, holes, foreign material, or other deleterious faults. Pipe shall be assembled and joined on site using couplings, flanges, or butt-fusion method to provide leak proof joints. Thread or solvent joints are not acceptable. Pipe fusion shall be carried out by personnel certified as fusion technicians by manufacturer of HDPE pipe and/or fusing equipment. Butt-fusion joints shall be true alignment and uniform roll-back beads resulting from use of proper temperature and pressure.
14. All rigid or hard piping shall be constructed with tamper-proof, positive restrained joints.
15. Under no circumstance will aluminum irrigation type piping or glued PVC pipe be allowed.

Provide pumps, motors, engines, controls, sensors, valves, piping and other bypass system components suitable for continual and intermittent automatic operation.

Temporary flow-bypass system shall meet the following:

- Capable of meeting minimum 100.0 gallons per minute (GPM) flow rate.
- Provide fully automatic, electric or diesel powered, self-priming pumps that do not require the use of foot-valves or vacuum pumps in the priming system.
- Provide non-clogging pumps capable of passing 3-inch diameter solids.
- Provide an additional standby bypass pumping system with 100-percent redundant pumping capacity onsite.
- Provide separate automatic control systems and level sensors for the primary and redundant bypass systems. If the primary bypass system is powered from electricity from the local power utility, provide a diesel engine powered standby system with a level sensor for automatic operation upon rising wastewater level resulting from inadequate capacity of the primary system or loss of electrical power. Provide diesel engine driven equipment with “critical rated” silencers in sound attenuating enclosures.

SPECIAL PROVISIONS

7-17.3(2)J Testing of Pressure Pipelines

(*****)

Add this new subsection:

Testing of all pipelines, which under normal operating conditions will be subjected to hydraulic pressure, shall be hydraulically tested at the greater of 150 percent of the working pressure or 100 psi hydrostatic pressure. Any leaks that develop shall be eliminated. Pipelines shall be cleaned and flushed before testing. Drop-piping for force mains shall be pressure tested.

The method of testing shall be in accordance with Section 13 of AWWA Standard Specifications for installation of cast iron water mains. All gauges, meters, and taps shall be furnished by the Contractor.

Leakage shall not exceed 1/4 of the volume allowed by the formula specified in Section 13.7 of AWWA Standard Specifications C-600.

Water used for testing pressure pipelines shall be furnished, disposed of, and paid for by the Contractor.

7-17.3(2)K Split Steel Casing for Sanitary Sewer

(*****)

Add this new subsection:

Split steel casing pipe shall allow for protection of existing sewer pipes and maintaining of existing sewer flows during installation of split steel casing.

Sanitary Sewer main casing method of installation shall be determined by the Contractor and submitted for Engineer approval.

The annular space between the pipe and the casing pipe or tunnel liner shall be filled by sluicing or blowing sand into the space. Care shall be exercised to insure that the entire space is filled and that the pipe is not disturbed during the placement of the backfill between the pipe and the casing. The Contractor shall remove the pipe and reinstall it if the pipe is not within the tolerances shown on the drawings and as specified.

Contractor Submittals

Submit all procedures or material descriptions requiring the Engineer's approval prior to mobilizing. Include the following information in the operations and design submittal:

Submittal requirements include, but are not limited to the following:

1. Verification of Line and grade calculations relative to culvert and finished ground.
Verification of existing sewer pipe to remain including pipe material and outer diameter.
2. Copies of field notes used to establish grade.

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3. Material list.
4. Details on casing spacer and end seal materials, dimensions and installation procedures and recommendations.
5. Details on split steel casing sections, gasketing, half couplers, and gasket sealant.
6. Details on sewer casing penetration of temporary timber lagging.

7-17.3(2)L Temporary Flow System

(*****)

Add this new subsection:

The following work applies to the existing sanitary sewer manhole shown at approximate station 3+12, 10' left.

Where shown on the plans, the Contractor shall install a temporary sanitary sewer flow system in place of the existing sewer manhole prior to the excavation of the culvert opening. This work shall occur after the existing sanitary sewer manhole has been removed and shall be in place until the time when the Contractor installs the new sanitary sewer manhole. Once the existing sewer bypass system has been installed (see SP 7-17.3(2)I) and the existing manhole removed (see SP 2-02), this work shall involve verifying of existing sanitary sewer pipes and side sewers coming into existing sanitary sewer manhole ("SSMH") #3 shown on the plans, furnishing and installing of the necessary PVC C-900 fittings, pipe, adapters, and couplings as necessary to reconnect the piping system and maintain and continue existing sewer flows. The final temporary flow system shall be approved by LWSD inspector prior to backfilling. This system shall remain in place until installation of the new manhole in its place after the new culvert is installed and backfilled.

7-17.3(2)M Temporary Sanitary Sewer Casing Support

(*****)

Add this new subsection:

The Contractor shall take measures to ensure the following:

- protect the structural integrity of the existing sanitary sewer pipe during construction
- maintain existing sewer flows with no interference
- verify no leakage of sewage from the existing pipe into the culvert trench
- provide adequate backfill compaction beneath the existing pipe
- provide temporary shoring per Section 2-09 as amended by the Special Provisions
- provide uplift pressure on the underside of the existing sewer pipe as it spans the open trench width

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- Coordination of sewer support system with AT&T fiber optic support system (completed by others).

The Contractor shall submit a Temporary Sewer Support Plan for Engineer approval not less than 15 days prior to the anticipated start of construction across the culvert excavation. The Temporary Sewer Support Plan shall list step-by-step the Contractor's strategy to achieve the requirements listed in this section. No sewer bypass pumping or other sewer work will be approved as part of the Temporary Sewer Support Plan. For the Contractor's reference in preparing a Temporary Sewer Support Plan, a plan has been developed that may be adopted.

The Contractor, at their own cost and expense, may develop an alternative temporary sewer support plan to what is shown in the Contract Plans for construction suitable to their operations while meeting the requirements in this section. Such alternative plan(s) shall be signed and stamped by a licensed structural engineer and submitted to the Engineer for approval as stated within this section. Acceptance of alternative temporary sewer support plans shall be at the sole discretion of the Engineer.

7-17.3(2)N Backfill (***)**

Add this new subsection:

Backfill shall begin 6" inches above the top of the pipe and shall be free of organic matter.

SPECIAL PROVISIONS

DIVISION 8 – MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL AND WATER POLLUTION CONTROL

8-01.1 Description

(*****)

Revise this section to read:

This work consists of furnishing, installing, maintaining, removing and disposing high visibility silt fence, inlet protection, and other water pollution and erosion prevention items in accordance with these Specifications and as shown on the Plans or directed by the Engineer.

8-01.3 Construction Requirements

(*****)

8-01.3(1) General

Revise the first paragraph to read:

The Contractor shall install high visibility silt fence along the site preservation lines as shown on the Plans and as may be directed by the Engineer.

8-01.3(1)A Submittals

Insert the following sentence after the first sentence of the second paragraph, as amended, to read:

The TESC Plan shall also reflect the requirements of the local jurisdictional land-use agency for the project.

8-01.3(1)C2 Process Wastewater

Supplement this subsection as amended with the following:

Discharges from water mains, hydrant laterals, and service connections due to draining or flushing shall be dechlorinated and controlled to prevent pollution, erosion, or other degradation or damage to down gradient surface waters, groundwater, stormwater, or other improvements. In the event such discharges are directed to a temporary containment system for haul and discharge at an offsite location or discharge to a regulated facility, they shall be subject to the same provisions as for on-site disposal and the authorization of the jurisdictional agency.

Add the following new subsection:

8-01.3(1)F Temporary Water Pollution and Erosion Prevention

Temporary water pollution / erosion control for this project shall consist of the following at a minimum and as shown on the Plans and as applicable to the site and project conditions:

- ESC Lead.

SPECIAL PROVISIONS

- High Visibility Silt Fence.
- Silt Fence.
- Stabilized Construction Entrance.
- Street sweeping and cleaning as necessary to remove any tracked dirt, loose materials, and/or debris.
- Temporary measures as required to maintain stormwater or surface water flows adjacent to water trenches.
- Inlet protection on existing drainage structures.
- Erosion control at culvert ends.
- Erosion and water pollution control for stockpiled materials.
- Wattles as necessary.
- Compost socks as necessary.
- Check dams as necessary.
- Offsite disposal of impounded sediments and temporary pollution and erosion prevention materials as necessary.
- Maintenance of BMPs including in the event of emergencies and as weather and field conditions dictate.
- Water management as necessary.
- Dispersion / Infiltration as necessary.
- Dechlorination socks or mats.
- Velocity dissipaters.
- All materials, tools, and equipment necessary to meet these requirements.

Implementation of such temporary water pollution and erosion prevention measures and features shall be consistent with the rules and regulations and such project-specific requirements as may be imposed by the jurisdictional land-use agency and shall be sufficient to ensure conformance to Federal, State, and local laws, regulations, and permits required for the project.

Stormwater Sampling:

Stormwater sampling shall be performed by the Contractor or authorized representative at the frequencies required in the Construction Stormwater General Permit (weekly at minimum). Samples shall be analyzed for turbidity and pH in accordance with the Construction Stormwater General Permit.

Sampling shall be conducted in accordance with the EPA 180.1 analytical method and the Washington State Department of Ecology's How to do Stormwater Monitoring: A guide for construction sites, available online at <http://www.ecy.wa.gov/pubs/0610020.pdf>. Samples shall be taken at the point of discharge from the site. Reports of the sampling results shall be recorded in the project SWPPP and shall be submitted monthly to the Contracting Agency and the Washington

SPECIAL PROVISIONS

State Department of Ecology. The DMR forms are mailed to permittees when permit coverage is granted for the project. If there are no discharges during the month, the Contractor is still required to submit a form stating "no discharge." The sampling results shall be submitted via mail to:

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, Washington 98504-7696

Ecology must receive DMR's within fifteen (15) days after the end of each month. If the permittee monitors more frequently than required by the permit, these results also need to be submitted in the DMR.

Corrective measures shall be taken if benchmark values are exceeded.

The key benchmark turbidity value is 25 nephelometric turbidity units (NTU) for the downstream receiving water body. If the 25 NTU benchmark is exceeded in any sample collected from the discharge point, the following steps will be conducted:

- a. Ensure all BMPs specified in this SWPPP are installed and functioning as intended.
- b. Assess whether additional BMPs should be implemented and document modified BMPs in the SWPPP as necessary.
- c. Sample discharge daily until the discharge is 25 NTU or lower.

If the turbidity exceeds 250 NTU at any time, the following steps will be conducted:

- a. Notify Ecology by phone within 24 hours of analysis.
- b. Continue sampling daily until the discharge is 25 NTU or lower. Initiate additional treatment BMPs such as off-site treatment, infiltration, filtration, and chemical treatment within 24 hours and implement those additional treatment BMPs as soon as possible, but within a minimum of seven (7) days.
 1. Describe inspection results and remedial actions taken in the site log book and in monthly discharge monitoring reports.

Sampling and monitoring for pH will occur during the phase of construction when concrete pouring will be conducted until fully cured [three(3) weeks from pour]. Samples will be collected weekly at all discharge points prior to discharge to surface water. Samples will be analyzed for pH using a calibrated pH meter and recorded in the site log book.

The key benchmark pH value for stormwater is a maximum of 8.0. If a pH greater than 8.0 is measured at a discharge point that has the potential to discharge to surface water, the following steps will be conducted:

- a. Assess whether additional BMPs should be implemented and whether associated revisions to the SWPPP are necessary.
- b. Stop (detain) all discharges from leaving the site and entering surface waters or storm drains if the pH is greater than 8.5.

SPECIAL PROVISIONS

- c. Sample sedimentation pond the following day and if the pH exceeds 8.0 for the second consecutive day, implement CO2 sparging treatment.
- d. Sample and measure pH daily until there are three (3) consecutive pH measurements less than 8.0.
- e. If there are three (3) consecutive pH measurements greater than 8.0, notify the Washington Department of Ecology by phone within 24 hours of the third measurement exceeding a pH of 8.0 and initiate discussions with Ecology regarding additional treatment BMPs.
- f. Describe inspection results and remedial actions that are taken in the site log book and in monthly Discharge Monitoring Reports.

Add the following new subsection:

8-01.3(1)G Stormwater Discharge Monitoring Reports

- A. Discharge Monitoring Reports (DMRs) Permittees required to conduct water quality sampling in accordance with Special Conditions S4.C (Turbidity/Transparency), S4.D (pH), S8 (303[d]/TMDL sampling), and/or G12 (Additional Sampling) must submit the results to Ecology. Permittees must submit monitoring data using Ecology's WQWebDMR web application accessed through Ecology's Water Quality Permitting Portal. Permittees unable to submit electronically (i.e., those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper copy DMR at: Department of Ecology, Water Quality Program - Construction Stormwater, PO Box 47696, Olympia, WA 98504-7696. Permittees who obtain a waiver not to use WQWebDMR must use the forms provided to them by Ecology; submittals must be mailed to the address above. Permittees must submit DMR forms to be received by Ecology within fifteen (15) days following the end of each month. If there was no discharge during a given monitoring period, all Permittees must submit a DMR as required with "no discharge" entered in place of the monitoring results. DMRs are required for the full duration of permit coverage (from the first full month following the effective date of permit coverage up until Ecology has approved termination of the coverage). For more information, contact Ecology staff using information provided at the following website: www.ecy.wa.gov/programs/wq/permits/paris/contacts.html.
- B. Contractor to identify a licensed CESCL (Certified Erosion and Sediment Control Lead) at the beginning of the project and coordinate these reports and confirm receipt with the Contracting Agency.

8-01.3(2) Seeding, Fertilizing and Mulching

8-01.3(2)B Seeding and Fertilizing

Delete method '4' in the second paragraph. Aerial seeding using aircraft of any kind will not be allowed.

8-01.3(16) Removal

Revise the first paragraph to read:

When the Engineer determines that a water pollution or erosion prevention BMP is no longer required or is not serving its intended purpose, the Contractor shall remove the BMP and all

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associated components from the project. The Contractor shall remove all such BMP's within two (2) working days of such determination. Any BMP that has been determined to be ineffective shall be immediately replaced by a fully functional BMP as reviewed and approved by the Engineer and jurisdictional land-use agency. All temporary water pollution and erosion control BMP's not designated on the Plans to be incorporated into the finished Work shall be removed by the Contractor within five (5) working days of completing the Work.

8-35 VACANT

(*****)

Revise this section, including heading, to read:

8-35 CONTROLLED DENSITY FILL AND POLYETHYLENE ENCASEMENT

8-35.1 Description

This work consists of furnishing and installing controlled density backfill per section 2-09 and furnishing and installing polyethylene encasement per section 7-09.3(17).

8-35.2 Materials

Materials shall meet the requirements of the following sections:

Controlled Density Fill	2-09.3(1)E
Polyethylene Encasement	7-09.3(17)

8-35.3 Construction Requirements

Controlled density fill as pipe zone bedding and backfill shall extend to six (6) inches above the top of pipe and four (4) inches below the pipe. Within the CDF backfill zone, all pipe shall be wrapped in polyethylene encasement.

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DIVISION 9 – MATERIALS

9-03 AGGREGATES

9-03.10 Aggregate for Gravel Base

(*****)

Supplement the first paragraph of this section with the following:

Regardless of the depth of the layer, no “oversize” aggregate shall be allowed.

9-03.21 Recycled Material

(*****)

Revise this section to read as follows:

Use of recycled material for blending with aggregate materials to be used for this Project is prohibited.

9-03.25 Pea Gravel

(*****)

Add the following new section:

Pea gravel shall be semi round and free of organic/deleterious materials. Pea gravel shall adhere to the following:

Sieve Analysis (% Passing by weight)	
<u>Sieve Size</u>	<u>Specification</u>
1/2-Inch	100%
3/8-Inch”	85-100%
#4	10-30%
#8	0-10%
#16	0-15%

9-03 AGGREGATES

9-03.10 Aggregate for Gravel Base

(*****)

Supplement the first paragraph of this section with the following:

Regardless of the depth of the layer, no “oversize” aggregate shall be allowed.

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9-05 DRAINAGE STRUCTURES AND CULVERTS

9-05.12 Polyvinyl Chloride (PVC) Pipe

(*****)

Supplement this section with the following new sub-section:

9-05.12(3) C900 & C905 Pipe

(*****)

C-900 for pipe sizes 4"-12" and C-905 for pipe sizes 12" to 24" shall be per ANSI/AWWA C-900 & C905, DR 18.

9-30 WATER DISTRIBUTION MATERIALS

(*****)

Revise the first paragraph to read:

This Specification addresses pipe and appurtenances 24 inches in diameter and smaller for the treatment, processing, transmission, and distribution of potable water in a public water supply system.

Insert the following paragraph after the first paragraph:

All materials shall be new and undamaged. All materials in contact with potable water shall be lead-free in conformance with the provisions of NSF/ANSI Standards 61 and 372, in addition to the requirements of the Safe Drinking Water Act.

9-30.1 Pipe

(*****)

Revise this section to read:

All pipe shall be clearly marked with the manufacturer's name, type, class, and thickness as applicable. Lettering shall be legible and permanent under normal conditions of handling and storage. The same manufacturer of each item shall be used throughout the Work.

Only ductile iron pipe, fittings, and couplings shall be used for permanent water transmission and distribution facilities, except as may be shown on the Plans or approved by the Engineer.

9-30.1(1) Ductile Iron Pipe

Revise this subsection to read:

Ductile iron pipe shall be centrifugally cast conforming to AWWA C151 and shall have a double thick cement-mortar lining and 1-Mil seal coat conforming to AWWA C104. The minimum delivered laying length for push-on joint ductile iron pipe shall be eighteen (18) feet. The minimum length of ductile iron pipe to be used on a project shall be eighteen (18) feet, unless a shorter length is required

SPECIAL PROVISIONS

between fittings or is otherwise shown on the Plans. Ductile iron pipe shall be a minimum Standard Thickness Class 52, or the thickness class shown on the Plans, whichever has a thicker wall.

No water main pipe, fitting, or other appurtenances will be accepted by the Contracting Agency in which an objectionable taste and/or odor is detected in water which has been in contact with the interior surface(s) of said material, either before or after the material has been installed. Taste and odor testing, if determined necessary by the Contracting Agency, shall be conducted through the Contracting Agency in accordance with the Contracting Agency's testing procedures and requirements. Such testing shall be subject to the Contracting Agency's schedule. All such testing by the Contracting Agency and resulting corrective actions required by the Contracting Agency to remedy a defect or defects as may be determined by such testing shall be at the Contractor's sole expense.

Non-restrained joints between lengths of ductile iron pipe shall be rubber gasket, push-on type, or mechanical joint conforming to AWWA C111 and rated for 350 psi pressure.

The dimensions and drilling of flange connections on flanged pipe and spools shall conform to the dimensions of ANSI B16.1 for cast iron or ductile iron flanges and flanged fittings, Class 125, unless otherwise shown on the Plans. All flanged faces shall be machined.

Where shown on the Plans or otherwise required to restrain thrust, the thrust restraint system between lengths of 4-inch ductile iron pipe shall be as shown on the Plans or in the Standard Plans.

A minimum 3-inch neoprene pad or high-density polyethylene foam (e.g., Ethafoam 900, or approved equal) is required where pipe separations are less than six (6) inches.

Where shown on the Plans or otherwise required to restrain thrust, the thrust restraint system between lengths of ductile iron pipe with push-on type joints shall be:

- "Series 1100 HD MEGALUG ® Harness" as manufactured by EBAA Iron Sales, Inc., of Eastland, Texas.
 - Field lock/Sure Stop Gaskets are acceptable to restrain pipe in lieu of harnesses.

Where shown on the Plans or otherwise required to restrain thrust, the thrust restraint system between lengths of ductile iron pipe with mechanical joints shall be:

- "Series 1100 MEGALUG ®" as manufactured by EBAA Iron Sales, Inc., of Eastland, Texas.

All thrust restraint system devices shall be UL listed and FM approved. Locking gaskets shall be specifically stated as compatible with the pipe, without qualification relative to the warranty by the respective manufacturers.

SPECIAL PROVISIONS

9-30.1(4)B Steel Pipe (4 Inches and Under)

Revise this subsection to read:

Where shown on the Plans and/or in the Standard Plans, steel pipe shall be hot-dip galvanized inside and out and shall conform to ASTM A120. Steel pipe shall be standard weight Schedule 40 welded and seamless with tapered threaded ends.

9-30.2 Fittings

(***)**

Supplement this section with the following:

The type, material, and identification mark for bolts and nuts shall be provided.

9-30.2(1) Ductile Iron Pipe

Revise this subsection to read:

Fittings for ductile iron pipe shall meet the following requirements:

Ductile iron mechanical joint, rated for 350 psi working pressure, unless a different working pressure is shown on the Plans. The fitting dimensions, metal thicknesses, and manufacturing process shall conform to AWWA C153. Rubber gaskets for mechanical joints shall be in accordance with AWWA C111.

Ductile iron flanged joint, rated for 350 psi working pressure, unless a different working pressure is shown on the Plans. The fitting dimensions, metal thicknesses, and manufacturing process shall conform to AWWA C153.

The dimensions and drilling of flange connections shall conform to the dimensions of ANSI B16.1 for cast iron/ductile iron flanges and flanged fittings, Class 125, unless otherwise shown on the Plans. All flanged faces shall be machined. Gasket material for flat-faced or raised-face flanges shall be 1/8-inch minimum thickness synthetic rubber having a durometer measurement of sixty (60). Gaskets for flanges having a recess machined to receive an O-ring shall be Neoprene and shall have the dimensions and durometer measurement as recommended by the manufacturer for the particular service application.

Ductile iron, plain end, rated for 350 psi working pressure, unless a different working pressure is shown on the Plans. The fitting dimensions, metal thicknesses, and manufacturing process shall conform to AWWA C153 compact.

Bolts in piping and fittings shall be malleable iron (pressure class 300), Cor-ten or stainless steel. Bolts and nuts for flanged pipe and fittings shall conform in size and length with ANSI/AWWA C111/A21.11. Stainless steel bolts shall meet the requirements of ASTM A-307, Grade A. Stainless steel nuts and bolts shall be type 316SS.

All fittings shall be cement-mortar lined and seal coated in accordance with AWWA C104.

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Contractor shall provide Manufacturer's Certificate of Compliance in accordance with Section 1-06.3, "Manufacturer's Certificate of Compliance of the Standard Specifications" for all fittings and bolts to be used.

9-30.2(6) Restrained Joints

Revise this subsection to read:

Where shown on the Plans or otherwise required to restrain thrust, the thrust restraint system for mechanical joint fittings shall be:

- "Series 1100 MEGALUG ®" as manufactured by EBAA Iron Sales, Inc., of Eastland, Texas.

All thrust restraint system devices shall be UL listed and FM approved, shall be new and undamaged, and shall conform to the provisions of NSF/ANSI 61 in addition to the requirements of the Safe Drinking Water Act. Locking gaskets shall be specifically stated as compatible with the pipe, without qualification relative to the warranty by the respective manufacturer.

Add the following new subsection:

9-30.2(12) Transition, Reducing and Flexible Couplings

Transition couplings (12-inch minimum), reducing couplings, transition-reducing couplings, and flexible couplings for water mains shall be compression type with ductile iron components conforming to AWWA C219. Center rings/sleeves shall be ductile iron conforming to ASTM A536, grade 65-45-12 or malleable iron (pressure class 300) conforming to ASTM A47, grade 32510 or 35018. End rings/followers shall be ductile iron conforming to ASTM A536, grade 65-45-12 or malleable iron (pressure class 300) conforming to ASTM A47, grade 32510 or 35018.

Gaskets shall be vulcanized, molded, or extruded, natural or synthetic rubber free from porous areas, foreign materials, and visible defects. Reclaimed rubber shall not be used. Gaskets shall meet the requirements of ASTM D2000.

Bolts shall be carriage-type, high-strength, low alloy steel meeting the requirements of ASTM A307, ASTM F568 or AWWA C111, or high-strength ductile iron meeting the requirements of ASTM A536, grade 65-45-12. The bolts shall have national course rolled threads and heavy hexagon nuts. Stainless steel bolts require anti-seize compound.

The long pattern solid sleeve coupling (MJ) shall be a minimum 12-inch length for pipe diameters equal to or less than 12-inch and shall be a minimum 15-inch length for pipe diameters greater than 12-inch.

The long body transition couplings (Romac 501, Hymax 2, or approved equal) shall be minimum 12-inch length for pipe diameters equal to or less than 12-inch and shall be a minimum 14-inch length for pipe diameters greater than 12-inch.

The coating of the coupling components shall be as applied in the factory by and to the standards of the manufacturer.

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Reducing and flexible/straight couplings shall not be used for plain-end ductile iron/ductile iron pipe connections, or ductile iron/PVC pipe connections; only mechanical joint sleeve fittings shall be used in these cases.

Combination reducer/couplings shall not be allowed and shall be a separate reducer and transition coupling.

9-30.3 Valves

(*****)

Replace this section and subsections, including titles, to read:

Valves shall be standard pattern of a manufacturer whose products are approved by the Engineer and shall have the name or mark of the manufacturer, year valve casting was made, size, and working pressure plainly cast in raised letters on the valve body.

The valve bodies shall be cast iron, ductile iron, or other approved material mounted with approved non-corrosive metals. All wearing surfaces shall be bronze or other approved non-corrosive material and there shall be no moving bearing or contact surfaces of iron in contact with iron. Contact surfaces shall be machined and finished in the best quality manner and all wearing surfaces shall be easily renewable.

9-30.3(1) Valve Boxes

Valve boxes shall be installed on all buried valves. The box shall be of cast iron, two-piece, slip-type, standard design with a minimum 5-inch inside diameter and base section corresponding to the size and depth of the valve. The box shall be coal-tar painted by the manufacturer using its standard. The cover shall be cast-iron, having the word "WATER" cast into it. Where valve boxes are located within a sidewalk or pedestrian access route, valve box cover shall be a locking lid style and include a stainless steel center bolt with pentagon security head, spreader bar, and locking cams.

9-30.3(3) Combination Air Release/Air Vacuum Valves

Combination air release/air vacuum valves (or universal air release valves) shall be installed in air vacuum valve assemblies. The valve shall be designed to withstand a 300 psi pressure where the normal operating pressure does not exceed 100 psi.

The valve body and cover shall be cast iron conforming to ASTM A126, Class B. The float shall be stainless steel conforming to ASTM A240. Valve seats shall be Buna N rubber. All other internal parts of the valve shall be constructed of stainless steel or bronze.

Combination air release/air vacuum valves shall conform to AWWA C512.

For 1-inch and 2-inch valves, the inlet shall be equal in size to the outlet/large orifice. Both inlet and outlet shall have NPT screwed connections. The small orifice for a 1-inch valve shall be a minimum of 5/64-inch and that for a 2-inch valve shall be a minimum of 3/32-inch.

The combination air release / air vacuum valve (universal air release valve) shall be manufactured by APCO Valve and Primer Corporation of Schaumburg, Illinois, Crispin/Multiplex Manufacturing Company of Berwick, Pennsylvania, or an approved equal.

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The following table provides applicable model numbers for the two (2) manufacturers listed:

Size of Valve	Apco	Crispin
1-inch	143C	UL10
2-inch	145C	UL20

9-30.3(4) Tapping Sleeve and Valve Assembly

Tapping valves shall be furnished with flanged inlet end connections. The outlet ends shall conform in dimensions to the AWWA Standards for flange, hub, or mechanical joint connections, except that the outside of the hub shall have a large flange for attaching a drilling machine. The seat opening of the valve must permit a diameter cut no less than 1/2-inch smaller than the valve size. Valves specifically designed for tapping and meeting the requirements of AWWA C500 and valves meeting the requirements of AWWA C509 shall be permitted. Tapping valves shall be permitted. Tapping valves shall be of the same type as other valves on the project.

Size-on-size tapping sleeves shall be cast iron, ductile iron, or stainless steel, except cast iron or ductile iron size-on-size tapping sleeves shall only be used on ductile iron or cast iron water mains. Reducing tapping sleeves shall be cast iron, ductile iron, stainless steel, or epoxy-coated steel.

9-30.3(5) End Connections

The dimensions of hub or bell end connections shall conform to the dimensions of AWWA C100. The dimensions of mechanical joint connections shall conform to the dimensions of ANSI A21.11.

The dimensions and drilling of flange connections shall conform to the dimensions of ANSI B16.1 for cast iron/ductile iron flanges and flanged fittings, Class 125, unless otherwise shown on the Plans. The bolt holes shall straddle the vertical centerline. All flanged faces shall be machined.

Where shown on the Plans or otherwise required to restrain thrust, the thrust restraint system for valves with mechanical joints shall conform to Section 9-30.2(6), "Restrained Joints."

Tapered threaded ends shall conform to National Pipe Thread dimensions.

9-30.3(6) Resilient-Seated Gate Valves (4 Inches to 12 Inches)

Gate valves four (4) inches to twelve (12) inches in size shall conform to the requirements of AWWA C509 for resilient-seated gate valves for water supply service and shall include rubber gaskets. The resilient valve seats may be applied to the body or gate and shall seat against a corrosion-resistant surface on the interior of the valve body. If guiding is necessary to obtain shutoff, the design shall be such that corrosion in the guide area does not affect sealing. These valves shall have O-ring backing plates.

Resilient-seated gate valves four (4) inches to twelve (12) inches in size shall open counterclockwise and shall have non-rising stems, except OS & Y valves shall have rising stems.

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Buried resilient-seated gate valves four (4) inches to twelve (12) inches in size shall be equipped with standard 2-inch wrench nuts. Non-buried valves shall be equipped with hand wheels, unless otherwise shown on the Plans.

EPDM rubber will not be allowed for gate valves and gasket shall be standard rubber.

9-30.3(7) Resilient-Seated Gate Valves (16 Inches)

Resilient-seated gate valves sixteen (16) inches in size shall conform to the requirements of AWWA C509 for resilient-seated gate valves for water supply service. Resilient valve seats may be applied to the body or gate and shall seat against a corrosion-resistant surface on the interior of the valve body. If guiding is necessary to obtain shutoff, the design shall be such that corrosion in the guide area does not affect sealing. Resilient-seated gate valves sixteen (16) inches in size shall incorporate O-rings for the stem seal.

Resilient-seated gate valves sixteen (16) inches in size shall open counterclockwise and shall have non-rising stems, except OS & Y valves shall have rising stems.

Buried resilient-seated gate valves sixteen (16) inches in size shall be equipped with standard 2-inch wrench nuts. Non-buried valves shall be equipped with hand wheels, unless otherwise shown on the Plans.

EPDM rubber will not be allowed for gate valves and gasket shall be standard rubber.

9-30.3(8) Gate Valves (24 Inches)

Gate valves 24 inches in size shall be designed to lie horizontally in a horizontal pipeline.

Horizontal gate valves shall be equipped with solid bronze tracks securely fastened in the valve body and bonnet. The weight of the gates shall be carried on rollers throughout their entire length of travel. Bronze scrapers shall be provided to traverse the tracks ahead of the rollers in both directions of travel to remove any foreign matter accumulated on the track. Horizontal gate valves shall have non-rising stems.

Horizontal valves shall conform to applicable requirements of AWWA C500.

Buried horizontal gate valves shall be equipped with standard 2-inch wrench nuts. Non-buried horizontal gate valves shall be equipped with hand wheels and indicators to show the position of the gate in relation to the waterway. Gate valve operators shall open with counterclockwise turns, and shall have non-rising stems, except OS & Y valves shall have rising stems.

Horizontal gate valves shall have enclosed gear cases constructed of heavy cast iron housing steel gears. Horizontal gate valves shall also be equipped with bypass valve assemblies to (a) equalize pressure across the closure member to permit lower operating forces during opening and closing; (b) fill lines downstream of the main valve, thereby eliminating the possibility of wire drawing damage to main valve seats; and (c) provide for low-volume flow without throttling the main valve. The bypass valve shall be equipped with a wrench nut or hand wheel as provided for the main valve.

EPDM rubber will not be allowed for gate valves and gasket shall be standard rubber.

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9-30.3(9) Bronze Gate Valves (Under 3 Inches)

Bronze gate valves shall be provided only where shown on the Plans. Bronze gate valves shall have bronze bodies with solid bronze discs. Bronze gate valves shall have non-rising stems, open counterclockwise, and furnished with a hand wheel. Bronze gate valves shall not be furnished where they will be buried.

9-30.3(10) Check Valves

The body and cover of check valves shall be made of gray cast iron or cast ductile iron, with bronze rings mounted to the cast iron swing gate. Check valves shall be for 150 psi working pressure, unless otherwise shown on the Plans. The check valves shall have adjustable tension lever and spring to provide non-slamming action under all conditions, unless the Plans call for something other than a lever and spring feature.

Swing-check valves shall confirm to AWWA C508.

9-30.3(11) Pressure Reducing and Pressure Relief Valves

To minimize requirements for spare parts and maintenance tools and expertise, pressure reducing and pressure relief valves shall be:

- "Model 90-01 Series Pressure Reducing Valve" as manufactured by Cla-Val Company of Newport Beach, California.
- "Model 50-01 Series Pressure Relief Valve" as manufactured by the Cla-Val Company of Newport Beach, California.

The pressure reducing valves shall maintain a constant downstream pressure regardless of varying inlet pressure. The valve shall be a hydraulically operated, diaphragm-actuated, globe style valve with a gray cast iron body. The pilot control shall be a direct-acting, adjustable, spring-loaded, normally-open, diaphragm valve, designed to permit flow when the controlled pressure is less than the spring setting. The pilot control system shall include a fixed orifice.

The pressure relief valve shall maintain constant upstream pressure by relieving excess pressure or by-passing and shall maintain close pressure limits without causing surges. The valve shall be hydraulically operated, diaphragm-actuated, globe valve with a gray cast iron body. The pilot control shall be a direct-acting, adjustable, spring-loaded, normally-closed, diaphragm valve, designed to permit flow when controlling pressure exceeds spring setting. The pilot control system shall operate such that as excess line pressure is dissipated, the main valve shall gradually close to a positive, drip-tight seating.

All diaphragm-actuated valves shall contain a resilient, synthetic rubber disc, having a rectangular cross-section, contained on three and one-half (3-1/2) sides by a disc retainer and forming a tight seal against a single removable seat insert. The diaphragm assembly containing a valve stem shall be fully guided at both ends by a bearing in the valve cover and an integral bearing in the valve seat. This diaphragm assembly shall be the only moving parts and shall form a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure. The diaphragm shall consist of nylon fabric, bonded with synthetic rubber, and shall not be used as a seating surface.

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Packing glands and/or stuffing boxes are not permitted and there shall be no pistons operating the valve or pilot controls. All necessary repairs shall be possible without removing the valve body from the line.

Pressure reducing and pressure relief valves shall conform to AWWA C530.

9-30.5 Hydrants

(*****)

Revise this section and subsections, including titles, to read:

Fire hydrants shall be the center-stem, compression-type conforming to the requirements of AWWA C502.

To minimize requirements for spare parts and maintenance tools and expertise, fire hydrants shall be:

- "Medallion Model" as manufactured by Clow Corporation of Oskaloosa, Iowa.
- "M & H Model 929" as manufactured by Dresser Industries, Inc., of Bradford, Pennsylvania.
- "Centurion Model" as manufactured by Mueller Company of Decatur, Illinois.

Fire hydrant operating stems shall have square threads.

9-30.5 (1) End Connections

The end connection for fire hydrants shall be mechanical joint conforming to AWWA C153 compact.

9-30.5(2) Hydrant Dimensions

The minimum nominal diameter of the main hydrant valve opening shall be five (5) inches. The inside diameter of the hydrant end connection shall be six (6) inches. The minimum inside diameter of the hydrant barrel/standpipe shall be seven (7) inches.

The minimum nominal bury length from the bottom of the connecting pipe to the ground line of the hydrant, as shown in the Standard Plans, shall be 43 inches. The maximum nominal bury length shall be 55 inches unless a different bury length required for a particular hydrant installation is shown on the Plans.

The size of the hydrant auxiliary gate valve shall be six (6) inches.

An outlet for drainage shall be provided in the base or barrel or between the base and barrel of the hydrant.

Field painting of the fire hydrant shall be as specified in Section 7-14.3(1), "Setting Hydrants."

9-30.5(3) Hydrant Extensions (Vertical)

Vertical fire hydrant extensions shall have an inside diameter matching that of the hydrant within which it is installed. The material shall be gray cast iron or ductile iron and shall conform to the

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AWWA Standards for such castings. The drillings of the connecting flanges on the extensions shall match the drillings of the flanges on the hydrant, if applicable.

Hydrant extensions shall also include the necessary hydrant operating stem extensions.

9-30.5(4) Hydrant Lateral Restraints

The thrust restraint system for fire hydrant laterals with mechanical joints shall conform to Section 9-30.2(6), "Restrained Joints."

9-30.5(5) Traffic Safety Flanges

Hydrants shall be provided with a traffic safety flange and be equipped with breaking devices at the traffic flange which will allow the hydrant barrel to separate at this point with a minimum breakage of hydrant parts from impact. There shall also be provided at this point a safety stem coupling on the main hydrant valve stem that will shear at the time of impact.

9-30.5(6) Guard Posts

Guard posts for fire hydrants shall be provided only where shown on the Plans and spaced as shown in the Standard Plans. Guard posts shall be reinforced concrete, six (6) feet in length by nine (9) inches in diameter. Reinforcing shall consist of a minimum of four (4) No. 3 reinforcing steel bars. Painting of the exposed portion of the post shall be as specified in Section 7-14.3(2)C, "Fire Hydrant Guard Posts."

9-30.5(7) Hydrant Nozzles

Each fire hydrant shall be provided with one (1) 4-inch diameter steamer nozzle and two (2) 2.5-inch diameter hose nozzles. Fire hydrants in the City of Auburn shall be provided with one (1) 4.5-inch diameter pumper port and two (2) 2.5-inch diameter hose ports. All nozzles shall be equipped with brass (domestically sourced) nipples screwed into the hydrant barrel and locked into place.

The hose nozzles shall have National Standard Hose Threads. The hose nozzles shall be fitted with cast iron threaded caps with an operating nut of the same design and proportions as the main hydrant valve stem nut. The caps shall be threaded to fit the corresponding nozzles and shall be fitted with suitable Neoprene gaskets for positive water tightness under test pressures. There shall be no chain or cable connecting the hose nozzle caps to the hydrant body.

The steamer nozzle shall have a Pacific Coast Standard Thread on which shall be installed a 4-inch rigid female x 4-inch Storz smooth-faced adapter with a 4-inch Storz blind cap and rubber sealing gasket. The steamer nozzle for fire hydrants in the City of Auburn shall have National Standard Thread with a 5-inch Storz adaptor and cap. The Storz adapter and cap shall be made of anodized aluminum, heat-treated to T-6 condition strength. The Storz adapter and cap shall withstand a working pressure of 300 psi and a momentary burst pressure of 600 psi. A stainless steel set screw shall be used to permanently attach the Storz adapter to the steamer nozzle to prevent unauthorized removal. The Storz cap shall be tethered to the hydrant barrel with an 18-inch length of 1/8-inch aircraft cable, the ends of which shall be connected to its respective part with NICO sleeves. The Storz adapter shall not be painted.

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9-30.5(8) Operating Nuts

The operating nut on the main hydrant valve stem and hose nozzle caps shall be as follows:

- Pattern of nut - Tapered pentagonal
- Height – 1-1/16-inch
- Size of pentagon - (measured from point to flat)
- 1.35-inch at bottom of nut
- 1.23-inch at top of nut
- The direction of opening shall be clearly marked on the operating nut or hydrant and shall be counterclockwise.

9-30.6 Water Service Connections (2-inch and Smaller)

(*****)

Revise this section and subsections, including titles, to read:

9-30.6(1) Saddles

Service saddles shall meet the requirements of the Standard Plans. The bodies of service saddles shall be ductile iron. Straps, nuts, and washers shall be galvanized steel. Wide bands with bolts, washers, and nuts shall be stainless steel.

Service saddles shall be:

- "Style 101, 101S, 202, or 202S" as manufactured by Romac Industries, Inc., of Seattle, Washington.
- For 1-inch taps on ductile iron and asbestos cement water mains 12-inch and smaller, single strap saddles shall be used. For 1-inch taps on PVC water mains 12-inch and smaller, bolted/banded service saddles shall be used.
- For 1-inch taps on ductile iron and asbestos cement water mains larger than 12-inch, double strap service saddles shall be used. For 1-inch taps on PVC water mains larger than 12-inch, double bolted/banded service saddles shall be used.
- For service taps larger than 1-inch on ductile iron and asbestos cement water mains larger than 12-inch, double strap service saddles shall be used. For service taps larger than 1-inch on PVC water mains larger than 12-inch, double bolted/banded service saddles shall be used.
- The threads on the service tap on the saddle body shall be CC (AWWA taper) for 1-inch size and Female Iron Pipe thread for service taps larger than 1-inch size.

9-30.6(2) Corporation Stops

Corporation stops shall meet the requirements of the Standard Plans and these Specifications.

Corporation stops shall be:

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- "Model 1-inch H-15008, 1-1/2-inch H-9969, or 2-inch H-9969" as manufactured by Mueller Company of Decatur, Illinois.
- "Type 1-inch F1000G 'GripJoint,' 1-1/2-inch FB500, or 2-inch FB500" as manufactured by the Ford Meter Box Company, Inc., of Wabash, Indiana.
- "Model 1-inch 4701T, 1-1/2-inch 3131B, or 2-inch 3131B" as manufactured by A. Y. McDonald Mfg. Company of Dubuque, Iowa.

Corporation stops shall be made of bronze alloy.

For 1-inch service taps, the inlet connection shall be CC (AWWA taper) male thread. For service taps larger than 1-inch, the inlet connection shall be Male Iron Pipe thread.

For 1-inch service taps, the outlet connection shall be compression-gasket type compatible with the connection piping, with no special adapters required. Pipeline insert stiffener devices shall be installed for compression-end fittings on polyethylene pipe. For service taps larger than 1-inch, the outlet connection shall be Male Iron Pipe thread for the attachment of a special adapter.

9-30.6(3) Service Pipes

9-30.6(3)A Polyethylene Tubing

Polyethylene tubing shall meet the requirements of AWWA C901 for potable water service, and conform to the following specifications:

1. Polyethylene Cell Classification: PE 4710
2. Polyethylene Material: Type III, Category 5, Grade 34, Class C per ASTM D1248
3. Nominal Size: As shown in the Plans, or in the Standard Plan corresponding to the bid Proposal item.
4. Thickness: SDR 9
5. Diameter: Copper Tube Size (CTS)
6. Pressure Class: 250 psi

The finished product shall satisfactorily flare, without cracking, to standard brass (domestically sourced) water works flare fittings when using cold flaring methods and thereafter perform to the requirements herein specified.

The polyethylene tubing shall be marked in accordance with ASTM D2737 for CTS tubing sizes. It shall also carry the seal of the National Sanitation Foundation (NSF). A copy of the pertinent quality control test information shall be submitted in accordance with Section 5.5 of AWWA C901 for the polyethylene tubing furnished and installed in the completed Work.

All coils of polyethylene tubing shall be protected in shipment. Each coil shall be labeled clearly to show the size, coil length, and pressure rating of the tubing. The tubing shall be stored outside of direct sunlight.

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9-30.6(4) Service Fittings

Couplings and adapters shall only be used where shown in the Standard Plans, on the Plans, or otherwise directed by the Engineer and shall conform to the provisions of NSF/ANSI 61 in addition to the requirements of the Safe Drinking Water Act.

Compression service couplings and adapters shall be:

- "Model H-15428 or H-15451 [with Liners #504281 (3/4-inch), #504385 (1-inch), #506139 (1-1/2-inch), or #506141 (2-inch)]" as manufactured by Mueller Company of Decatur, Illinois.
- "Model C84-34G, C84-44G, C84-66G, C84-77G, C14-66G, or C14-77G 'GripJoint' [with Insert Stiffeners #51 (3/4-inch), #52 (1-inch), #54 (1-1/2-inch), or #55 (2-inch)]" as manufactured by the Ford Meter Box Company, Inc., of Wabash, Indiana.
- "Model 4753T or 4754T with Insert Stiffeners #6133T (3/4-inch to 2-inch size)" as manufactured by A. Y. McDonald Mfg. Company of Dubuque, Iowa.

Couplings and adapters for water service connections shall be made of bronze or brass (domestically sourced) alloy. The connections for the couplings and adapters shall be Iron Pipe threads or outside compression-gasket type, as shown in the Standard Plan or otherwise necessary for the specific application. Pipeline insert stiffener devices shall be installed for compression-end fittings on polyethylene pipe.

9-30.6(5) Meter Setters

Meter setters shall meet the requirements of the Standard Plans and applicable parts of AWWA C800, and shall conform to the provisions of NSF/ANSI 61 in addition to the requirements of the Safe Drinking Water Act.

Meter setters shall be:

- "Model VH72-12WC, VH74-12WC, VH76-12-11-66 (with O-ring groove machined in face of flanges), or VH77-12-11-77 (with O-ring groove machined in face of flanges)" as manufactured by the Ford Meter Box Company, Inc., of Wabash, Indiana.
- "Model H-1404-2x12-inch with two (2) H-14222 ends for 5/8-inch x 3/4-inch and 1-inch meters, and B-2422-2-12x13-inch for 1-1/2-inch meter (grooved for O-ring gaskets on both flanges), and B-2422-2-12x17-inch for 2-inch meter (grooved for O-ring gaskets on both flanges)" as manufactured by Mueller Company of Decatur, Illinois.

For a 1-inch or less service connection, the meter setter shall have double purpose couplings on both inlet and outlet connections (female iron pipe union, swivels, or flared copper), an angle meter valve with drilled padlock wings, an outlet angle single or double check valve, and measuring twelve (12) inches high. For service connections larger than 1-inch size, the meter setter shall have Female Iron Pipe threads on the horizontal inlet and outlet, an angle inverted key valve with drilled padlock wings on the inlet, grooved for O-ring meter gaskets, no bypass, an angle single or double check valve on the outlet, and measuring twelve (12) inches high. 1-inch meter setters shall require a swivel joint.

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The backside of the meter setters shall be domestically sourced brass and meet the following:

- 3/4-inch and 5/8-inch meter setter shall be an 8-inch nipple.
- 1-inch meter setter shall be an 8-inch nipple.
- 1-1/2-inch and 2-inch meter setters shall be a 12-inch nipple.

9-30.6(6) Brass Nipples and Fittings

Brass (domestically sourced) nipples and fittings shall be installed where shown in the Standard Plans and shall meet the requirements of ANSI B-16.15 and B1.20.1, ASA 125 pound class.

9-30.6(7) Meter Boxes

Meter boxes for a particular installation shall meet the requirements below. The DFW Plastic boxes are preferred over the Armorcast, which are currently shown in the Standards Plans.

Meter boxes and covers shall be polymer concrete:

- 5/8-inch x 3/4-inch Meter: DFW Plastics, Inc. DFW486C-12-1CT (11-inch x 18-inch) and cover with hinged reader lid rated for traffic loads.
- 1-inch Meter: DFW Plastics, Inc. DWF1324C-12-1CT (13-inch x 24-inch) and cover with hinged reader lid rated for traffic loads.

Meter box covers shall be non-skid, bolt-down, with hinged meter reading lids and include the cutout for AMR transmitter.

9-30.6(8) Insulating Service Couplings

Insulating couplings preventing a continuous electrical path shall be required at any point of connection of two (2) dissimilar metallic pipes (e.g., copper to galvanized iron or steel). The fitting used shall be manufactured for the purpose for which it is intended. The couplings shall be the outside compression-gasket type. Pipeline insert stiffener devices shall be installed for compression-end fittings on polyethylene pipe.

All materials shall conform to the provisions of NSF/ANSI 61 in addition to the requirements of the Safe Drinking Water Act.

9-30.6(9) "U" Branch Connections

"U" branch connections shall meet the requirements of the applicable Standard Plans, and conform to the provisions of NSF/ANSI 61 in addition to the requirements of the Safe Drinking Water Act.

"U" branch connections shall be:

- "Model H-15363" as manufactured by Mueller Company of Decatur, Illinois.
- "Model U48-43-14G" as manufactured by Ford Meter Box Company, Inc., of Wabash, Indiana.

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“U” branch connections shall be made of bronze alloy. The outlets shall be 3/4-inch M.I.P. thread straight line. The inlet shall be conductive compression for 1-inch CTS O.D. copper or polyethylene service pipe. Maintain a branch spacing minimum of 13-1/2 inches between the outlets.

9-30.7 Flow Detection/Backflow Prevention Devices

(*****)

Add the following new Section:

9-30.7 Flow Detection/Backflow Prevention Devices

9-30.7 (1) Detector Double Check Valve Assemblies (DDC)

Detector double check valve assemblies shall conform to AWWA C506. The detector double check valve assembly shall consist of two (2) internally-loaded check valves, either spring-loaded or internally weighted, installed as a unit and include a smaller, factory-installed double check valve assembly and water meter in a bypass configuration to detect leakage or water theft. The manufacturer of the detector double check valve assembly shall be listed on the most current copy of the "Accepted Cross-Connection Control Assemblies" published by the Washington State Department of Health. The end connections shall be flanged, conforming to AWWA C153 compact.

Test cocks shall be installed and located in accordance with AWWA C506 for both mainline and bypass double check valve assemblies. The outlets to the test cocks shall be plugged.

The detector water meter shall be:

- "Model PDR-10-100FS Remote-Reading 5/8-inch x 3/4-inch water meter registering in cubic feet" as manufactured by Precision Meters, Inc., of Orlando, Florida.

9-30.7(2) Detector Reduced Pressure Principle Backflow Devices (DRP)

Detector reduced pressure principle backflow prevention devices shall conform to AWWA C506 and shall conform to the provisions of NSF/ANSI 61 in addition to the requirements of the Safe Drinking Water Act. The detector reduced pressure principle backflow prevention device shall consist of two (2) independently acting, spring-loaded check valves separated by a spring-loaded differential pressure relief valve and shall include a smaller, factory-installed reduced pressure principle backflow device and water meter in a bypass configuration to detect leakage or water theft. The manufacturer of the detector reduced pressure principle backflow device shall be listed on the most current copy of the "Accepted Cross-Connection Control Assemblies" published by the Washington State Department of Health. The end connections shall be flanged, conforming to AWWA C153 compact.

Test cocks shall be installed and located in accordance with AWWA C506 for both mainline and bypass reduced pressure principle backflow prevention devices. The outlets to the test cocks shall be plugged.

The detector water meter shall be:

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- "Model PDR-10-100FS Remote-Reading 5/8-inch x 3/4-inch water meter registering in cubic feet" as manufactured by Precision Meters, Inc., of Orlando, Florida.

9-30.7(7) Vacuum Breakers

9-30.7(7)A. Pressure Vacuum Breaker Assemblies

Pressure vacuum breaker assemblies shall consist of a spring-loaded check valve [3-inch and larger sizes consist of two (2) check valves], an independently operating air inlet valve, inlet and discharge shutoff valves, and properly installed test cocks. The air inlet valve is internally loaded to the open position, normally by means of a spring. This internal loading allows the device to be installed on the pressure side of a shutoff valve. The manufacturer of the pressure vacuum breaker assembly shall be listed on the most current copy of the "Accepted Cross-Connection Control Assemblies" published by the Washington State Department of Health. The end connections shall have tapered threads. The outlets to the test cocks shall be plugged.

9-30.7(7)B. Atmospheric Vacuum Breaker (AVB)

The atmospheric vacuum breaker is a device that allows air to enter the water line when the line pressure is reduced to a gauge pressure of zero or below. Poppets of AVB's shall be precision-fitted to ensure positive closure. No test cocks are required. The end connections shall have tapered threads.

(*****)

Add the following new Section:

9-30.8 Miscellaneous Water Distribution Materials

9-30.8(1)A Steel Casing for Boring, Jacking and Direct Burial

Where indicated on the Plans, continuous steel casings shall be bored, jacked, or direct buried into place. The steel casing shall be black steel pipe conforming to ASTM A53. The joints between sections shall be butt welded to produce a continuous bead around the full circumference of the casing to produce a rigid, watertight encasement. The minimum wall thickness of the casing shall be 0.250 inches for casings 24 inches or less in diameter, unless a larger wall thickness is shown on the Plans. The minimum wall thickness of the casing shall be 0.375 inches for casings over 24 inches in diameter, unless a larger wall thickness is shown on the Plans. Before installation, casing exterior shall be coated with shop-applied anticorrosive coating conforming to AWWA C210. Minimum coating thickness shall be 16 mils dry film thickness (DFT); however, thickness shall not exceed manufacturer's recommended thickness. Coating type shall be a polyamide epoxy-coal tar equal to Tnemec Hi-Build Theme-Tar, Series 46H-413.

Casing end seal shall be seamless synthetic rubber and a minimum of 1/8" thick. Heavy duty hose clamps shall be stainless steel.

9-30.8(1)B Spacers and Seals for Steel Casing Pipe

Casing spacers shall be "centered positioning" type bands at least 12 inch in width, and shall be either stainless steel or heavy duty fusion bonded epoxy coated steel. Runners shall be 2-inch wide

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glass reinforced plastic securely bonded to the spacer, and shall be aligned on the spacer along the axis of insertion of the water main into the casing pipe. Runner length shall approximate the width of the spacer. Securing the spacer to the water main shall be in accordance with the manufacturer's instruction. The height of the risers and runners combined shall be sufficient to keep the carrier pipe bell, couplings or fittings at least 0.75 inch from the casing pipe wall at all times and provide at least 1-inch clearance between the runners and the top of the casing wall, to prevent jamming during installation.

Acceptable spacers and end seals manufacturers are Pipeline Seal and Insulator model S12G-2 for stainless steel and model C12G-2, C8G-2 for fusion-bonded and coated steel, Cascade Waterworks Mfg. Co., Advance Products & Systems, Inc. or approved equal.

9-30.8(2) Flow Strainers

Flow strainers shall be iron-bodied, basket-type configuration of the size shown in the Standard Plans where flow strainers are required. The flow strainers shall feature a bolted cover machined to securely hold the screen in place and include a tapped boss at the bottom of the bowl for a blowoff outlet. The screen shall be constructed from perforated stainless steel and wire mesh screens shall not be allowed. Flow strainers 2-inch and larger shall have flanged end connections conforming to AWWA C153 compact.

9-30.8(3) Pressure Gauges

Pressure gauges shall conform to applicable AWWA and ANSI standards. The gauge shall be a premium grade industrial gauge with a stainless steel Bourdon tube element; 270° milled stainless steel movement; phenolic case; liquid-filled with an inert viscous fluid; high-impact, non-cracking plastic lens; 4.5-inch dial; and a 1/2-inch N.P.T. bottom male connection. All other exposed parts shall be stainless steel. The accuracy shall meet ANSI B40.1 specifications, Grade A: ±1 percent of span in middle half of scale with the balance of the scale ±2 percent of span. The gauges shall be protected by compatible snubbers and ball valves. The gauges shall be Marsh Mastergauge or equal.

The range of pressure scale shall be 0 to 200 pounds per square inch, unless shown otherwise on the Plans or in the Standard Plans.

(*****)

Add the following new Section:

9-30.9 Temporary Water Facilities

9-30.9(1) Temporary Water Mains

Temporary water mains, including bends, fittings, and couplings shall be in accordance with the corresponding subsections hereinabove for permanent water facilities or be in accordance with the requirements of AWWA C901-08 "Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service" or AWWA C904-06 "Cross-Linked Polyethylene (PEX) Press Pipe, 1/2 In. (12 mm) Through 3 In.(76 mm), for Water Service." Temporary water mains, bends, fittings, and couplings shall have a minimum pressure class rating of 160 psi.

SPECIAL PROVISIONS

9-30.9(2) Temporary Water Service Connections

Temporary water service connections, including service lines, fittings, and couplings shall be in accordance with the corresponding subsections hereinabove for permanent water service connections, except that water service lines may be in accordance with the requirements of AWWA C901-08 "Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service," or AWWA C904-06 "Cross-Linked Polyethylene (PEX) Press Pipe, 1/2 In. (12 mm) Through 3 In. (76 mm), for Water Service." Temporary water service lines shall have a minimum pressure class rating of 160 psi.

In addition, connections may be fused, grip fitting, threaded, or barbed provided that the connection is sufficient for the minimum pressure rating of 160 psi.

9-37 MISCELLANEOUS MATERIALS

(*****)

Add the following new Subsection:

9-37.1 Location Wire and Locate Stations

9-37.1(1) Location Wire

Location wire (or tracer wire) for decommissioned water mains shall be steel core copper clad size AWG 14 insulated conductor. The insulation shall be 30-mil, orange High Density Polyethylene (HDPE) with minimum insulation rating of 300 volts and comply with ASTM-D-1248, 30 volt rating, and Restriction of Use of Hazardous Substances (RoHS) requirements.

Location wire shall be continuous and not be spliced between pairs of locate stations. Connections at terminations shall be installed so that no portion of uninsulated wire is exposed. The location wire shall have a minimum of one (1) foot of slack at the Locate Station after the station is set to final grade.

Wire connectors shall be waterproof, 3M DBR, Copperhead SnakeBite moisture displacement connections, or Engineer-approved equal. Non-locking friction fit, twist-on, or taped connectors will not be allowed.

9-37.1(2) Locate Station

Locate stations shall consist of an in-ground access box either fabricated or manufactured for the purpose of location wire terminations and tracer equipment connections for locating buried underground facilities.

Fabricated access boxes for locate stations shall consist of a 6-inch diameter valve box meeting the requirements of subsection 9-30.3(4). The valve box shall include an isolated terminal block with stainless steel nuts and bolts for each of the location and grounding wires. Terminal block posts shall be of sufficient length to allow a solid connection by standard line tracing equipment. If the terminal block is mounted externally, the valve box shall be installed in a 5/8-inch x 3/4-inch meter box as specified in subsection 9-30.6(7). The terminal block shall be located within six (6) inches of the meter box lid.

SPECIAL PROVISIONS

Manufactured locate (test) stations shall be Copperhead SnakePit test stations, Valvco tracer wire access box, or Engineer approved equal. Locate stations with exposed (not internal) terminal blocks shall be enclosed either in a meter box as provided above for fabricated access boxes or shall be enclosed in a proprietary enclosure suitable for the location as approved by the Engineer.

Terminal blocks shall include a removable jumper between the posts for each of the location and grounding wires. The wire shall be as specified in subsection 9-37.1(1).

The locate station shall be installed so that the access lid, and enclosure as applicable, are flush to and match finish grade.

9-37.1(3) Grounding

Location wire shall be properly grounded at each Locate Station by using a magnesium grounding anode rod. A steel core copper clad size AWG 14 insulated conductor shall connect the grounding anode rod to the locate wire at the terminal block in the Locate Station as specified in subsection 9-27.1(2).

The grounding rod shall be a minimum of 18.5 inches long and 1.3 inches in diameter with a minimum weight of one (1) pound and specifically configured for the purpose of locate wire and locate station pairs for buried underground facilities. The grounding rod shall be driven into solid native soil, directly underneath the Locate Station so that the top of the grounding rod shall be at the same depth as the location wire's exit from the decommissioned water main or at the location recommended by the manufacturer of the Locate Station.

The insulation for the grounding wire shall be 30-Mil, red HDPE, with a minimum insulation rating of 300 volts and comply with ASTM-D-1248, 30 volt rating, and with RoHS requirements. The grounding wire shall have a minimum of one (1) foot of slack at the Locate Station after the station is set to final grade. Wire connectors shall be waterproof, 3M DBR, Copperhead SnakeBite moisture displacement connections, or Engineer-approved equal. Non-locking friction fit, twist-on, or taped connectors will not be allowed. Connections at terminations shall be installed so that no portion of uninsulated wire is exposed.

9-37.2 Temporary Pipe and Hose Ramps

Pipe and hose ramps for protecting temporary water mains and service lines and maintaining safe movement of traffic through the Work area shall be prefabricated, rated for a minimum HS 20-44 axle loading, and provide transition approach and departure ramps suitable for the anticipated traffic speeds.

Installed temporary ramps shall have sufficient stability to ensure that ramp is not displaced by vehicle or pedestrian movement over the surface of the ramp. In addition, the ramp configuration shall ensure that vehicle and pedestrian traffic over the surface of the ramp do not damage either the pipe or hose, or the existing pavement under the ramp.

Ramps across roadway surfaces shall be placed on a slight diagonal offset from perpendicular to the roadway centerline. Transition slopes and temporary traffic signing for the ramp crossings shall be as approved by the jurisdictional agency.

SPECIAL PROVISIONS

Fabricated temporary pipe or hose ramps shall be as manufactured by Brahman Systems, LLC, American Recycled Products, Mentor Hose Ramps, Rubberform, or Engineer-reviewed equal.

9-37.3 Split Steel Casing

Split steel casing shall meet ASTM A36 standards, shall be minimum of 0.25 inches thick and meet H2O loading. Fasteners shall be zinc coated. Gasket sealants shall meet ASTM C990. Split steel casing shall be an engineered split steel casing system composed of a flanged maintenance pipe (FMP) and associated appurtenances manufactured by Ironhed LLC or approved equal.

Before installation, casing exterior shall be coated with shop-applied anticorrosive coating conforming to AWWA C210. Minimum coating thickness shall be 16 mils dry film thickness (DFT); however, thickness shall not exceed manufacturer's recommended thickness. Coating type shall be a polyamide epoxy-coal tar equal to Tnemec Hi-Build Theme-Tar, Series 46H-413.

9-37.4 Split Steel Casing Spacers and End Seals

Casing spacers shall be "centered positioning" type bands at least 12 inch in width, and shall be either stainless steel or heavy duty fusion bonded epoxy coated steel. Runners shall be 2-inch wide glass reinforced plastic securely bonded to the spacer, and shall be aligned on the spacer along the axis of insertion of the water main into the casing pipe. Runner length shall approximate the width of the spacer. Securing the spacer to the water main shall be in accordance with the manufacturer's instruction. The height of the risers and runners combined shall be sufficient to keep the carrier pipe bell, couplings or fittings at least 0.75 inch from the casing pipe wall at all times and provide at least 1-inch clearance between the runners and the top of the casing wall, to prevent jamming during installation.

Acceptable spacers and end seals manufacturers are Pipeline Seal and Insulator model S12G-2 for stainless steel and model C12G-2, C8G-2 for fusion-bonded and coated steel, Cascade Waterworks Mfg. Co., Advance Products & Systems, Inc. or approved equal.

SPECIAL PROVISIONS

DIVISION 10 – MEASUREMENT AND PAYMENT – UNIT PRICE BID

(***)**

(New Division)

General

When the Contract Documents state that a certain item of work “shall be considered incidental to the Contract”, and whenever any aspect of work is not included in one (1) of the pay items listed below, then the cost of performing that work shall be included in the various bid prices of the Contract, and no separate payment will be made.

Contractor shall include all costs of doing this work within the unit and lump sum bid prices in the Proposal. If the Contract Documents require work that has no unit or lump sum Bid Item in the proposal, costs shall be incidental and included within the unit and lump sum bid prices in the Proposal.

For items listed below as being paid by “Force Account”, to provide a common basis for all bidders, the Contracting Agency has estimated, and included in the Proposal, dollar amounts for those items. All such dollar amounts are to become a part of Contractor's total bid. However, the Contracting Agency does not warrant expressly or by implication that the actual amount of work will correspond with those estimates. Payment will be made on the basis of the amount of work actually authorized by Engineer in accordance with Section 1-09.6 of the Standard Specifications.

Bid Schedule Items

The following subsections correspond to the items on bid schedule B and shall be paid based on the conditions listed and as detailed in the Standard Specifications for that item. The Section where the item of work is discussed in the Standard Specifications and/or Special Provisions is shown in parentheses.

Bid Items – Bid Schedule – Redondo Creek Culvert Replacement

Roadway Surveying (1-05)

See schedule A for measurement and payment.

Bid Item No. B1 – Material Testing (1-05)

No specific unit of measurement will apply to the lump sum item of “Material Testing.”

Payment will made in accordance with Section 1-04.1 for each of the following Bid Items that are included in the Proposal:

“Material Testing,” lump sum.

The lump sum Contract Bid price for Material Testing shall be full pay for all of the Work described under this section.

SPECIAL PROVISIONS

The Contractor shall be responsible for providing preliminary and production aggregate gradation, HMA mix design if specified, and compaction control testing by a qualified, independent material testing laboratory. Such proposed laboratory shall be subject to the Engineer's review and approval in advance of the testing required for the Work specified in this section.

Certified production sample aggregate tests and HMA mix design by qualified aggregate and hot-mix asphalt producer(s) may be accepted by the Engineer. The Contractor shall submit the name of the proposed material testing laboratory, and supporting qualification information at the Preconstruction meeting for review and approval by the Contracting Agency. The Contractor shall furnish such supplemental supporting information as the Engineer may request to assist in the evaluation of the proposed material testing laboratory(ies).

Compaction tests shall be performed at a minimum frequency of one (1) per 100 linear feet of each lift of compacted pipe zone bedding and backfill, and trench backfill, for each day that such material is placed. Compaction tests for surfacing materials, including HMA, shall be performed at a minimum frequency of one (1) time per course (lift), one (1) time per day, one (1) time per each subplot, or once per 100 tons of material placed, whichever is more frequent. Additional tests or more frequent testing intervals shall be performed as may be requested by the Engineer or jurisdictional agency, and/or as may be required to confirm that the specified minimum compacted density has been achieved. Test methods and procedures shall be as established by the WSDOT Materials Laboratory.

Bid Item No. B2 – Utility Pothole

(1-05)

Utility potholing will be measured per each location excavated, utility or utilities exposed, measured, documented, backfilled, and surface restored at the location(s) as shown on the Plans or as may be directed by the Engineer. No separate measurement or payment will be made for potholes within a 5-foot radius of each other. Work shall be performed in conformance with the Contract Documents and Section 1-07.17(3).

Payment will be made in accordance with Section 1-04.4 for the following Bid Item included in the Proposal:

“Utility Pothole,” per each.

The Contract unit price per each for “Utility Pothole” shall be full pay for all Work to excavate, expose, measure, and document the existing underground utility or utilities at the locations as shown on the Plans or as may be directed by the Engineer and to place and compact backfill and restore the surface as specified.

No payment for “Utility Pothole” will be made where Contractor is to determine water main depth, type, and size at and when installing temporary blowoff assemblies. This will be considered incidental to the various bid items in the Contract

When the Contract does not include a pay item for utility potholes, whether or not specifically identified on the Plans, utility potholing as described herein, including elective utility potholing such as may be performed by the Contractor to preserve or protect service lines or other utilities, shall be considered incidental to the Work and included in the other Contract pay items.

SPECIAL PROVISIONS

Bid Item No. B3 – As-Built Survey and Record Drawings (Min. Bid of \$5,000)

(1-05)

No specific unit of measurement will apply to the lump sum item of “As-Built Survey and Record Drawings (Min. Bid of \$5,000).”

Payment will be made in accordance with Section 1-04.1 for the following Bid Item when it is included in the Proposal:

“As-Built Survey and Record Drawings (Min. Bid of \$5,000),” lump sum.

The unit price for “As-Built Survey and Record Drawings (Min. Bid of \$5,000),” lump shall include the following:

- Field survey establishing horizontal and vertical locations of all new watermain appurtenances including water mainline, hydrant extensions and laterals or crossing connections and all items specified within SP 1-05.18.
- Field survey establishing horizontal and vertical locations of all new sanitary sewer facilities including manhole rim elevations, pipe inverts, pipe sizes and materials, ladder and channel orientations, side sewers to the property lines and cleanouts and all items specified within SP 1-05.18.
- Development of record drawings meeting requirements in SP 1-05.18
- Survey and development of As-Built survey drawings meeting requirements in SP 1-05.18
- And shall include full pay for all labor, equipment, materials, personnel, and supervision utilized to perform the work specified herein.

A minimum bid of \$5,000 is required for this bid item. No more than 25 percent of the bid amount for this item will be paid prior to the review and acceptance of the As-Built Survey and Record Drawing information by the Engineer.

SPCC Plan

(1-07)

See schedule A for measurement and payment.

Mobilization

(1-09)

See schedule A for measurement and payment.

Project Temporary Traffic Control

(1-10)

See schedule A for measurement and payment.

Flaggers

(1-10)

See schedule A for measurement and payment.

SPECIAL PROVISIONS

Portable Changeable Message Sign

(1-10)

See schedule A for measurement and payment.

Bid Item No. B4 – Remove DI Water Main (6-Inch & 8-Inch)

(2-02)

“Remove DI Water Main (____-Inch)” will be measured by the linear foot along the centerline of the water main pipe removed, including fittings, and shall not consider size of water main removed.

Payment shall be made for the following Bid Item:

“Remove DI Water Main (____-Inch),” per linear foot.

The Contract unit price per linear foot for “Remove ____ Water Main (____-Inch)” shall be full compensation for all costs incurred to remove the existing water main with the following considered incidental to the removal:

- Removal of pipe, fittings, restrained joints, spools, sleeves, couplings, repair bands, and associated corporation stops and saddles for water service lines.
- Removal of air vacuum/blow off valve assemblies.
- Furnishing and compacting trench backfill to fill the void.
- The Contract unit price shall also include removal of concrete thrust blocks.
- Coordinating with Lakehaven Water and Sewer District for main isolation, cutting the pipe, and draining water to approved steel roll off tank.
- Disposal of removed pipe including haul and required permits.
- Filling the exposed ends of pipe to remain with concrete or permanently or temporarily capping or plugging the exposed ends of water main to remain in service.
- Excavating including haul, temporary stockpiling, stockpile protection, and backfilling the trench with crushed surfacing top course as specified.
- Material handling, processing, salvaging, if specified, and haul to and disposal at a site permitted to receive removed material.

Unless a separate Bid Item is included in the Proposal, the following Work shall be considered incidental to Bid Items for removal, relocation, disposal and/or salvage, and decommissioning of water facilities:

- Sawcutting.
- Removing, hauling, and disposing existing pavement, curbs, gutters, or other surfacing materials from within the limits of the trench excavation section.
- Trench safety systems.
- Trench dewatering.
- Protecting and restoring existing utilities, services, and improvements to remain.

SPECIAL PROVISIONS

- Trench excavation irrespective of the materials; stockpiling and protecting stockpiled or removing and disposing excavated native material.
- Disassembling, handling, removing, hauling, disposing, salvaging, or decommissioning the feature as shown on the Plans or designated by the Contracting Agency.
- Placing, installing, or removing and replacing temporary surfacing and access provisions with permanent improvements.
- Restoring the surface as shown on the Plans.

Payment will be in accordance with the Contract unit price, irrespective of the pipe material, pressure rating, and size and the handling, processing, disposal, and permit compliance requirements, as applicable.

Bid Item No. B5 – Shoring or Extra Excavation Cl. B (2-09)

“Shoring or Extra Excavation Cl. B” will be measured by the square foot.

Payment shall be made for the following Bid Item:

“Shoring or Extra Excavation Cl. B,” per square foot.

The Contract unit price per square foot for “Shoring or Extra Excavation Cl. B” shall be full pay for installing the new water main (new water main pipe, hydrant laterals, air release valves, permanent blowoffs and/or water vaults) and shall include the following items:

- Furnishing, placing, moving, and removing temporary shoring, or equivalent trench stabilization and worker protection system.
- All excavation, backfill, compaction, and other Work required when extra excavation is used in lieu of such temporary shoring or equivalent trench safety system as necessary to install the water main and water main lateral connections.
- Select backfill material as required for backfilling within the limits of the extra excavation.

Bid Item No. B6 – Controlled Density Fill (2-09)

“Controlled Density Fill” shall be measured per cubic yard.

Payment shall be made for the following Bid Item:

“Controlled Density Fill,” per cubic yard.

The unit contract price per cubic yard for “Controlled Density Fill” shall include full compensation for all labor, equipment, and materials including furnishing, loading, hauling, final placement and compaction, and any other items necessary to accomplish the work. For the purpose of establishing a common basis for evaluating bids, a provisional quantity has been shown on the bid form and does not necessarily represent the quantity, if any, of Controlled Density Fill that may be necessary for project work. Therefore, the “significant change” provisions of Section 1-04.6 do not apply. Actual quantities will be determined in the field as work progresses.

SPECIAL PROVISIONS

Bid Item No. B7 – Minor Change for Water Improvements

(7-09)

Measurement and payment for “Minor Change for Water Improvements” shall be by force account per 1-09.6 of the Standard Specifications.

Payments or credits for changes amounting to **\$10,000.00** or less may be made under the Bid Item “Minor Change.” At the discretion of the Contracting Agency, this procedure for Minor Changes may be used in lieu of the more formal procedure as outlined in Section 1-04.4, Changes. All “Minor Change” work will be within the scope of the Contract Work and will not change Contract Time.

“Minor Change for Water Improvements,” per estimated (est.).

To provide a common proposal for all bidders, the Contracting Agency has estimated the amount for “Minor Change for Water Improvements” and entered the amount in the proposal to become a part of the total bid by the Contractor. The actual amount shall be determined by field conditions as the work progresses and as set forth in this section. No reliance shall be placed on the amount estimated; the provisions of Section 1-04.6 shall not apply to this item. Payment or credits will be determined in accordance with Section 1-09.4.

Bid Item No. B8– Class 52 Ductile Iron Pipe for Water Main ___-Inch Diameter

(7-09)

Measurement of pipe for water mains will be by the linear foot of pipe laid and tested and shall be measured along the pipe through all installed fittings, valves, and couplings.

Payment will be made for the following Bid Item in the Proposal:

“Class 52 Ductile Iron Pipe for Water Main, 8-Inch Diameter,” per linear foot.

The Contract unit price per linear foot for “Class 52 Ductile Iron Pipe for Water Main, ___-Inch Diameter” shall be full payment for all costs of the Work to complete the installation of the water main as specified in this Section. The following shall be incidental to and included in the Contract unit price(s) for water main as included in the Proposal:

- Locating existing utilities.
- Furnishing and installing pipe and fittings as shown on the Plans and details.
- Tapping existing mains with a tapping tee.
- Furnishing and installing sand cushion or neoprene separation pad.
- Protecting existing surface and subsurface improvements that are to remain.
- Sawcutting up to 12-inch depth.
- Structure excavation Class B including haul (including hydro-excavation or vactor excavation where specifically noted in the plans).
- Furnishing and installing restrained joints, concrete thrust blocking, thrust collars, or dead-man blocks/anchors as shown on the Plans and/or details.
- Furnishing and installing pipe zone bedding and pipe zone backfill.

SPECIAL PROVISIONS

- Stockpiling including haul and protecting stockpiled excavated trench materials if designated for trench backfill.
- Hauling and disposing removed or excess materials.
- Placing, grading, and compacting of trench bedding and backfill as shown and noted in the Plans including “Water Trench Section.”
- Filling, flushing, draining, hydrostatic pressure testing, disinfecting, bacteriological testing, and taste and odor testing.
- Furnishing, installing, maintaining, and removing temporary caps, flanges, blowoffs, and ecology blocks as part of construction sequencing.
- Providing notifications and coordinating with water service customers as necessary and per the Contract plans.
- Where shown on the plans, polyethylene pipe encasement.
- All other incidental costs necessary for a complete installation in full working order, all as herein specified and otherwise shown in the Plans.

If the Contractor over-excavates the pipe trench, or if otherwise the width of the pipe trench becomes wider than the payment limit shown in the Contract Plans, all material removed and placed outside the excavation payment limit shall be at the Contractor's sole expense. The payment limits shown in the Contract Plans shall be considered for payment purposes only and are not a warranty that the trenches can be excavated and backfilled to those limits.

Bid Item No. B9 – Steel Casing, 16-Inch Diameter (7-09)

The unit contract price per linear foot for “Steel Casing, 16-Inch Diameter” shall be full pay for all materials, labor, equipment, and other incidental costs for providing and installing a steel casing on new water main as shown in the plans and details, including steel casing, splicing casings together, casing finish, casing pipe spacers, casing end seals, end seal clamps and installation of void-space material.

Bid Item No. B10 – Additional Ductile Iron Fittings (7-09)

There will be no measurement of ductile iron fittings that are specifically shown and called out on the Plans as they will be incidental to “Ductile Iron Pipe for Water Main ___-Inch Diameter” per linear foot and will be furnished and installed by the Contractor to provide a complete system.

Measurement for “Additional Ductile Iron Fittings” will be per pound of additional fittings and couplings furnished, installed, and tested by the Contractor not shown on the Plans, but required by the Engineer to be installed to provide a complete system. The weight of the additional ductile iron fittings and couplings shall include mechanical joint glands, but exclude gland bolts, nuts, and gaskets. The installation of additional ductile iron fittings and couplings will be required by the Engineer for purposes that include, but are not limited to, deflection of the pipeline from its proposed alignment as shown on the Plans to avoid tree removal or unanticipated underground facilities.

Payment shall be made for the Bid Item:

“Additional Ductile Iron Fittings,” per pound.

SPECIAL PROVISIONS

The Contract unit price per pound for "Additional Ductile Iron Fittings" shall be full payment for all costs of the Work to furnish and install additional cast iron fittings not shown on the Plans, but required by the Engineer to provide a complete system, and shall include all costs necessary for a complete installation in full working order, tested and disinfected, as herein specified and otherwise shown on the Plans, including associated thrust or restraint blocks, or restrained joint(s) and placing, grading, and compacting of trench bedding and backfill as shown and noted in the Plans including "Water Trench Section." No additional payment shall be made for pipe zone bedding, pipe zone backfill, fittings, and couplings that would be normally anticipated in the Work shown on the Plans, even though said fittings and couplings were not specifically shown on the Plans.

For the purpose of establishing a common basis for evaluating bids, a provisional quantity has been shown on the bid form and does not necessarily represent the quantity, if any, of "Additional Ductile Iron Fittings" that may be necessary for the project work. Therefore, the "significant change" provisions of Section 1-04.6 do not apply. Actual quantities will be determined in the field as Work progresses.

Bid Item No. B11– Connect to Existing Water Main, 8-Inch Diameter

(7-09)

Measurement for payment of "Connect to Existing Water Main, ___-Inch Diameter," per each shall include connections made by long sleeve couplings or couplers, transitions couplings, or couplers as detailed in the Contract Plans and connections made using mechanical joint fittings and connecting them to existing water main pipe.

Payment will be made in accordance with Section 1-04.1 for the following Bid Item when it is included in the Proposal:

"Connect to Existing Water Main, 8-Inch Diameter," per each.

The Contract unit price for "Connect to Existing Water Main, ___-Inch Diameter," per each shall include connections made by long sleeve couplings or couplers, transitions couplings or couplers as detailed in the contract plans, and connections made using mechanical joint fittings and connecting them to existing water main pipe.

The Contract unit price per each for "Connect to Existing Water Main, ___-Inch Diameter." shall be full pay for all work, including labor, materials, tools, and equipment to/for:

- Excavation including sawcutting, haul, and exposing the existing water main.
- Dewatering the trench within the connection excavation.
- Install, adjust, and provide temporary blowoffs and blocking.
- Furnish and place pea gravel under existing asbestos cement water main.
- Placing, grading, and compacting of trench bedding and backfill as shown and noted in the Plans including "Water Trench Section."
- Furnishing, installing, maintaining, and removing temporary pavement.
- Complete the connections of new water main to existing water main as specified herein and as shown and noted in the Plans and plan details.

SPECIAL PROVISIONS

Bid Item No. B12 – Removal and Replacement of Unsuitable Foundation Material

(7-09)

Removal and replacement of unsuitable material will be measured by the cubic yard. The depth shall be the actual depth removed to the depth specified in Section 7-09.3(5), "Grade, Depth and Alignment." The width shall be the actual width removed, but in no case shall the measured width exceed the allowable trench widths specified in Section 7-09.3(7), "Trench Excavation" and the neat-line trench width limits shown on the Plans. The length shall be the actual length of the pipe laid and shall be along the pipe through fittings, valves, and couplings.

Payment will be made in accordance with Section 1-04.1 for the following Bid Item when it is included in the Proposal:

“Removal and Replacement of Unsuitable Foundation Material,” per cubic yard.

The Contract unit price per cubic yard for "Removal and Replacement of Unsuitable Foundation Material" shall be full payment for all costs for the Work to remove unsuitable material and to furnish, place, and compact suitable foundation material as specified in Section 2-03.3(14), "Unsuitable Foundation Excavation" and 7-09.3(8), "Removal and Replacement of Unsuitable Materials," and per the details shown in the Contract plans.

For the purpose of establishing a common basis for evaluating bids, a provisional quantity has been shown on the bid form and does not necessarily represent the quantity, if any, of "Removal and Replacement of Unsuitable Foundation Material" that may be necessary for the project work. Therefore, the "significant change" provisions of Section 1-04.6 do not apply. Actual quantities will be determined in the field as Work progresses.

Bid Item No. B13 – Thrust Collar

(7-09)

“Thrust Collar”, per each.

The unit contract price per each for “Thrust Collar” shall be full pay for furnishing all labor, tools, equipment, and materials necessary to complete each unit according to the Plans and Specifications. This includes all excavation, dewatering (if required), foundation material, cement concrete, rebar and all items as necessary to install the thrust collar per the standard plans.

Bid Item No. B14 – Crushed Surfacing Top Course for Trench Backfill

(7-09) & (7-17)

Crushed Surfacing Top Course for trench backfill will be measured based on the computed volume within the excavated neat line trench width and depth, not to exceed the neat-line payment limits as shown on the Water Main and Sewer Main Trench Detail and for the length measured horizontally along the pipeline where the material is placed as directed by the Engineer.

Measurement and payment for “Crushed Surfacing Top Course for Trench Backfill” shall be per ton.

The Contract unit price per cubic yard for "Crushed Surfacing Top Course for Trench Backfill" shall be full payment for all cost for the Work to furnish the material, placing and compacting of gravel base for trench backfill, as shown and noted in the Plans, including “Water Trench Section”, “Sewer Trench Section” and as authorized in advance by the Engineer and shall be included in the various other Contract bid items where noted.

SPECIAL PROVISIONS

For the purpose of establishing a common basis for evaluating bids, a provisional quantity has been shown on the bid form and does not necessarily represent the quantity, if any, of “Crushed Surfacing Top Course for Trench Backfill” that may be necessary for the project work. Therefore, the “significant change” provisions of Section 1-04.6 do not apply. Actual quantities will be determined in the field as Work progresses.

Bid Item No. B15 – Temporary Water Service and Construction Sequencing (7-10)

No specific unit of measurement shall apply to the lump sum item for “Temporary Water Service and Construction Sequencing.”

Payment will be made in accordance with Section 1-04.1 for the following Bid Item when it is included in the Proposal:

“Temporary Water Service and Construction Sequencing,” lump sum.

The lump sum contract price for “Temporary Water Service and Construction Sequencing” shall be full pay for all labor, equipment, and materials required to sequence the watermain installation/removal as shown in the Contract plans or as approved by the engineer and furnish, install, maintain and remove the temporary water service system as shown in the Contract plans and per section 7-10.

Bid Item No. B16 – Split Steel Casing, 16-Inch Diameter (7-17)

The unit contract price per linear foot for “Split Steel Casing, 16-Inch Diameter” shall be full pay for all materials, labor, equipment, and other incidental costs for providing and installing a split steel casing on existing sewer pipe as shown in the plans and details, including split steel casing sections, gaskets, casing finish, bolts, nuts, washers and other fasteners, couplers, casing pipe spacers, casing end seals, end seal clamps and installation of void-space material.

Bid Item No. B17 – Temporary Sanitary Sewer Casing Support (7-17)

The unit contract price for “Temporary Sanitary Sewer Casing Support” per lump sum shall be full pay for all materials, labor, equipment, and other incidental costs including, but not limited to providing a:

- temporary sanitary sewer support plan for engineer approval
- furnishing and installing steel shoring beams, bearing plate(s), speed shoring, specialty shoring, hydro excavation and/or vector truck excavation
- joint sealer, nylon support wraps, ratchets, and foam or rubber pipe wrap(s),
- additional excavation per the temporary sewer support details shown in the plans
- coordination with AT&T’s fiber optic line support system (by others).

Included in this bid item are any other incidental costs to install the casing support system per the details in the plans and as to prevent damage to the existing sewer pipe and steel casing and avoid any interference in sewer flow during installation of the culvert. Submittal of a temporary sewer support plan for approval by the Engineer is considered incidental to this bid item.

Payment shall be made upon successful installation and backfill of culvert crossing.

Bid Item No. B18 – Sanitary Sewer Manhole Removal and Temporary Flow System (7-17)

SPECIAL PROVISIONS

The unit contract price for “Sanitary Sewer Manhole Removal and Temporary Flow System” per lump sum shall be full pay for all materials, labor, equipment, and other incidental costs including, but not limited to:

- Removing of the existing manhole as specified in section 2-02.
- Excavation, shoring, and backfilling the void.
- Verifying the existing pipe configurations as necessary to furnish and installing the necessary PVC C900 wyes, fittings, pipe, and couplings
- Verifying a complete sewer connection and maintaining during construction of the culvert.

50% of the payment shall be made upon successful removal of the existing manhole and installation of the temporary flow system. The remaining 50% payment shall be made upon removal of the temporary flow system prior to installing the new manhole.

Bid Item No. B19 –Manhole 48 In. Diameter Type 1

(7-05) & (7-17)

“Manhole ___-Inch Diameter Type ___,” per each.

The unit contract price per each for “Manhole ___-Inch Diameter Type ___,” above shall be full pay for furnishing all labor, tools, equipment, and materials necessary to complete each unit according to the Plans and Specifications. This includes all excavation, dewatering (if required), furnishing matching pipe and installing connections to existing and new pipe, foundation material, bedding, backfill, compaction, surface restoration, testing, and furnishing and placing of all accessories such as traps, steps or ladders, control orifice risers, debris cages, weirs, orifice plates, shear gates, and other items as applicable. Frames and rings and covers (standard duty or heavy duty where called for on the Plans), grade rings and adjustment risers (concrete or high-impact) shall be considered incidental to this bid item and will not be measured for separate payment.

Bid Item No. B20 –Temporary Sanitary Sewer Bypass Pumping

(7-17)

The lump sum bid item for Temporary Sanitary Sewer Bypass Pumping shall be full compensation for materials, work, labor, development of a sewer bypass system plan, and equipment necessary to furnish, install, and maintain temporary facilities necessary to maintain the continual wastewater flow and to prevent wastewater discharge to the environment throughout the duration of constructing new or rehabilitating existing sanitary sewer within the project. This includes, but is not limited to installing a complete bypass pumping system, piping, staging of a redundant pump, and other items specified within 7-17.

50% of the payment shall be made upon successful removal of the existing manhole and installation of the temporary flow system. The remaining 50% payment shall be made upon removal of the temporary flow system and installation of the new manhole.

Bid Item No. B21 – Minor Change for Sewer Improvements

(7-17)

Measurement and payment for “Minor Change for Sewer Improvements” shall be by force account per 1-09.6 of the Standard Specifications.

Payments or credits for changes amounting to **\$10,000.00** or less may be made under the Bid Item “Minor Change.” At the discretion of the Contracting Agency, this procedure for Minor Changes may be used in

SPECIAL PROVISIONS

lieu of the more formal procedure as outlined in Section 1-04.4, Changes. All “Minor Change” work will be within the scope of the Contract Work and will not change Contract Time.

“Minor Change for Sewer Improvements,” per estimated (est.).

To provide a common proposal for all bidders, the Contracting Agency has estimated the amount for “Minor Change for Sewer Improvements” and entered the amount in the proposal to become a part of the total bid by the Contractor. The actual amount shall be determined by field conditions as the work progresses and as set forth in this section. No reliance shall be placed on the amount estimated; the provisions of Section 1-04.6 shall not apply to this item. Payment or credits will be determined in accordance with Section 1-09.4.

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE 2023 WSDOT / APWA "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION," AS AMENDED OR SUPPLEMENTED BY THE CONTRACT DOCUMENTS AND STANDARD PLANS INCLUDED IN THE CONTRACT DOCUMENTS.
- PROTECTION OF THE ENVIRONMENT:** NO CONSTRUCTION RELATED ACTIVITY SHALL CAUSE OR CONTRIBUTE TO DEGRADATION OF THE ENVIRONMENT, INTRODUCTION OF POLLUTANTS TO SURFACE OR GROUND WATERS, OR PARTICULATE OR OTHER EMISSIONS TO THE ATMOSPHERE WHICH EXCEED LOCAL, STATE OR FEDERAL STANDARDS. ANY ACTIVITY POTENTIALLY RESULTING IN A DISCHARGE TO STATE WATERS SHALL BE SUBJECT TO THE PRIOR APPROVAL OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY. NOISE LEVELS FROM EQUIPMENT AND CONSTRUCTION RELATED ACTIVITIES SHALL CONFORM TO FEDERAL, STATE, AND JURISDICTIONAL AGENCY REQUIREMENTS.
- LOCATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE ONLY, MAY NOT BE ALL INCLUSIVE, AND ARE BASED ON FIELD SURVEY OF UTILITY-LOCATE PAINT MARKS, POTHOLE LOCATES, AND OBSERVED SURFACE FACILITIES, DEPTH MEASUREMENTS (IF SHOWN AT VALVE OR POTHOLE LOCATIONS), AND AVAILABLE CONSTRUCTION RECORD DRAWINGS OR OTHER INFORMATION. THE CONTRACTOR SHALL CALL 811 A MINIMUM OF THREE BUSINESS DAYS PRIOR TO THE START OF ANY EXCAVATION, AND SHALL FIELD VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR SHALL FIELD-VERIFY EXISTING CONDITIONS, INCLUDING PERFORMING UTILITY POTHOLING AS MAY BE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, AND COORDINATE ANY NECESSARY ADJUSTMENTS IN THE WORK WITH THE ENGINEER PRIOR TO COMMENCING WORK ON TEMPORARY OR PERMANENT PROJECT IMPROVEMENTS.
- THE CONTRACTOR SHALL PRESERVE AND PROTECT EXISTING FACILITIES NOT DESIGNATED FOR REMOVAL OR REPLACEMENT FROM DISPLACEMENT OR DAMAGE. SUCH WORK MAY INCLUDE, BUT NOT BE LIMITED TO: TEMPORARY SHORING, BRACING, REMOVAL AND REPLACEMENT AND/OR COORDINATING WITH, AND (IF NECESSARY) COMPENSATING THE OWNER(S) OF THE AFFECTED IMPROVEMENT(S) (E.G. PSE) TO STABILIZE, PRESERVE, PROTECT AND/OR REPLACE SUCH IMPROVEMENT(S).
- THE CONTRACTOR SHALL PROVIDE PROJECT SURVEYING, CONSTRUCTION STAKING, AND MARKING IN ACCORDANCE WITH THESE PLANS AND SPECIAL PROVISIONS SECTION 1-05.4.
- CONSTRUCTION SEQUENCING:** IN ACCORDANCE WITH SPECIAL PROVISIONS SECTION 7-10, THE CONTRACTOR SHALL PREPARE AND SUBMIT A PROPOSED CONSTRUCTION SEQUENCE FOR THE ENGINEER'S REVIEW, A MINIMUM OF 3 BUSINESS DAYS PRIOR TO THE PRE CONSTRUCTION MEETING, AND PRIOR TO COMMENCING THE WORK.
- DRIVEWAY ACCESS:** DRIVEWAY ACCESS TO PARCELS SHALL BE MAINTAINED AT ALL TIMES EXCEPT DURING ACTIVE TRENCHING, WATER FACILITY REMOVAL AND/OR PLACEMENT, TRENCH BACKFILL, SURFACING AND/OR PAVING AT, OR IN THE IMMEDIATE VICINITY OF THE RESPECTIVE DRIVEWAY LOCATION(S). PRIOR TO THE END OF EACH WORKDAY, THE CONTRACTOR SHALL INSTALL ANCHORED TEMPORARY STEEL PLATES OR TEMPORARY PAVEMENT ACROSS ANY TRENCH SECTION CROSSING A DRIVEWAY THAT HAS NOT BEEN RESTORED TO FINISH GRADE. THE TEMPORARY STEEL PLATES, TEMPORARY PAVEMENT AND/OR COMPLETED TRENCH SECTION SHALL EXTEND THE FULL WIDTH OF THE DRIVEWAY AND PROVIDE FOR SAFE TRAFFIC MOVEMENT. THE CONTRACTOR SHALL COORDINATE ANY DRIVEWAY CLOSURES WITH THE LWSD AND THE RESPECTIVE PROPERTY OWNER(S) A MINIMUM OF 48-HOURS PRIOR TO THE SCHEDULED CLOSURE.
- FIRE PROTECTION: SOUTH KING FIRE AND RESCUE.
- SEE THE CONTRACT DOCUMENT APPENDICES FOR THE PROPOSED TEMPORARY TRAFFIC CONTROL PLANS, SEE SPECIAL PROVISIONS SECTION 1-08.4(2) FOR ALLOWABLE HOURS OF WORK.
- ALL MAIL DELIVERY, GARBAGE/RECYCLING PICKUP, AND SCHOOL BUS ROUTES SHALL NOT BE IMPEDED AND ACCESS SHALL BE CONTINUOUS THROUGH CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ACTIVITIES SO THAT NO DISRUPTIONS TO GARBAGE/ RECYCLING OCCUR.
- ASBESTOS CEMENT PIPE REMOVAL WORK SHALL BE PERFORMED BY AN ASBESTOS ABATEMENT CONTRACTOR CERTIFIED BY L&I. SEE SPECIAL PROVISIONS 2-02.3(4) FOR ADDITIONAL INFORMATION.

GENERAL WATER NOTES

- WATER MAINS AND HYDRANT LATERALS SHALL BE DUCTILE IRON PIPE, SPECIAL THICKNESS CLASS 52, RESTRAINED JOINTS, SHALL BE INSTALLED ON ALL HYDRANT LATERALS IN ACCORDANCE WITH STANDARD PLAN 1100 AND ON WATERMANS WHERE NOTED IN THE PLANS.
- RESTRAINED JOINTS SHALL BE **MEGALUG @ 1100"** OR APPROVED EQUAL. INSTALLATION OF EACH RESTRAINED JOINT SHALL BE PERFORMED IN THE PRESENCE OF THE LWSD INSPECTORS. THE LWSD INSPECTORS MAY ELECT TO FIELD MARK EACH SUCH OBSERVED COMPLETED RESTRAINED JOINT.
- FITTINGS FOR WATER MAINS SHALL BE DUCTILE IRON PRESSURE CLASS 350 FOR PLAIN-END, PUSH-ON, MECHANICAL OR FLANGE JOINTS. ALL FITTINGS CONNECTING TO NEW WATER MAINS SHALL HAVE RESTRAINED JOINTS EXCEPT WHERE NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- WATER MAIN CONNECTIONS AT COUPLINGS AND FITTINGS SHALL ALIGN WITHOUT DEFLECTION. DEFLECTION AT ALL OTHER CONNECTIONS SHALL NOT EXCEED THREE (3)-DEGREES, OR HALF OF THE MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION, WHICHEVER IS LESS. SEE ADDITIONAL CONNECTION DETAILS, SHEET B6.
- NOT USED.
- WATER FACILITIES IDENTIFIED FOR REMOVAL OR IN CONFLICT WITH NEW FACILITIES SHALL BE REMOVED AND DISPOSED, OR REMOVED, SALVAGED, AND DELIVERED TO LWSD AS NOTED ON THE PLANS OR STATED IN SPECIAL PROVISION SECTION 2-02.1. WORK IN THE VICINITY OF AND/OR INVOLVING ASBESTOS CEMENT PIPE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL, STATE AND FEDERAL RULES AND REGULATIONS, INCLUDING WORKER EXPOSURE LIMITS PRESCRIBED IN WAC 296-62-07705, AND THE NOTIFICATION, PERMITTING, OFFSITE DISPOSAL AND REPORTING REQUIREMENTS, AS IS SET FORTH IN THE SPECIAL PROVISIONS AND APPENDICES.
- PRESUMED SOIL BEARING STRENGTH FOR THRUST BLOCKS: 2,000 PSF
- PROVIDE A MINIMUM COVER OF 42" FOR 10" AND SMALLER WATER MAINS, AND 48" FOR 12" TO 16" WATER MAINS, EXCEPT AT TRANSITIONS TO MATCH EXISTING WATER MAINS, AND AS SHOWN ON THE PLANS OR AS MAY BE DIRECTED BY THE ENGINEER. COVER SHALL BE CONSIDERED FROM TOP OF PIPE TO FINISHED GRADE. SEE SHEET B3 FOR WATER MAIN TRENCHING, BEDDING AND BACKFILL DETAIL.
- THE MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN AND NONPOTABLE CONVEYANCE SYSTEMS SHALL BE 18". IF LWSD DETERMINES 18" MINIMUM CLEARANCE CANNOT BE OBTAINED THE WATER MAIN SHALL BE ENCASED WHERE SHOWN ON THE PLANS. SEE "WATER SYSTEM DESIGN MANUAL" SECTION 6.3.4 FOR DEFINITIONS OF NONPOTABLE CONVEYANCE SYSTEMS.
- ALL GATE VALVES SHALL BE INSTALLED PER LWSD STANDARD PLANS.

GENERAL WATER NOTES (CONT.)

- DISRUPTION OF WATER SERVICE.** ANY PROPOSED WATER SERVICE DISRUPTION IS SUBJECT TO THE ADVANCE REVIEW OF, AND CONDITIONS AS MAY BE IMPOSED BY LWSD AS SET FORTH IN SPECIAL PROVISIONS SECTION 7-10.3, AND SHALL BE CONTROLLED BY AUTHORIZED LWSD PERSONNEL TO MINIMIZE SERVICE DISRUPTION AND ENSURE WATER SYSTEM INTEGRITY. VALVE OPERATION ON ACTIVE (CHARGED) WATER MAIN(S) SHALL BE BY AUTHORIZED LWSD PERSONNEL ONLY.

 - FOR SINGLE FAMILY RESIDENTIAL AND IRRIGATION SERVICE CONNECTIONS
 - THE CONTRACTOR SHALL COORDINATE AND CONFIRM WITH THE ENGINEER A MINIMUM OF 48-HOURS (2 BUSINESS DAYS) IN ADVANCE OF ANY ANTICIPATED WATER SERVICE DISRUPTION LESS THAN 4-HOURS DURING A CALENDAR DAY OR 24-HOUR PERIOD, AND PREPARE AND HAND-DELIVER LAKEHAVEN-FURNISHED NOTIFICATION FORMS TO EACH AFFECTED WATER SYSTEM CUSTOMER A MINIMUM OF 24-HOURS PRIOR TO SUCH DISRUPTION AS MAY BE AUTHORIZED BY LWSD.
 - THE CONTRACTOR SHALL COORDINATE AND CONFIRM WITH THE ENGINEER A MINIMUM OF 72-HOURS (3 BUSINESS DAYS) IN ADVANCE OF ANY ANTICIPATED WATER SERVICE DISRUPTION EXCEEDING 4-HOURS AND NOT EXCEEDING 8-HOURS DURING A CALENDAR DAY OR 24-HOUR PERIOD, AND PREPARE AND HAND-DELIVER LAKEHAVEN-FURNISHED NOTIFICATION FORMS TO EACH AFFECTED WATER SYSTEM CUSTOMER A MINIMUM OF 48-HOURS PRIOR TO SUCH DISRUPTION AS MAY BE AUTHORIZED BY LWSD. SEE SPECIAL PROVISION 1-08.4(3) FOR ADDITIONAL INFORMATION.
 - FOR MULTI FAMILY AND COMMERCIAL PROPERTIES
 - FOR SERVICE CONNECTIONS OTHER THAN SINGLE-FAMILY RESIDENTIAL AND IRRIGATION, WATER SERVICE SHALL NOT BE DISRUPTED DURING BUSINESS HOURS UNLESS THE CONTRACTOR HAS COORDINATED WITH THE POTENTIALLY AFFECTED PROPERTY AND BUSINESS OWNERS A MINIMUM OF FIVE-(5) BUSINESS DAYS IN ADVANCE OF THE PROPOSED WATER SERVICE DISRUPTION, AND OBTAINS WRITTEN AGREEMENT TO ALLOW SUCH WATER SERVICE DISRUPTION FROM THOSE SAME PROPERTY AND BUSINESS OWNERS A MINIMUM OF (3) DAYS IN ADVANCE OF THE PROPOSED WATER SERVICE DISRUPTION.
 - WATER SERVICE DISRUPTIONS OF A MAXIMUM OF ONE (1) HOUR MAY BE ALLOWED DURING BUSINESS HOURS, EXCLUSIVE OF RESTAURANT AND FOOD PREPARATION BUSINESSES, FOR SERVICE TRANSFERS OR CONNECTIONS, AND SUBJECT TO THE FOLLOWING ADVANCE COORDINATION AND NOTIFICATIONS REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE AND CONFIRM WITH THE ENGINEER A MINIMUM OF 72-HOURS (3 BUSINESS DAYS) IN ADVANCE OF WATER MAIN SHUT-OFF OR SERVICE DISRUPTION IN ACCORDANCE WITH THE SCHEDULE SUBMITTED TO AND REVIEWED BY THE ENGINEER. THE CONTRACTOR SHALL PREPARE AND HAND-DELIVER DISTRICT FURNISHED NOTIFICATION FORMS ("DOOR HANGERS") A MINIMUM 48-HOURS (2 BUSINESS DAYS) IN ADVANCE OF SUCH AUTHORIZED WATER SERVICE DISRUPTION. THE NOTICES SHALL INCLUDE THE ANTICIPATED TIMING OF THE WATER SERVICE DISRUPTION.
 - THE CONTRACTOR SHALL PROVIDE PERSONNEL TO CONTINUOUSLY AND ACTIVELY MONITOR A STRUCTURE OR STRUCTURES DURING A WATER SERVICE DISRUPTION INVOLVING A FIRE SERVICE LINE THAT WOULD OTHERWISE PROTECT THE STRUCTURE(S).

FOR PROPOSED WATER SERVICE DISRUPTIONS AFFECTING WATER SERVICE CUSTOMERS THAT DO NOT MEET THE ABOVE CRITERIA, THE CONTRACTOR SHALL SUBMIT A PROPOSED PLAN FOR PROVIDING TEMPORARY WATER SERVICE AND/OR CONSTRUCTION SEQUENCING IN ACCORDANCE WITH SPECIAL PROVISIONS SECTION 7-10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY WATER SERVICE AND SEQUENCING.
- THE MINIMUM VERTICAL CLEARANCE BETWEEN WATER MAIN AND ALL UNDERGROUND UTILITIES NOT DEFINED AS NONPOTABLE CONVEYANCE SYSTEMS SHALL BE 18". IF LWSD DETERMINES THIS MINIMUM CLEARANCE CANNOT BE MET A CLEARANCE OF 6" WILL BE ALLOWED PROVIDED EITHER A NEOPRENE PAD OR HIGH DENSITY POLYETHYLENE CLOSED-CELL FOAM PAD WITH A MINIMUM DENSITY OF 9.5 PCF (ETHAFOAM 900 OR APPROVED EQUAL) IS INSTALLED BETWEEN THE WATER MAIN AND THE CROSSING UTILITY. SEE "WATER SYSTEM DESIGN MANUAL" SECTION 6.3.4 FOR DEFINITIONS OF NONPOTABLE CONVEYANCE SYSTEMS.
- CONCRETE THRUST BLOCKING, COLLARS AND THRUST RESTRAINTS, WHERE SHOWN AND CALLED OUT ON THE PLANS, SHALL BE PER LWSD STANDARD PLANS.
- VALVE BOX LIDS SHALL BE ADJUSTED IMMEDIATELY FOLLOWING COMPLETION OF THE SUBGRADE AND EACH SURFACING COURSE. ALL UTILITY COVERS WHICH ARE LOCATED ON PROPOSED ASPHALT ROADWAYS SHALL BE TEMPORARILY PLACED AT SUBGRADE ELEVATION PRIOR TO PLACING CRUSHED SURFACING MATERIAL. CONTRACTOR SHALL ENSURE THAT ALL VALVE BOX COVERS AND LIDS ARE VISIBLE, AT GRADE, AND ACCESSIBLE TO LWSD AT ALL TIMES EXCEPT DURING GRADING AND SURFACING IN THE VICINITY OF THE VALVE. INTERMEDIATE ADJUSTMENT OF VALVE BOXES TO GRADE OR CONSTRUCTION AND REMOVAL OF TEMPORARY HMA WEDGES ARE INCIDENTAL TO THE VARIOUS BID ITEMS AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR SUCH INTERIM ADJUSTMENTS/PROTECTION.
- IF ANY PART OF THE COATING OR LINING OF A PIPE, FITTING, OR WATER APPURTENANCE IS DAMAGED, REPLACEMENT THEREOF SHALL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO LWSD. SEE SPECIAL PROVISION 7-09.3(13) FOR ADDITIONAL INFORMATION. REPAIR SHALL BE ALLOWED AT THE DISCRETION AND DIRECTION OF THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROTECT THE EXISTING UNDERGROUND STORM DRAINAGE AND GAS FACILITIES ADJACENT TO WATERMAIN TRENCHING. THE CONTRACTOR MAY PROPOSE ALTERNATE CONSTRUCTION METHODS OR ADJUST THE WATERMAIN ALIGNMENT TO AVOID IMPACTS TO ADJACENT UTILITIES AS AGREED TO BY LWSD. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THE CONTRACTOR SUSPECTS THE EXISTING STORM DRAINAGE SYSTEM OR GAS SYSTEMS ARE DAMAGED. TRENCHING OPERATIONS SHALL BE STOPPED UNTIL THE CITY AND LWSD CONFIRM WATERMAIN TRENCHING CAN CONTINUE.
- IF THE CITY AND LWSD AGREE THAT THE CONTRACTORS TRENCHING OPERATIONS HAVE DAMAGED EXISTING STORM DRAINAGE PIPE, STRUCTURES, OR BEDDING, THE CONTRACTOR SHALL REPLACE THE ENTIRE DAMAGED RUN OF STORM DRAINAGE PIPE AT CONTRACTORS EXPENSES. ANY RECONSTRUCTION SHALL NOT PROCEED WITHOUT WRITTEN DIRECTION BY LWSD AND CITY.
- NOT USED.
- ALL WATER DRAINED FROM WATER MAINS DURING CONSTRUCTION SEQUENCING OR PROGRESSION OF PROJECT OR SHALL BE STORED AND TREATED IN STEEL ROLL OFF TANKS (BAKER TANK OR APPROVED EQUAL). PROPOSED LOCATION(S) SHALL BE SUBJECT TO THE ADVANCE REVIEW & APPROVAL OF COFW & LWSD.
- LWSD SHALL APPROVE WATER MAIN INSTALLATION AND TRENCH PRIOR TO CDF POUR. PIPE ENCASEMENT AREA AND CDF AROUND WATER MAIN SHALL BE APPROVED BY LWSD BEFORE TRENCHES ARE BACKFILLED.

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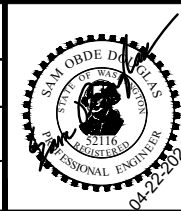
BID DOCUMENT

U-1

CITY OF Federal Way
 Centered on Opportunity
 33325 8TH AVE S FEDERAL WAY, WA 98003
 PHONE: (253) 835-2700
 WWW.CITYOFFEDERALWAY.COM

KPG PSOMAS
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 Tacoma | Wenatchee | KPG.com

DRAFTED:	AJO
DESIGNED:	MKE
REVIEWED:	SOD
APPROVED:	NJD



DRAWING VERSION / REVISION LOG		
NO.	DATE	REVISION

CULVERT REPLACEMENT PROJECT
 REDONDO CREEK AT 16TH AVENUE S

GENERAL WATER NOTES
 (SCHEDULE B)

SHT. B1
OF B10
CITY PROJECT #: 34293

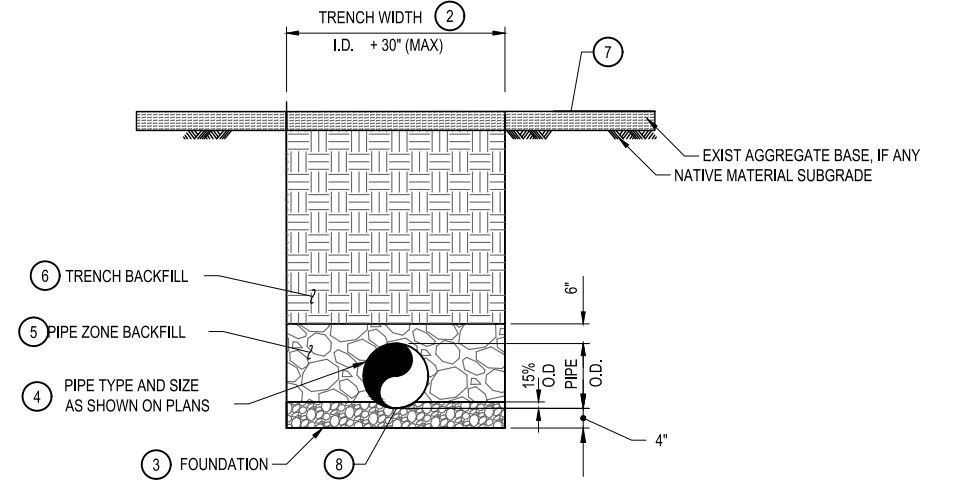
*** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com ***

ABBREVIATIONS

ASPH	ASPHALT CONCRETE	MIN	MINIMUM
AC	ASBESTOS CEMENT PIPE	MJ	MECHANICAL JOINT
ADA	AMERICANS WITH DISABILITIES ACT	MON	MONUMENT
AP	ANGLE POINT	N	NORTH OR NORTHING
APPROX	APPROXIMATE	NAVD	NORTH AMERICAN VERTICAL DATUM
BLDG	BUILDING	NGVD	NATIONAL GEODETIC VERTICAL DATUM
CB	CATCH BASIN	NIC	NOT-IN-CONTRACT
CCP	CEMENT CONCRETE PAVEMENT	NO	NUMBER
CDF	CONTROLLED DENSITY FILL	NTS	NOT TO SCALE
CHLK	CHAINLINK	OC	ON CENTER
	CENTERLINE	OD	OUTSIDE DIAMETER
CL	CLASS OR CENTERLINE	PC	POINT OF CURVE
CO	CLEANOUT	PCC	POINT OF COMPOUND CURVATURE
COFW	CITY OF FEDERAL WAY	PCCP	PERVIOUS CEMENT CONCRETE PAVEMENT
COL	COLUMN	PH	POTHOLE
CONC	CONCRETE	PI	POINT OF INTERSECTION
CPP	CORRUGATED POLYETHYLENE PIPE	POB	POINT OF BEGINNING
CSBC	CRUSHED SURFACING BASE COURSE	POE	POINT OF ENDING
CSTC	CRUSHED SURFACING TOP COURSE	PRC	POINT OF REVERSE CURVATURE
DIP	DUCTILE IRON	PROP	PROPOSED
DIA	DIAMETER	PT	POINT OF TANGENT OR POINT
DWY	DRIVEWAY	PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
E	EAST OR EASTING	PRV	PRESSURE REDUCING VALVE/VAULT
EA	EACH	PVT	POINT OF VERTICAL TANGENT
EL	ELEVATION	PVI	POINT OF VERTICAL INTERSECTION
ELEV	ELEVATION	R	RADIUS
EOP	EDGE OF PAVEMENT	RJ	RESTRAINED JOINT(S)
EW	EACH WAY	ROW	RIGHT OF WAY
EX	EXISTING	ROT	ROTATED
FF	FINISHED FLOOR	RT	RIGHT
FL	FLOW LINE OR FLANGE	S	SLOPE OR SOUTH
FO	FIBER OPTIC	SD	STORM DRAIN
FOC	FACE OF CURB	SDMH	STORM DRAIN MANHOLE
FURN	FURNISHED	SE	SOUTHEAST
GV	GATE VALVE	SHT	SHEET
HMA	HOT MIX ASPHALT	SP	SPECIAL PROVISIONS
HORZ,	HORIZONTAL	SQ	SQUARE
HZ		SS	SANITARY SEWER
HP	HIGH POINT	SSMH	SANITARY SEWER MANHOLE
ID	INSIDE DIAMETER	ST	STREET
IE	INVERT ELEVATION	STA	STATION
IN	INCH/INCHES	STD	STANDARD
JB	JUNCTION BOX	STR	STRUCTURE
KCSWDM	KING COUNTY STORM WATER DESIGN MANUAL	STW	STEEL WRAPPED
L	LENGTH	SW	SOUTHWEST
LT	LEFT	TWM	TEMPORARY WATER MAIN
LF	LINEAR FEET	TYP	TYPICAL
LP	LOW POINT	TP	TOP OF PIPE
LWSD	LAKEHAVEN WATER & SEWER DISTRICT	UNK	UNKNOWN
MAX	MAXIMUM	VERT,VT	VERTICAL
MIN	MINIMUM	W	WEST
MH	MANHOLE	W	WATER
MIC	MONUMENT IN CASE	WM	WATER MAIN
		WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
		YD	YARD DRAIN

GRAVITY SEWER GENERAL NOTES

- CONNECTIONS OF NEW MAINS TO EXISTING FACILITIES SHALL BE TEMPORARILY SEALED OFF UNTIL AFTER UPSTREAM CONSTRUCTION IS TESTED, CLEANED AND ACCEPTED. ALL CONSTRUCTION DEBRIS AND WATER SHALL BE REMOVED PRIOR TO OPENING SEAL, WITHOUT FLUSHING AND DEBRIS DOWNSTREAM.
- GRAVITY SEWER PIPE MATERIAL SHALL BE AS SHOWN ON THE PLANS, WHICH WILL BE ONE OF THE FOLLOWING AND ARE NOT NECESSARILY INTERCHANGEABLE:
 - POLYVINYL CHLORIDE (PVC) ASTM D-3034, SDR 35 (4" THROUGH 15") OR ASTM F-679, SDR 35 (18" AND LARGER)
 - POLYVINYL CHLORIDE (PVC) AWWA C-900, DR-18 (4" THROUGH 12") OR AWWA C-905, DR-18 (14" THROUGH 36")
 - HIGH DENSITY POLYETHYLENE (HDPE) ASTM F-894, WITH GASKETED JOINTS
 - DUCTILE IRON ANSI A21.51/AWWA C-151, MINIMUM CLASS 52, EPOXY-LINED WITH PROTECTO 401TM CERAMIC EPOXY
- TRENCH BACKFILL SHALL BE COMPACTED PRIOR TO TESTING SEWER MAIN PIPE, AND SIDE SEWER STUB(S) SHALL BE AIR TESTED AT THE SAME TIME AS THE SEWER MAIN
- SIDE SEWER STUBS SHALL BE INSTALLED AT A GRADE OF AT LEAST 2% AND THEIR TERMINI SHALL BE AT A DEPTH ADEQUATE TO SERVE THE INTENDED PROPERTY, CAPPED AND MARKED BY A GREEN 2X4 POST LABELED "SANITARY SIDE SEWER" IN WHITE.



SANITARY SEWER TRENCH SECTION CONSTRUCTION NOTES:

- NOT USED.
- SEE STD SPEC 2-09.4, AND SEWER TRENCH SECTION (THIS SHEET) FOR MEASUREMENT OF NEAT LINE TRENCH WIDTH.
- UNSUITABLE FOUNDATION MATERIAL - SEE STD SPEC. SECTION 2-03.
- GRAVEL BACKFILL FOR PIPE ZONE BEDDING, COMPACTED TO 95% MAX. DENSITY. SEE STD SPEC. SECTION 9-03.12(3).
- GRAVEL BACKFILL FOR PIPE ZONE BACKFILL, COMPACTED TO 90% MAX. DENSITY. SEE STD SPEC. SECTION 9-03.12(3). TO ASSURE UNIFORM SUPPORT, THE MATERIAL SHALL BE CAREFULLY WORKED UNDER THE PIPE HAUNCHES WITH A TOOL CAPABLE OF PREVENTING THE FORMATION OF VOID SPACES AROUND THE PIPE.
- CRUSHED SURFACING TOP COURSE FOR TRENCH BACKFILL. COMPACTED TO 95% MAX. DENSITY IN ROADWAYS, DRIVEWAYS, SIDEWALKS, AND UNPAVED AREAS. SEE STD SPEC. SECTION 9-03.14(3).
- COMPACT AGGREGATE COURSES PER TYPICAL SECTIONS.
- EXCAVATE BELL HOLES TO PROVIDE CONTINUOUS SUPPORT UNDER PIPE.

GENERAL TRENCH SECTION NOTES:

- EXCAVATION MORE THAN 4-FT. DEEP SHALL COMPLY WITH WAC 296-55, PART N.
- RECYCLED CONCRETE AGGREGATE MEETING THE REQUIREMENT OF SECTION 9-03.21(1) MAY BE INCORPORATED INTO PIPE ZONE BEDDING OR TRENCH BACKFILL SUBJECT TO THE ENGINEER'S APPROVAL. HOWEVER, OTHER TYPES OF RECYCLED MATERIAL IDENTIFIED IN SECTION 9-03.21 OF THE STANDARD SPECIFICATIONS SHALL NOT BE USED.
- UPPER LIMITS OF TRENCH EXCAVATION MEASUREMENT SHALL BE TO BOTTOM OF PROPOSED ROADWAY SECTION AND/OR BASE COURSE ALSO KNOWN AS BOTTOM OF EXISTING ASPHALT PAVEMENT.

SANITARY SEWER TRENCH DETAIL
NTS

K:\FEDERAL_WAY\21086 - Redondo Culvert Replacement\DESIGN\Drawings\Contract\21086NOTES-SEWER.dwg, 10/4/2023



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DESIGNED:	MKE
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APPROVED:	NJD

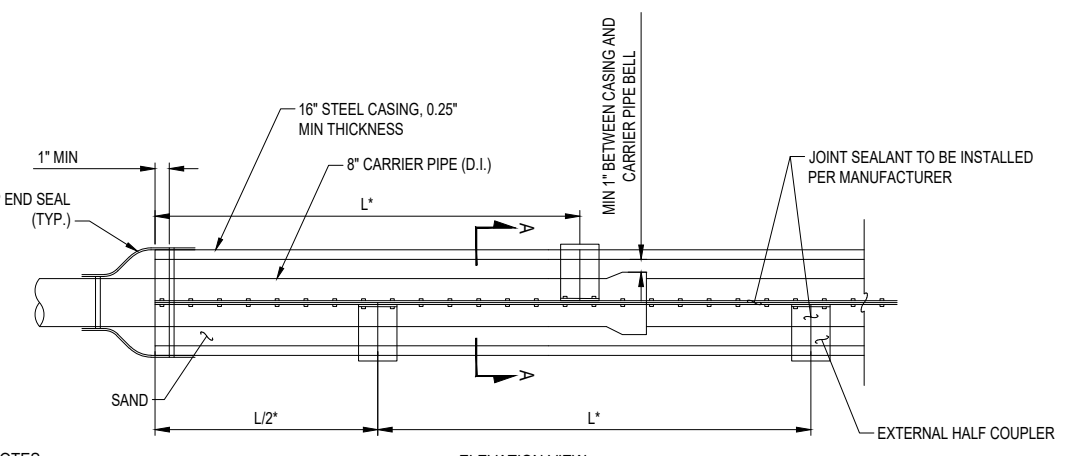
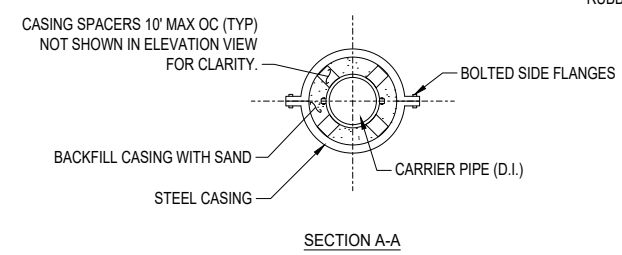
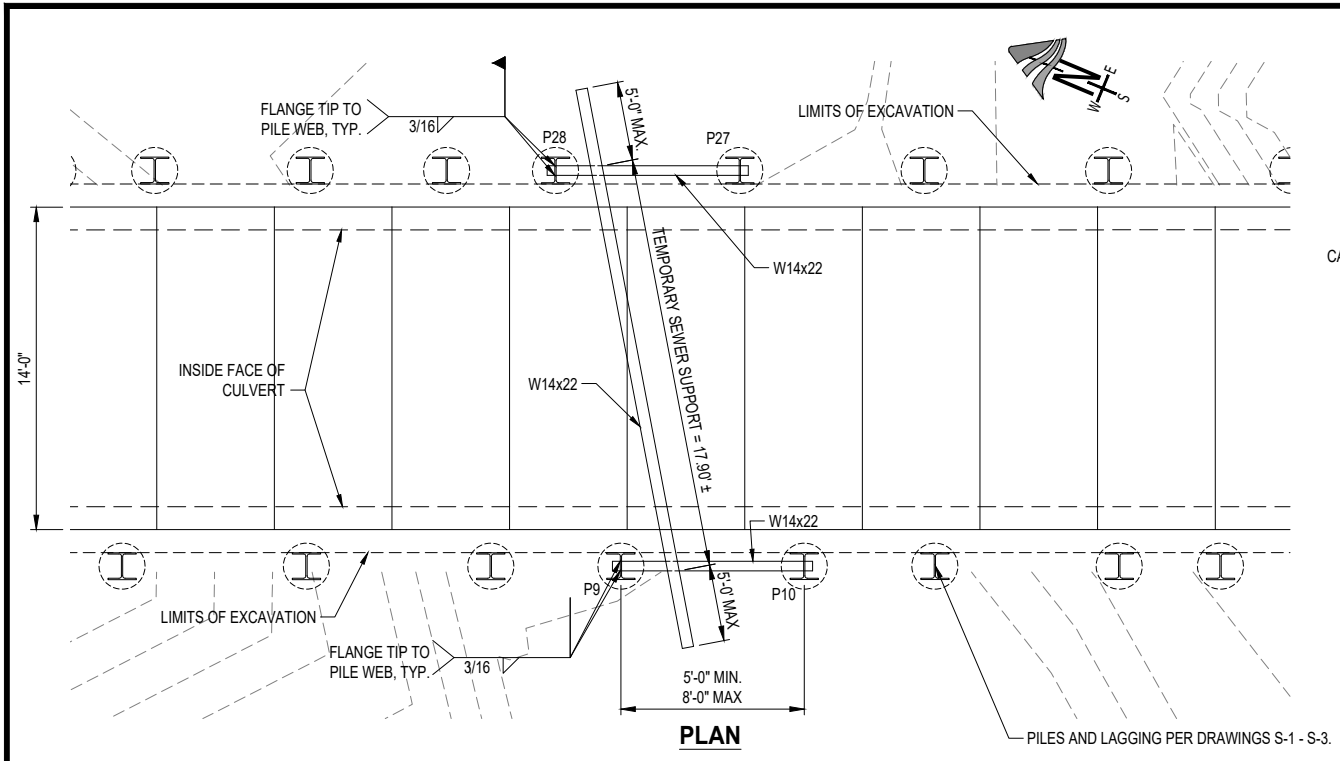


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NO.	DATE	REVISION

CULVERT REPLACEMENT PROJECT
REDONDO CREEK AT 16TH AVENUE S
ABBREVIATIONS & GENERAL SEWER NOTES & DETAILS
(SCHEDULE B)

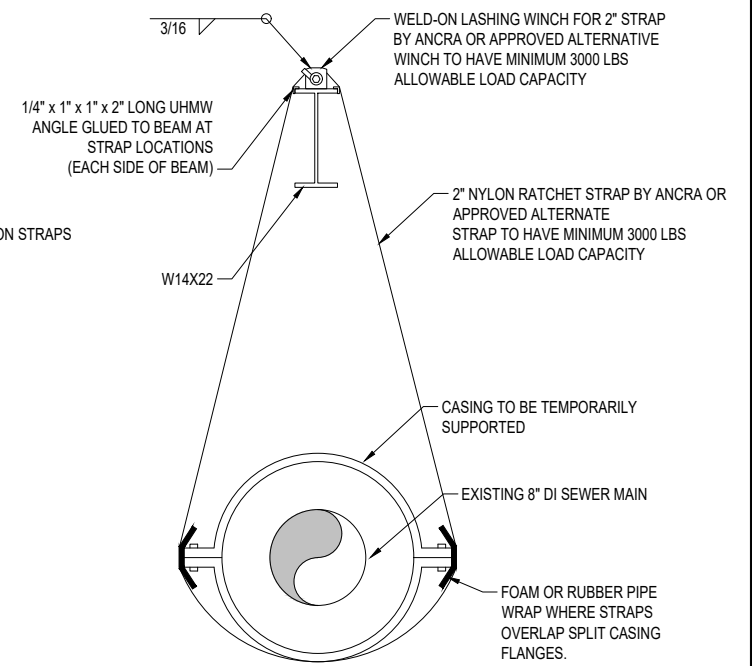
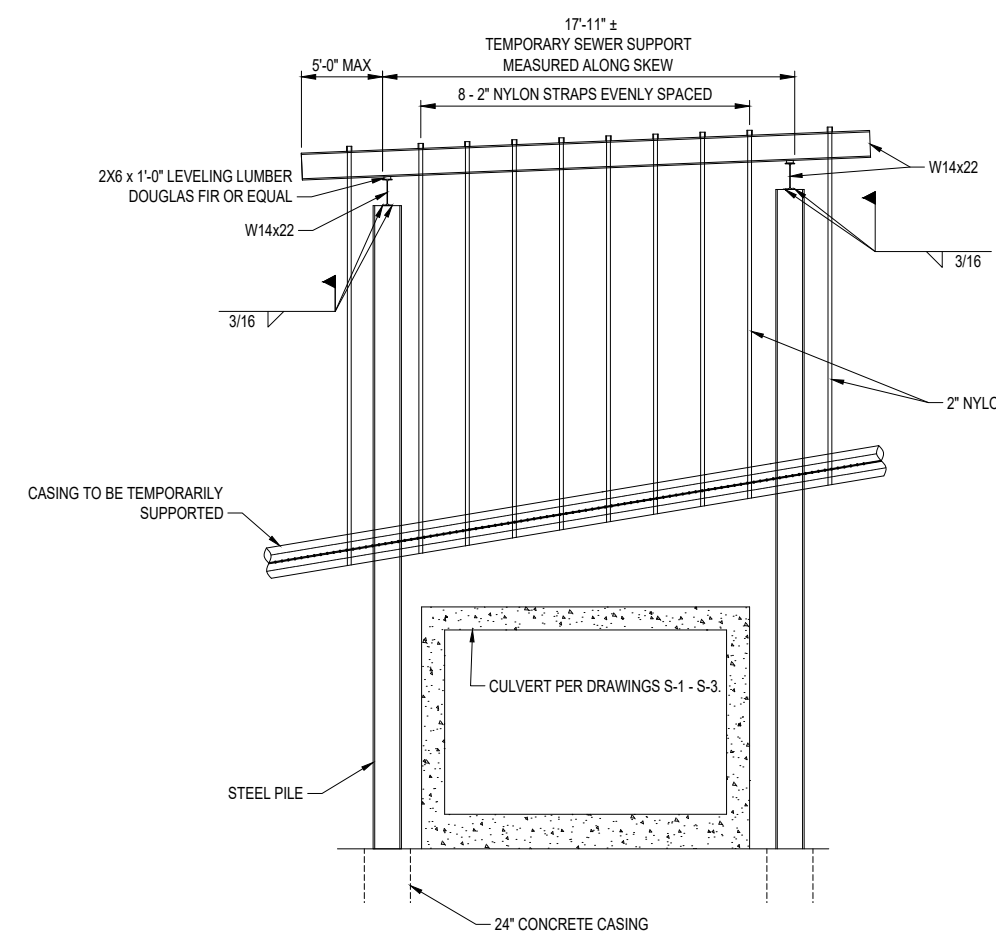
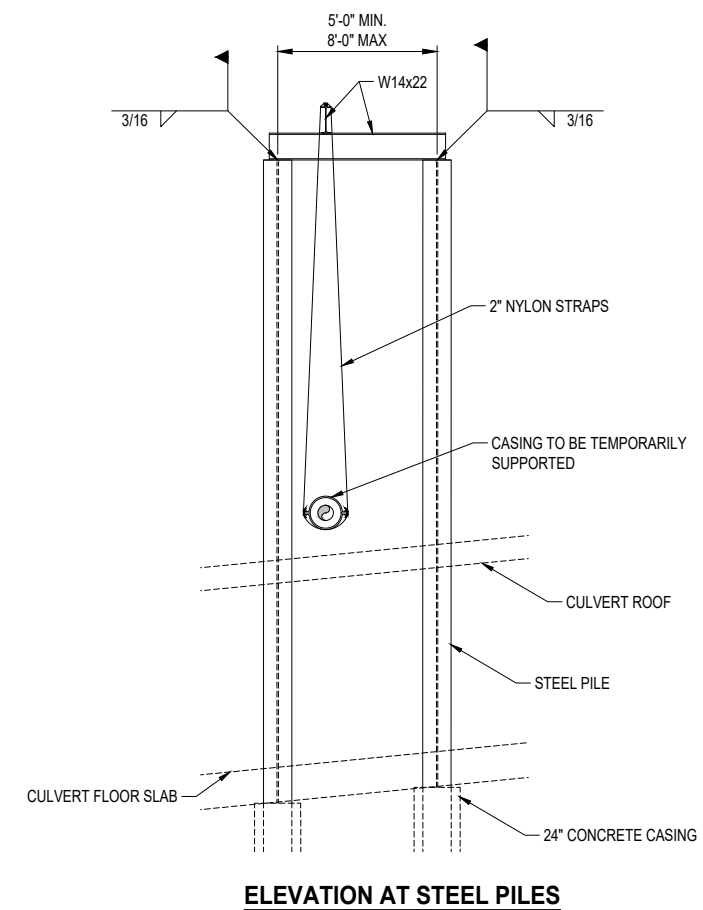
SHT. B2
OF B10
CITY PROJECT #: 34293

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- NOTES:**
1. INSTALLATION SHALL CONFORM TO ALL MANUFACTURER'S RECOMMENDATIONS. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
 2. SPLIT STEEL CASING SHALL BE PER IRONHED, LLC. OR APPROVED EQUAL.
 3. STEEL SHALL MEET ASTM A36.
- * L= 10FT UNLESS OTHERWISE APPROVED BY THE ENGINEER.

SPLIT CASING DETAIL
NTS



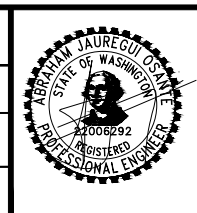
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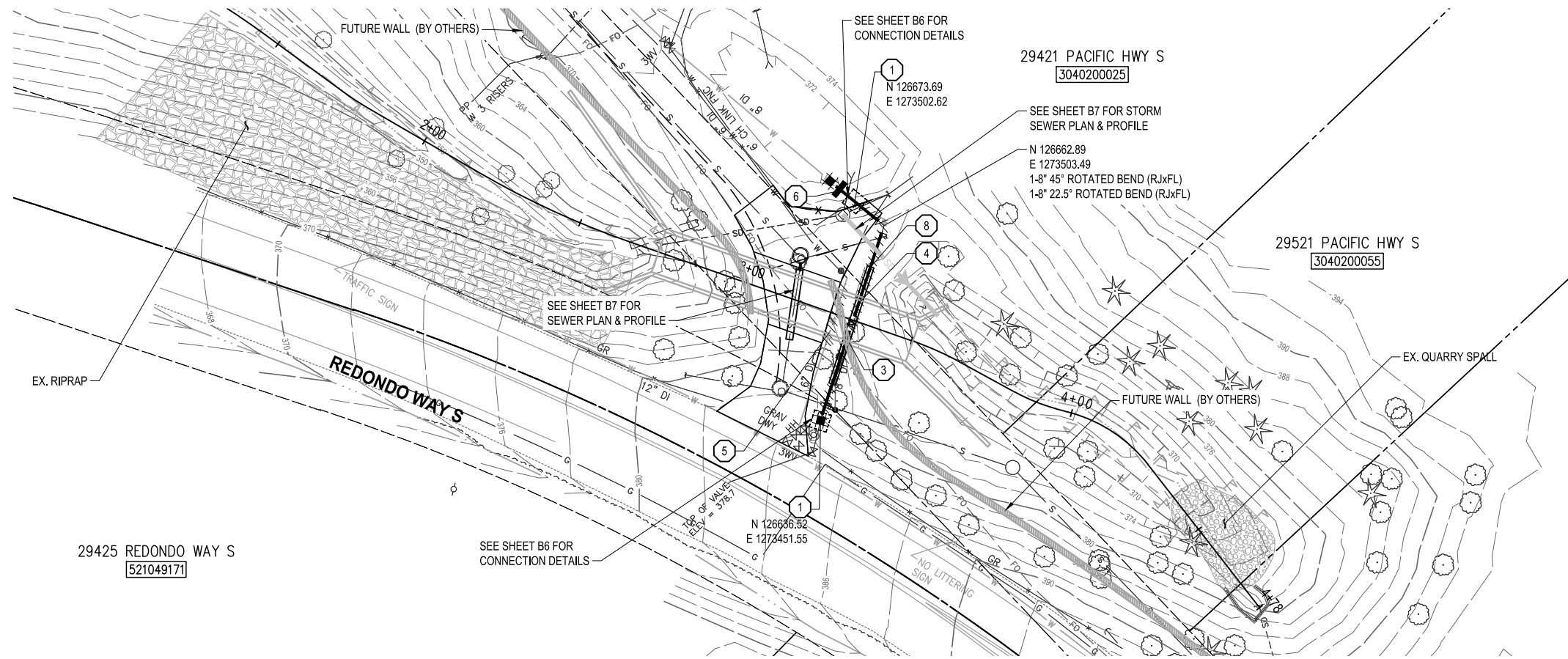
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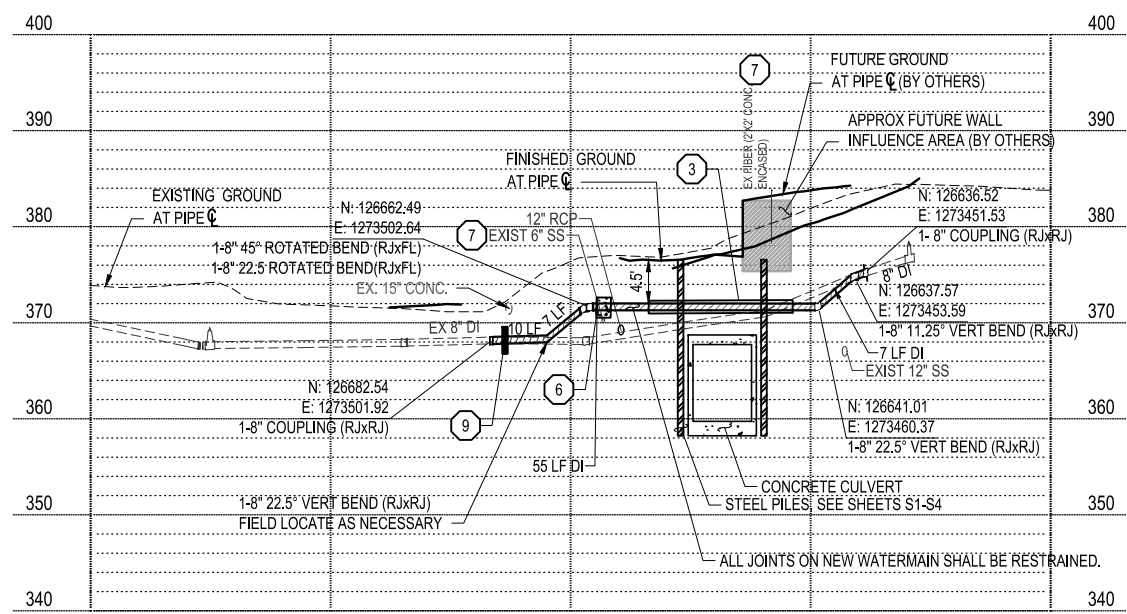
CULVERT REPLACEMENT PROJECT
REDONDO CREEK AT 16TH AVENUE S
SEWER CASING SUPPORT DETAILS
(SCHEDULE B)

SHT.	B4
OF	B10
CITY PROJECT #:	



GENERAL NOTES
 1. FOR GENERAL WATER NOTES, SEE SHEET B1.

- CONSTRUCTION NOTES**
- 1. CONNECT TO EXISTING DI WATER MAIN. SEE DETAIL, SHEET B3.
 - 3. INSTALL 35 LF OF 16" STEEL CASING WITH CASING SPACERS. SEE DETAIL, SHEET B3.
 - 4. REMOVE EXISTING 8" DI WATER MAIN AS NECESSARY TO INSTALL PROPOSED IMPROVEMENTS. APPROX 70 LF.
 - 5. REMOVE ABANDONED 6" DI WATER MAIN AS NECESSARY TO INSTALL PROPOSED IMPROVEMENTS. APPROX 18 LF. INSTALL CDF PLUG ON EITHER EXPOSED END OF DI PIPE.
 - 6. INSTALL CDF PER TRENCH DETAIL, SHEET B3 IN PIPE ZONE AND WRAP PIPE IN POLYETHYLENE TO 5.0' ON EITHER SIDE OF SIDE SEWER.
 - 7. POT HOLE UTILITY. PROVIDE POT HOLE INFORMATION TO DISTRICT A MINIMUM OF 10 WORKING DAYS PRIOR TO SCHEDULE B WORK.
 - 8. WRAP NEW PIPE IN POLYETHYLENE NORTH OF CULVERT.
 - 9. INSTALL THRUST COLLAR (DEAD-MAN ANCHOR BLOCKING) PER LWSO STD PLAN NO 1005. SEE SHEET B8.



- LEGEND**
- W PROPOSED WATER MAIN
 - PROPOSED COUPLING
 - EXISTING WATER VALVE
 - CROSS OR TEE
 - REMOVE PIPE



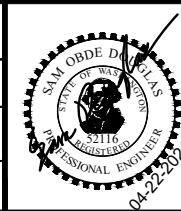
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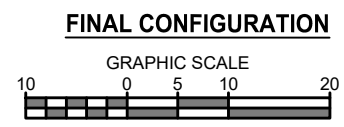
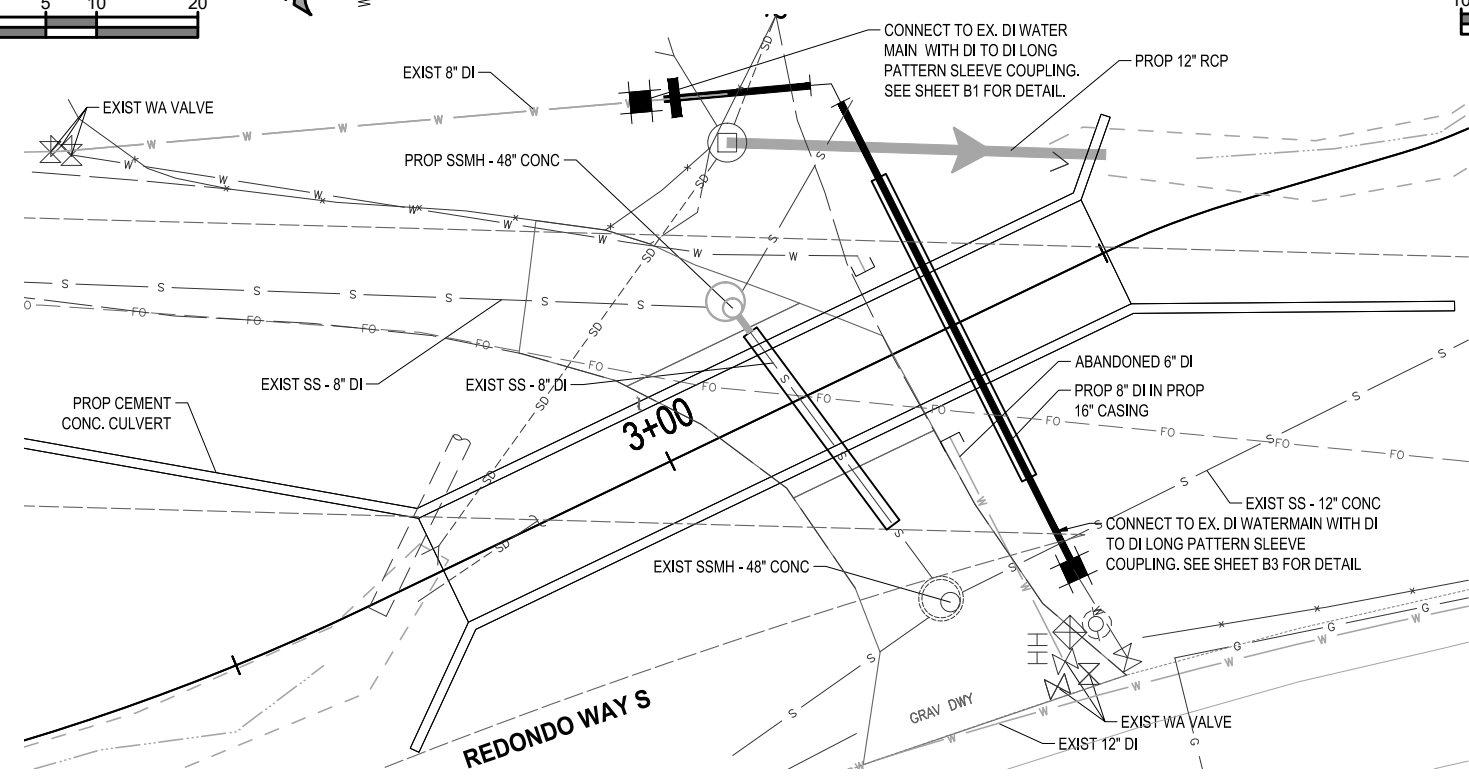
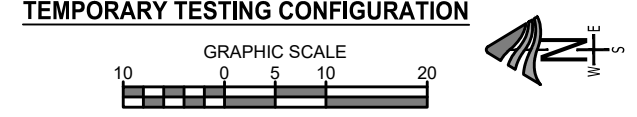
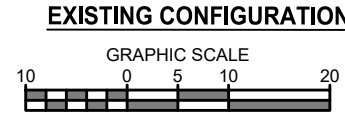
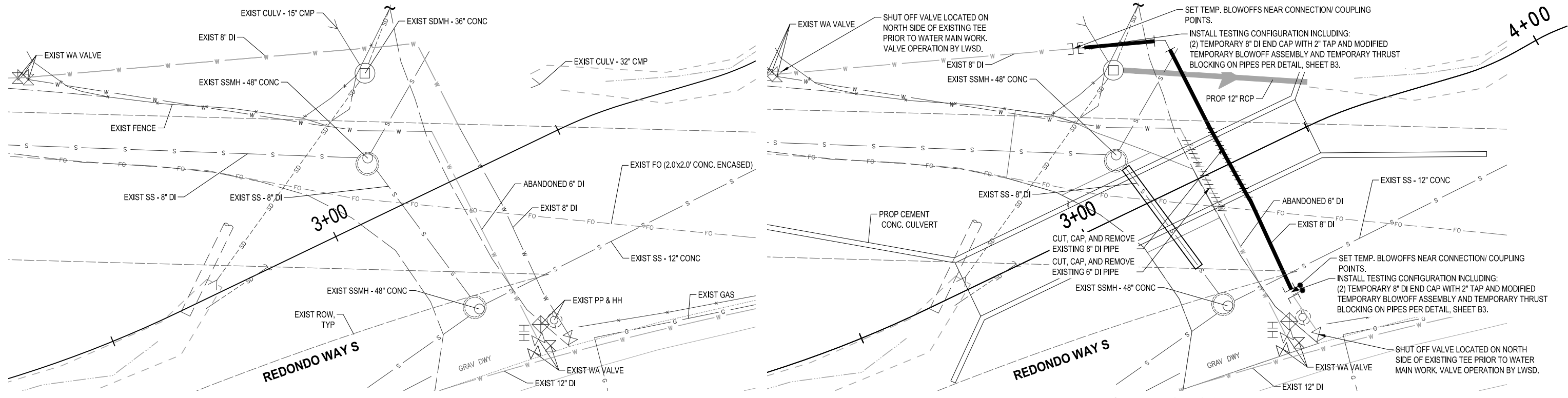
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CULVERT REPLACEMENT PROJECT
 REDONDO CREEK AT 16TH AVENUE S
 WATER PLAN & PROFILE (SCHEDULE B)

SHT. B5
 OF B10
 CITY PROJECT #:
 34293

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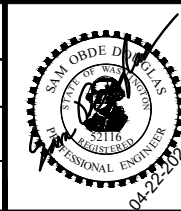
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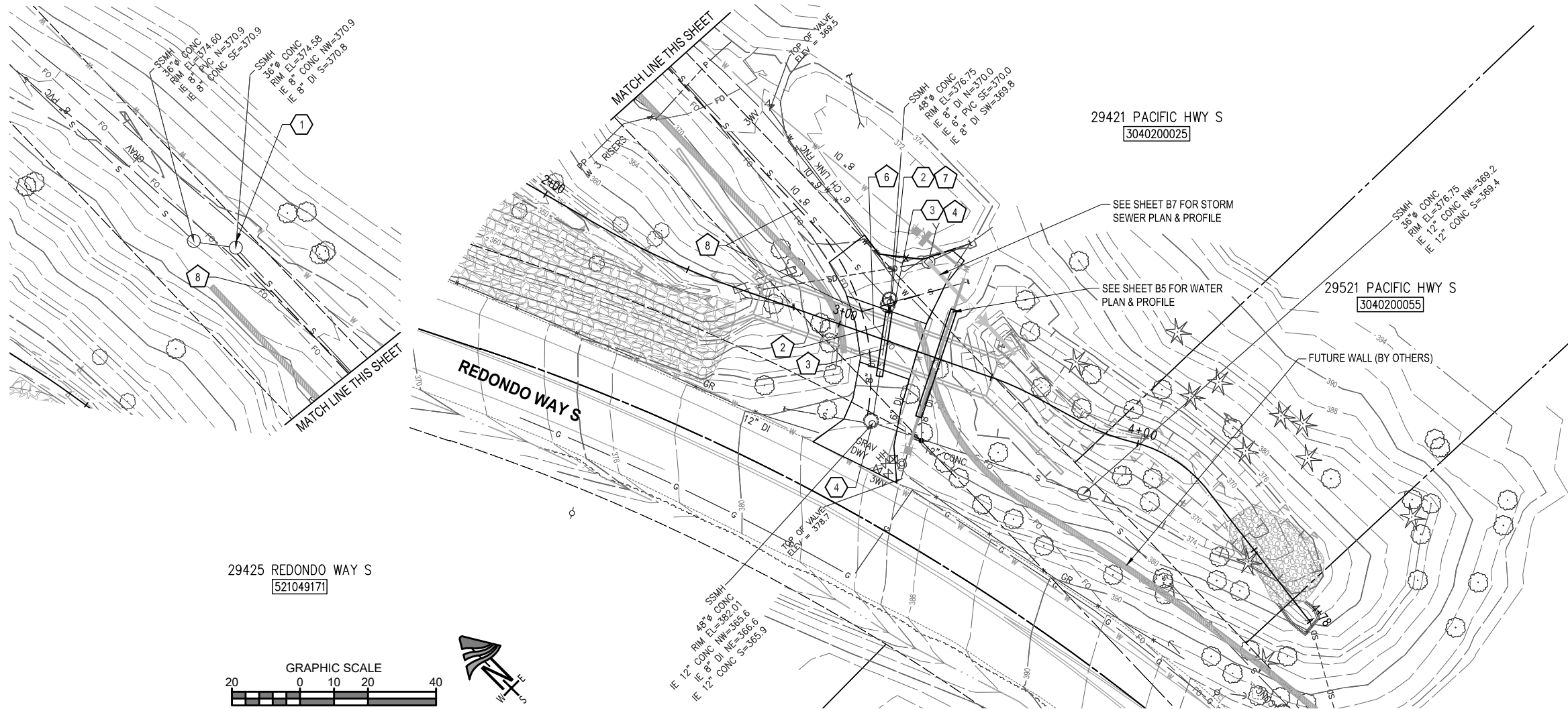
WATER CONNECTION DETAILS (SCHEDULE B)

U-6

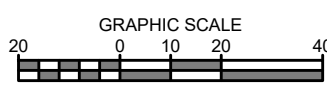
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OF B10

CITY PROJECT #:
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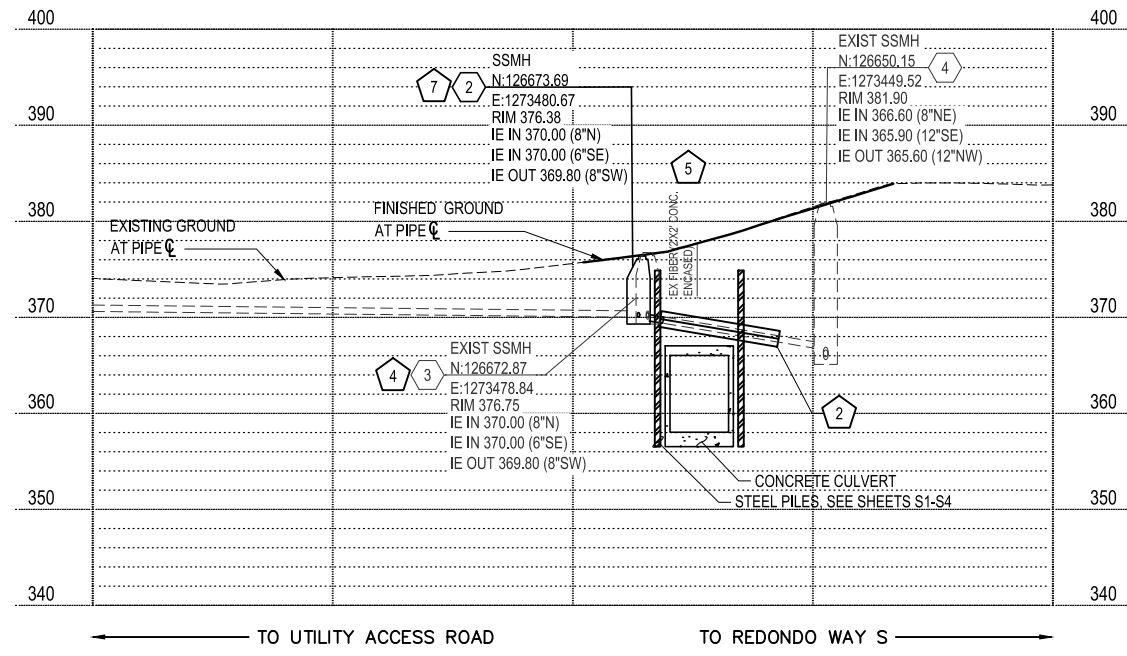


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521049171



GENERAL NOTES
1. FOR GRAVITY SEWER GENERAL NOTES, SEE SHEET B2.

- CONSTRUCTION NOTES**
- 1 PRESERVE AND PROTECT.
 - 2 INSTALL 25 LF SPLIT STEEL CASING, 16". SEE DETAIL, SHEET B4.
 - 3 SUPPORT EXISTING SEWER PIPE AND NEW CASING IN PLACE, SEE DETAIL, SHEET B4. CONTRACTOR SHALL COORDINATE SEWER SUPPORT SYSTEM WITH OTHER FRANCHISE UTILITY WORK, INCLUDING AT&T FIBER OPTIC SUPPORT SYSTEMS (BY OTHERS).
 - 4 REMOVE EXISTING MANHOLE. INSTALL TEMPORARY BYPASS PUMP SYSTEM INCLUDING STAGING A BACKUP REDUNDANT PUMP. INSTALL 1-8"X8" PVC C-900 WYE FITTING, NECESSARY PIPE, ADAPTERS, COUPLING, AND PIPE TO MAINTAIN SEWER FLOW ALONG THE MAIN LINE AND SIDE SEWER. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND NEW MATERIALS PRIOR TO EXCAVATION. BACKFILL EXCAVATION UNTIL SITE AND NEW MANHOLE IS READY FOR INSTALLATION. CONTRACTOR TO PROVIDE 72 HOUR NOTICE TO DISTRICT AND PROPERTY OWNER PRIOR TO WATER SHUT OFF TO MITIGATE SIDE SEWER FLOWS. MAXIMUM 8 HR WATER SHUT OFF DURATION. CONTRACTOR SHALL HAVE VACTOR TRUCK ON HAND TO EXTRACT ANY SPILLS OR CONTAMINATED MATERIAL.
 - 5 POTHOLE UTILITY. PROVIDE POTHOLE INFORMATION TO DISTRICT A MINIMUM OF 10 WORKING DAYS PRIOR TO SCHEDULE B WORK.
 - 6 AT&T TO REMOVE CONCRETE ENCASUREMENT AND STRUCTURALLY SUPPORT FIBER OPTIC LINE IN PLACE DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE ALL UTILITY SUPPORT SYSTEMS WITH EACH OTHER AS NECESSARY TO PERFORM CULVERT WORK.
 - 7 INSTALL NEW 48-IN TYPE 1 MANHOLE PER LWSO STD DETAIL SS-01 AND SS-02 INCLUDING MAKING CONNECTIONS TO EX SEWER PIPE. INSTALL TEMPORARY BYPASS PUMP SYSTEM INCLUDING STAGING A BACKUP REDUNDANT PUMP. CONTRACTOR TO PROVIDE 72 HOUR NOTICE TO DISTRICT AND PROPERTY OWNER PRIOR TO WATER SHUT OFF TO MITIGATE SIDE SEWER FLOWS. MAXIMUM 8 HR WATER SHUT OFF DURATION. CONTRACTOR SHALL HAVE VACTOR TRUCK ON HAND TO EXTRACT ANY SPILLS OR CONTAMINATED MATERIAL.
 - 8 PROVIDE TEMPORARY BYPASS PUMPING INCLUDING STAGING A BACKUP REDUNDANT PUMP AS NEEDED DURING CONSTRUCTION. DISCHARGE INTO SSMH#4. PUMPS SHALL MEET OR EXCEED 100.0 GPM SANITARY SEWER FLOW RATES.



- LEGEND**
- EXISTING SEWER MANHOLE
 - EXISTING SEWER
 - EXISTING SIDE SEWER
 - TEMPORARY BYPASS PIPE
 - MANHOLE NUMBER
 - NEW SEWER MANHOLE

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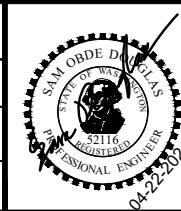
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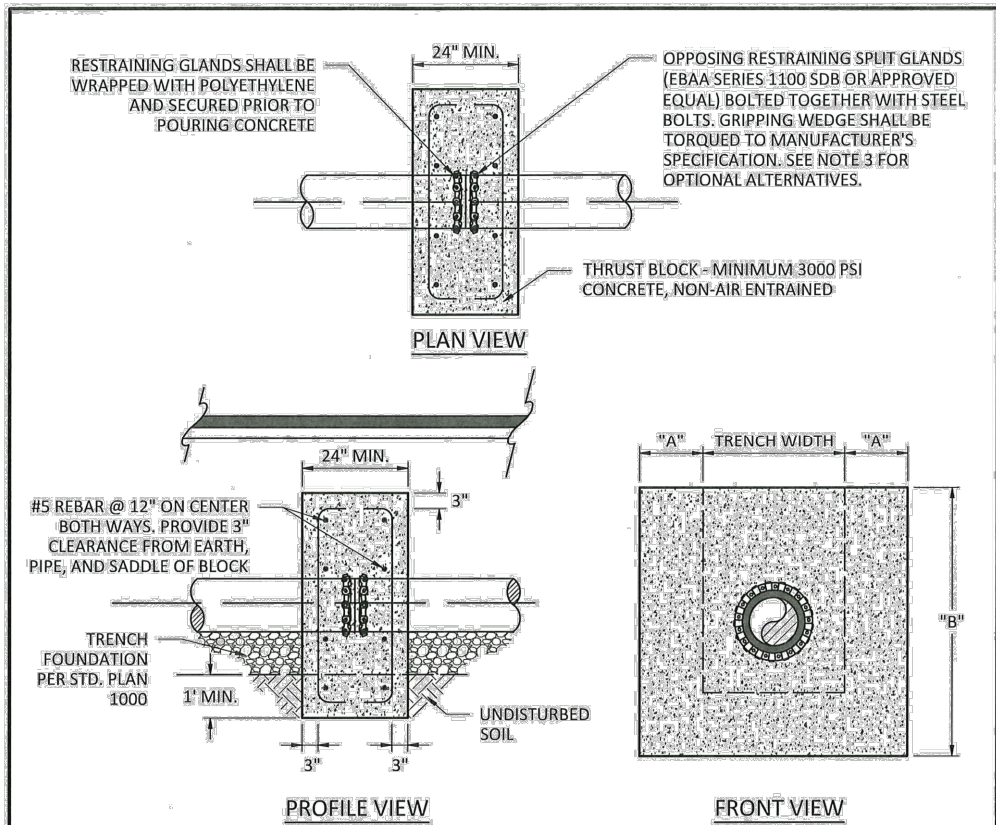


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REDONDO CREEK AT 16TH AVENUE S
SEWER PLAN & PROFILE (SCHEDULE B)

SHT. B7
OF B10
CITY PROJECT #:
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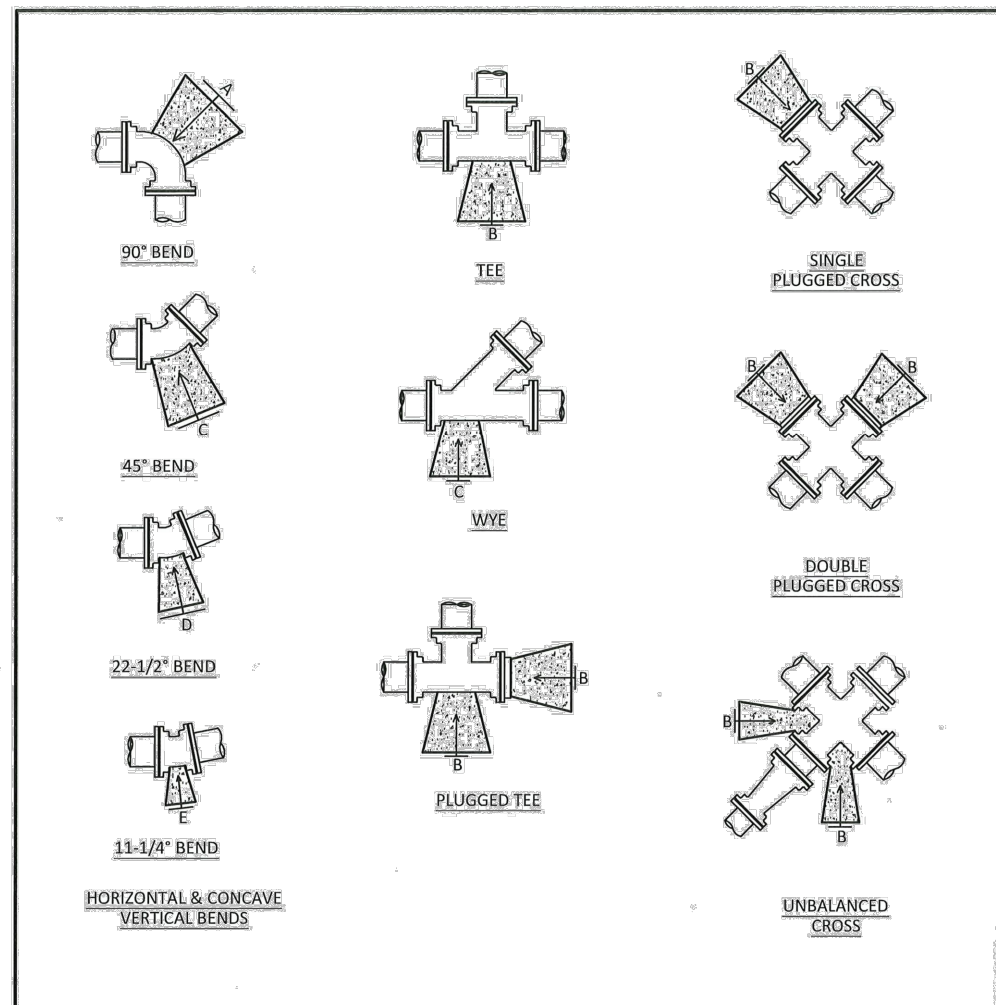
- NOTES:**
- THIS DETAIL IS NOT APPLICABLE FOR PIPE TEST PRESSURES LARGER THAN 250 PSI, PIPE DIAMETERS GREATER THAN 16-INCH, WHERE THE SAFE BEARING LOAD OF THE SOIL IS LESS THAN 3,000 PSF (MUCK, PEAT, SOFT CLAY, SAND, ETC), OR WHERE COVER OVER THE PIPE IS LESS THAN 3- FEET. IN THESE SCENARIOS, AN INDEPENDENT DESIGN SHALL BE DEVELOPED AND REVIEWED/APPROVED BY THE ENGINEER.
 - THRUST COLLAR SHALL BE ORIENTED AT APPROXIMATELY THE CENTER OF PIPE JOINT.
 - *OPTIONAL* A WELDED COLLAR (INSTALLED BY PIPE MANUFACTURER) MAY BE USED IN LIEU OF RESTRAINING GLANDS. ALL OTHER DESIGN REQUIREMENTS SHALL APPLY AS SHOWN.
 - ANY PROPOSED MODIFICATIONS TO THIS STANDARD BASED ON THE FIELD CONDITIONS MUST BE APPROVED BY THE ENGINEER.

THRUST TABLE BLOCK			
PIPE SIZE	"A"	"B"	THRUST FORCE (LBS)
6"	1.00	2.50	7,070
8"	1.50	3.00	12,600
10"	2.00	3.50	19,700
12"	2.00	4.50	28,300
14"	2.50	5.00	38,500
16"	3.00	5.50	50,300

Lakehaven WATER & SEWER DISTRICT

THRUST COLLAR (DEAD-MAN ANCHOR BLOCKING)

NOT TO SCALE | STD. PLAN NO. 1005 | MAY 2024



- NOTES:**
- ADDITIONAL BLOCKING SHALL BE PROVIDED IF GATE VALVE IS AT END OF LINE DURING TEST.
 - BLOCKING NOT REQUIRED IF FITTING IS FLANGED TO GATE VALVE.

Lakehaven WATER & SEWER DISTRICT

CONCRETE THRUST BLOCKING HORIZONTAL & CONCAVE VERTICAL BENDS

1 OF 2

NOT TO SCALE | STD. PLAN NO. 1003.1 | MAY 2024

- NOTES:**
- BEARING AREAS OF CONCRETE THRUST BLOCKING ARE BASED ON UNDISTURBED SOIL BEARING STRENGTH OF 2000/(3000) POUNDS PER SQUARE FOOT.
 - BEARING AREAS MUST BE ADJUSTED FOR OTHER SIZE PIPE, PRESSURES AND SOIL CONDITIONS.
 - CONCRETE BLOCKING SHALL BE CAST IN PLACE, AND HAVE A MINIMUM OF 1/2 SQ. FT. (72 SQ. IN.) BEARING AGAINST THE FITTING.
 - USE CEMENT CONCRETE CLASS 3000, WHICH HAS A COMPRESSIVE STRENGTH OF 3,000 PSI.
 - CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURES AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.
 - THE BEARING AREAS GIVEN IN THE TABLE ARE FOR HORIZONTAL THRUSTS WHEN THE DEPTH OF COVER OVER THE PIPE MEETS OR EXCEEDS THE REQUIRED MINIMUM. SEE STANDARD PLAN 1000.
- | SOIL | SAFE BEARING LOAD, LBS. PER SQ. FT. |
|--------------------------------|-------------------------------------|
| *MUCK, PEAT, ETC. | 0 |
| SOFT CLAY | 1,000 |
| SAND | 2,000 |
| SAND & GRAVEL | 3,000 |
| SAND & GRAVEL CEMENTED W/ CLAY | 4,000 |
| HARD SHALE | 10,000 |
- *IN MUCK OR PEAT, ALL THRUSTS SHALL BE RESTRAINED BY PILES OR TIE RODS TO SOLID FOUNDATIONS OR BY REMOVAL OF MUCK OR PEAT AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THRUSTS.
- ALL JOINT BOLTS AND ACCESSORIES SHALL FIRST BE COVERED WITH JUTE, 15 # BUILDING PAPER OR POLYETHYLENE SHEETING MATERIAL PRIOR TO PLACING OF CONCRETE TO PERMIT TAKING UP OR DISMANTLING JOINT.
 - CONCRETE FORMS SHALL BE INSTALLED PRIOR TO PLACING OF CONCRETE.

THRUST BLOCK TABLE							
MINIMUM BEARING AREA AGAINST UNDISTURBED SOIL - SQUARE FEET							
PIPE SIZE	MAX TEST PRESSURE (PSI)	THRUST RESTRAINT REQUIREMENT (AREA OF BACK OF BLOCK IN SQUARE FEET)					
		A	B	C	D	E	X (100 PSI)
4"	300	3/(2)	2/(2)	2/(1)	1/(1)	NONE	NONE
6"	300	6/(4)	4/(3)	3/(2)	2/(1)	1/(NONE)	NONE
8"	300	11/(3)	8/(5)	6/(4)	3/(2)	2/(1)	3/(2)
12"	250	24/(16)	17/(11)	13/(9)	7/(5)	4/(3)	5/(4)
16"	225	23/(16)	23/(16)	17/(12)	9/(6)	5/(3)	10/(7)
24"	200	64/(43)	46/(30)	35/(23)	18/(12)	9/(6)	23/(16)

- USE OF TABLE:**
- SELECT PROPER ROW BASED UPON PIPE/FITTING SIZE AND SPECIFIED TEST PRESSURE
 - SELECT PROPER COLUMN BASED UPON TYPE OF FITTING TO BE RESTRAINED (REFER TO ILLUSTRATIONS).
 - DETERMINE STRENGTH OF SOIL ENCOUNTERED, TABLE PROVIDES FOR SAND-TYPE SOIL AT 2,000 PSF, OR SAND AND GRAVEL-TYPE SOIL AT 3,000 PSF (IN PARENTHESIS). REFER TO NOTE 6 TO INTERPOLATE FOR OTHER TYPES OF SOIL.
 - READ MINIMUMS BEARING AREA IN SQUARE FEET.

Lakehaven WATER & SEWER DISTRICT

CONCRETE THRUST BLOCKING HORIZONTAL & CONCAVE VERTICAL BENDS

2 OF 2

NOT TO SCALE | STD. PLAN NO. 1003.2 | MAY 2024

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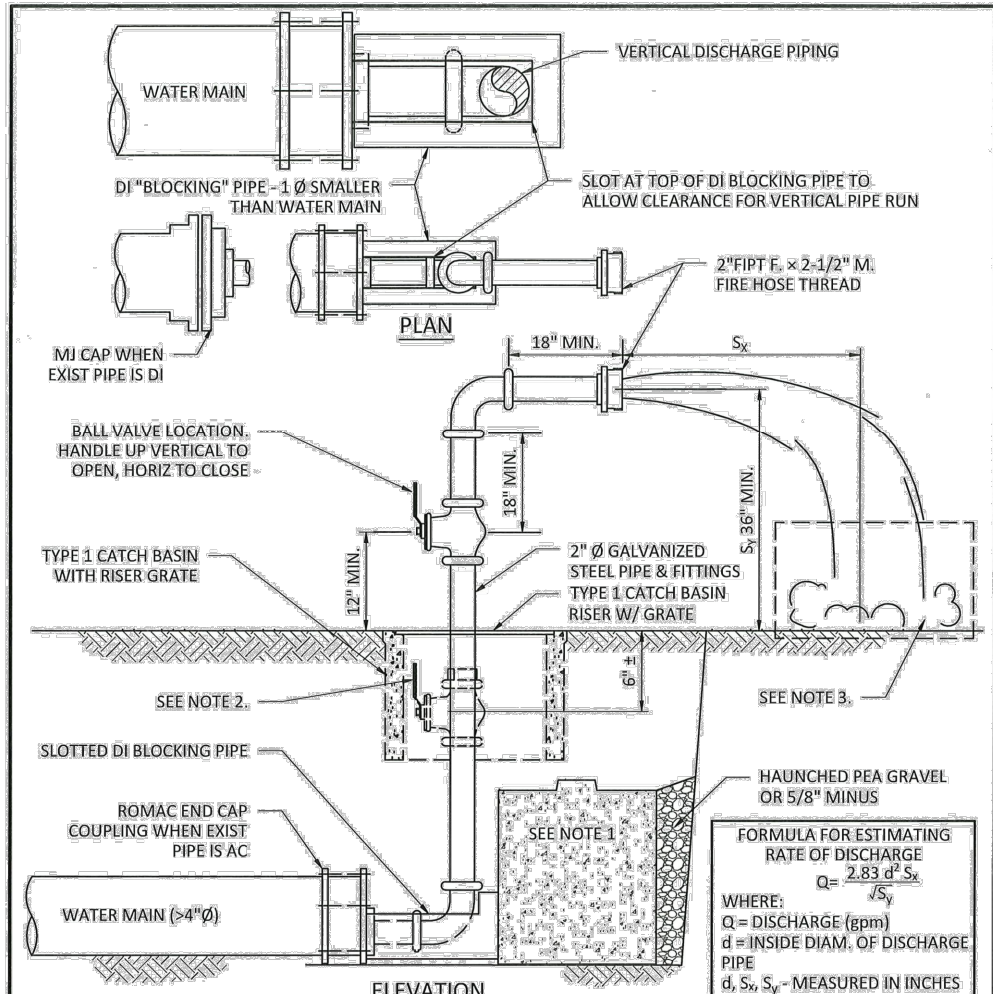
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CULVERT REPLACEMENT PROJECT
REDONDO CREEK AT 16TH AVENUE S

LWSD STANDARD DETAILS 01 (SCHEDULE B)

SHT. B8
OF B10
CITY PROJECT #:
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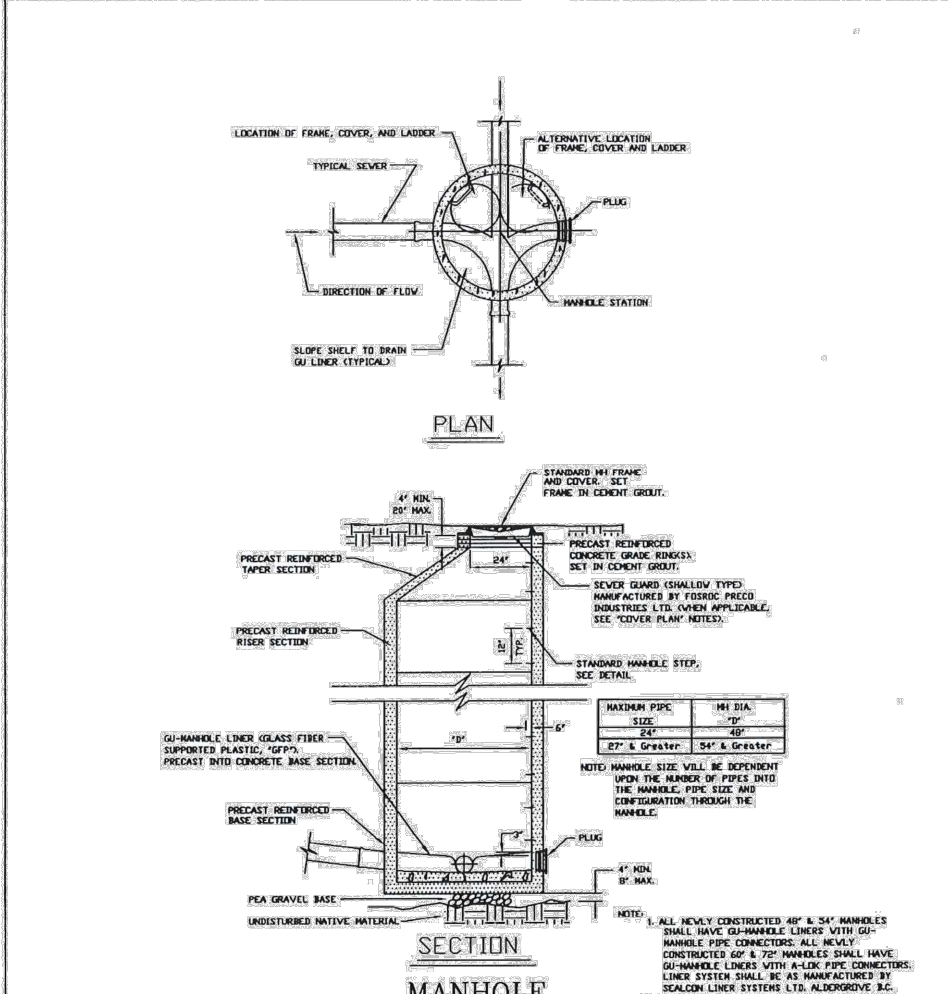
- NOTES:**
1. PROVIDE TEMPORARY THRUST RESTRAINT; CONC. ECOLOGY BLOCK(S) AS NECESSARY FOR SOIL AND TRENCH CONDITIONS TO RESIST TEST PRESSURE.
 2. IF ASSEMBLY PLACED IN HAZARDOUS/TRAFFIC LOCATION, PROVIDE BALL VALVE (HANDLE UP TO OPEN) AND PLUG FOR REMOVAL OF STANDPIPE OUTSIDE TIMES OF TESTING. COVER CONNECTION WITH TRAFFIC LOAD RATED METER BOX. REFER TO STANDARD PLAN 1201 FOR METER BOX.
 3. DISCHARGED WATER WITH CHLORINE RESIDUAL SHALL BE DECHLORINATED AND DISPOSED PER JURISDICTIONAL AGENCY REQUIREMENTS, AND CONTROLLED PER TESC PLAN.

Lakehaven WATER & SEWER DISTRICT

NOT TO SCALE

STD. PLAN NO. 1300

MAY 2024



STANDARD PLAN SS-01

LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

SANITARY SEWER MANHOLE DETAIL

DATE: 08/02

DRAWN: KRC

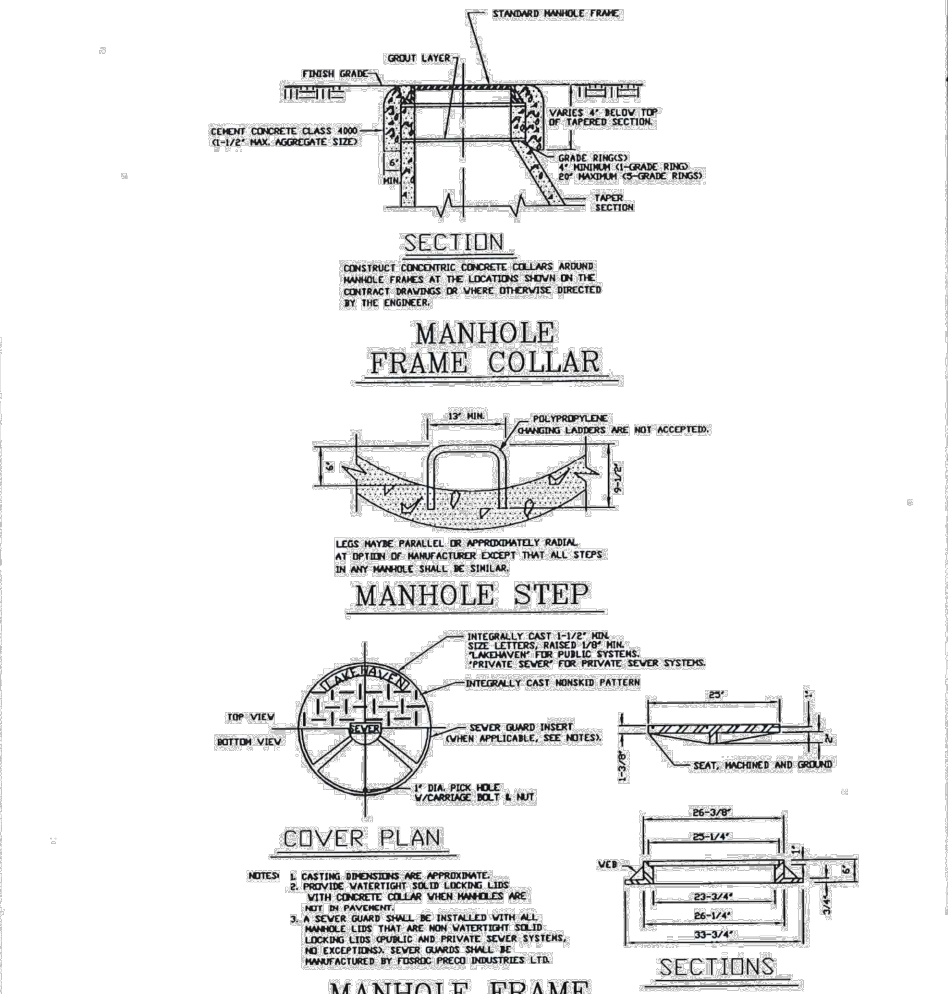
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STANDARD PLAN SS-02

LAKEHAVEN UTILITY DISTRICT
KING COUNTY WASHINGTON

SANITARY SEWER MANHOLE STEP AND COVER

DATE: 08/02

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APPR: [Signature]

SCALE: NTS

SHEET: 1

OF: 1

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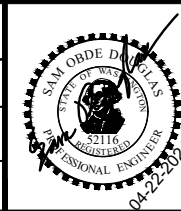
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CULVERT REPLACEMENT PROJECT
REDONDO CREEK AT 16TH AVENUE S

LWSD STANDARD DETAILS 02 (SCHEDULE B)

SHT. B9
OF B10
CITY PROJECT #: 34293

*** Official bid documents, plan holder's list, and addenda (if applicable) are available on BXWA.com ***

CONSTRUCTION SEQUENCE GENERAL NOTES

NOTE: OPERATION OF VALVES CONNECTED TO LAKEHAVEN WATER AND SEWER DISTRICT'S ACTIVE WATER SYSTEM SHALL ONLY BE PERFORMED BY LAKEHAVEN WATER AND SEWER DISTRICT STAFF, WITH NO EXCEPTIONS.

ABBREVIATIONS:

- | | |
|---|----------------------------|
| LAKEHAVEN WATER & SEWER DISTRICT (LWSD) | CITY OF FEDERAL WAY (COFW) |
| SOUTH KING FIRE AND RESCUE (SKFR) | ASBESTOS-CEMENT (AC) |
| DUCTILE IRON (DI) | POLYVINYL CHLORIDE (PVC) |
| PRESSURE REDUCING VAULT (PRV) | |

DEFINITIONS:

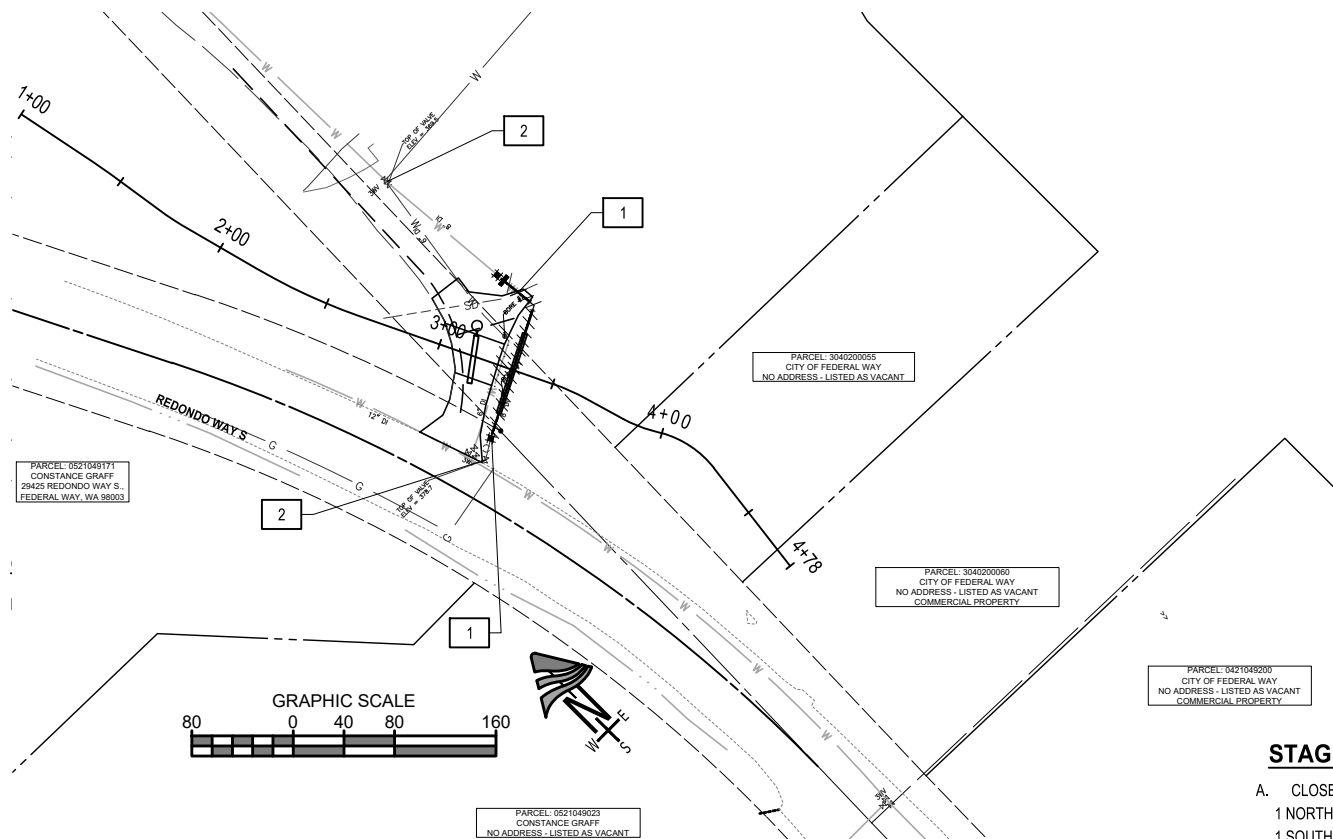
CUT AND CAP - PROCESS INCLUDING BUT NOT LIMITED TO WATER MAIN SEGMENT ISOLATION BY LWSD, EXCAVATING AND EXPOSING THE EXISTING WATER MAIN (SUFFICIENT FOR THE CUT AND CAP WITH TEMPORARY OR PERMANENT BLOWOFF ASSEMBLY, AND CONFIRMING PIPE MATERIAL, DIMENSIONS, DEPTH, ALIGNMENT, AND JOINT PROXIMITY FOR CONNECTION), CUTTING THE PIPE IF AND AS NECESSARY, DRAINING ONE OR MORE MAIN SEGMENTS, CONFIRMING ISOLATION OF THE WATER MAIN SEGMENT, CUTTING OR COMPLETING THE CUT AND DRAINING OF THE PIPE, PREPARING FOR AND PUMPING EXCESS WATER FROM EXCAVATION, REMOVING WATER MAIN, INSTALLING TEMPORARY OR PERMANENT BLOWOFF ASSEMBLY, BACKFILLING THE TRENCH WITH PERMANENT OR INTERIM (TEMPORARY) BACKFILL, PLACING TEMPORARY ANCHORED STEEL PLATES AND/OR SURFACING FOR INCOMPLETE OR TEMPORARY TRENCH/SURFACE RESTORATION, REMOVING SUCH TEMPORARY FEATURES IN CONJUNCTION WITH COMPLETION OF THE CONNECTION BETWEEN THE NEW WATER MAIN AND APPURTENANCES WITH THE EXISTING WATER SYSTEM, AND ALL WORK ASSOCIATED WITH COMPLETING THESE ITEMS OF WORK. SEE "NOTES" BELOW.

STANDARD WATER MAIN INSTALLATION - PROCESS FOR EXTENDING OR INSTALLING WATER MAIN IMPROVEMENTS WHERE THE LENGTH OF THE PIPE RUN, AND/OR WORKING CONDITIONS PRECLUDE THE USE OF THE "SWAB-AND-GO" PROCESS AS DETERMINED BY LWSD IN ACCORDANCE WITH LWSD STANDARDS, AND WASHINGTON STATE DEPARTMENT OF HEALTH RULES AND REGULATIONS. THE STANDARD WATER SYSTEM INSTALLATION PROCESS INCLUDES BUT IS NOT LIMITED TO INSTALLING THE NEW WATER MAIN WITH A TEMPORARY OR PERMANENT BLOWOFF ASSEMBLY AT EACH TERMINUS, OR AS INDICATED ON THE PLANS, AND/OR AS MAY BE DIRECTED BY LWSD, AND FLUSHING, FILLING AND DISINFECTING, PRESSURE TESTING, DRAINING AFTER A MINIMUM OF 24-HOURS AND MAXIMUM OF 96-HOURS OF DISINFECTION, FLUSHING, FILLING, TESTING FOR CHLORINE RESIDUAL*, AND SAMPLING TWO CONSECUTIVE DAYS FOR STANDARD 48-HOUR BACTERIOLOGICAL TESTS*. FOLLOWING SATISFACTORY COMPLETION OF ALL TESTING, THE PROCESS ALSO INCLUDES BUT IS NOT LIMITED TO ISOLATING AND DRAINING THE CONNECTING MAIN SEGMENT(S) OF THE EXISTING WATER SYSTEM*, DRAINING THE TESTED SEGMENT OF NEW MAIN, REMOVING TEMPORARY FEATURES (BLOWOFF ASSEMBLIES, BACKFILL, STEEL PLATES, SURFACING), COMPLETING THE CONNECTION(S) TO THE EXISTING WATER SYSTEM, FLUSHING*, AND ACTIVATING THE ISOLATED EXISTING AND NEW WATER MAIN SEGMENTS*. SEE "NOTES" BELOW, AND REFER TO SECTIONS 7-09.3(23) AND (24) OF THE SPECIAL PROVISIONS FOR MORE SPECIFIC DETAILS. (* CONDUCTED BY LWSD IN COORDINATION WITH, AND WITH SUPPORT PROVIDED BY, THE CONTRACTOR).

SWAB-AND-GO - REFER TO THE "NOTES" BELOW, AND SECTION 7-09.3(19)A OF THE SPECIAL PROVISIONS FOR MORE SPECIFIC DETAILS.

GENERAL NOTES:

- IT IS ANTICIPATED THAT A MINIMUM OF TWO (2) CREWS MAY BE NEEDED TO COMPLETE ONE OF MORE PORTIONS OF THE WORK WITHIN THE TIME FRAMES OUTLINED IN THE SUGGESTED CONSTRUCTION SEQUENCE. ADVANCE SAWCUTTING AND PRE-EXCAVATION WITH ANCHORED TEMPORARY STEEL PLATES, AND PERFORMING SELECTED STAGES CONCURRENTLY WHEN AND WHERE VIABLE, SUCH AS INSTALLING NEW MAIN(S) WHILE REMOVING EXISTING MAINS, ARE POTENTIAL OPTIONS FOR REDUCING THE AMOUNT OF TIME TO PERFORM THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANNING, SCHEDULING AND SEQUENCING THE WORK, SEE SP 1-08.4(3). THE SUGGESTED CONSTRUCTION SEQUENCE AS OUTLINED BELOW DOES NOT INCLUDE ALL DETAILS OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO DEVELOP AND PROPOSE A CONSTRUCTION SEQUENCE FOR LWSD REVIEW AND ACCEPTANCE IN ADVANCE OF THE WORK, AND FOR ALL THE DETAILS FOR PERFORMING AND COMPLETING THE WORK IN ACCORDANCE WITH THE CONTRACT PROVISIONS.
- WHERE FIRE HYDRANT SERVICE WILL BE DISRUPTED DUE TO PROJECT-RELATED WATER SYSTEM WORK IN NON-SINGLE FAMILY (SFR) AREAS, LWSD AND THE CONTRACTOR SHALL BE JOINTLY RESPONSIBLE TO COORDINATE WITH SKFR A MINIMUM OF THREE (3) BUSINESS DAYS IN ADVANCE OF ANY SUCH DISRUPTION TO ENSURE THAT SUFFICIENT FIREFIGHTING CAPABILITY IS AVAILABLE PENDING REACTIVATION OF THE HYDRANT(S).
- WHERE EXISTING AND LIVE SERVICE LINES CONFLICT WITH THE PROPOSED WATER MAIN, THE CONTRACTOR SHALL NOTIFY THE AFFECTED PARCEL OWNER OF A TEMPORARY SHUTDOWN PER SECTION 7-10.3 OF THE SPECIAL PROVISIONS AND RELOCATE THE EXISTING WATER SERVICE TO AVOID THE NEW WATER MAIN. THIS RELOCATION WOULD BE TEMPORARY BETWEEN WHEN THE NEW WATER MAIN GETS TRENCHED IN AND WHEN THE CONFLICTING SERVICE IS TRANSFERRED OVER TO THE LIVE NEW WATER MAIN. SEE THE PLANS FOR A TEMPORARY WATER SERVICE RELOCATION DETAIL.
- FOR ALLOWABLE WORKING HOURS, REFER TO SECTION 1-08.0(2) OF THE SPECIAL PROVISIONS.
- ALL DRAINED OR DISCHARGED WATER FROM EXISTING OR NEW WATER MAINS SHALL BE STORED AND TREATED IN A STEEL ROLL-OFF TANK (BAKER TANK OR APPROVED EQUAL). SUCH STORED AND TREATED, DRAINED AND/OR DISCHARGE WATER SHALL NOT BE DRAINED TO ANY SEWER SYSTEM WITHOUT THE WRITTEN APPROVAL OF, AND SHALL BE SUBJECT TO SUCH CONDITIONS AS MAY BE IMPOSED BY, THE COFW AND/OR LWSD.
- AS PART OF CUTS AND CAPS, THE CONTRACTOR SHALL CONFIRM PIPE MATERIAL, OUTSIDE DIAMETER, CONNECTION DEPTH, ALIGNMENT, AND PROXIMITY TO THE NEAREST PIPE JOINT OF THE EXISTING WATER MAIN(S) TO WHICH NEW MAIN OR APPURTENANCES ARE PROPOSED TO BE CONNECTED. AT THE DIRECTION OF THE LWSD INSPECTOR, THE LOCATION OF THE CUT AND CAP MAY BE ADJUSTED FORWARD OR BACK TO ENSURE SUFFICIENT SEPARATION OF THE NEW CONNECTION FROM THE NEAREST PIPE JOINT ON THE PORTION OF THE EXISTING WATER MAIN TO REMAIN IN SERVICE.
- WHERE NEW WATER SYSTEM IMPROVEMENTS CONFLICT WITH 5/8" OR 1-1/4" PE GAS SERVICES AND POWER SERVICES, THE CONTRACTOR SHALL COORDINATE RELOCATION WORK WITH PUGET SOUND ENERGY. SEE SECTION 1-05.14(A) OF THE SPECIAL PROVISIONS FOR UTILITY CONTACT INFORMATION.
- WHERE EXISTING UTILITY POLES ARE ADJACENT TO TRENCH-RELATED WORK, THE CONTRACTOR SHALL COORDINATE WITH PSE FOR POWER POLE SUPPORT, AND SHALL ENSURE THAT THE STRUCTURAL INTEGRITY AND FUNCTIONAL CAPABILITIES ARE PRESERVED AND PROTECTED DURING THE WORK. SEE SECTION 1-05.14(A) OF THE SPECIAL PROVISIONS FOR UTILITY CONTACT INFORMATION.
- PLACE TEMPORARY BACKFILL, INSTALL ANCHORED TEMPORARY STEEL PLATES, AND/OR TEMPORARY SURFACING FOR ANY TRENCH SECTIONS REMAINING OPEN OR INCOMPLETELY RESTORED TO FINISH GRADE PRIOR TO THE END OF THE WORK DAY (TYPICAL). PLACE CAUTIONARY WARNING SIGNS FOR TEMPORARY SURFACING, ESPECIALLY STEEL PLATES AS REQUIRED BY THE MUTCD, AND/OR REVIEWED TEMPORARY TRAFFIC CONTROL PLAN.
- THE CONTRACTOR SHALL INSTALL ALL TEMPORARY WATER MAINS AND SERVICE LINES (BYPASS PIPE) ABOVE GROUND EXCEPT WHERE NEEDED TO PROVIDE ROADWAY CROSSINGS, AT DRIVEWAYS OR VEHICLE TRAFFIC AREAS, CONTINUOUS VEHICLE ACCESS SHALL BE MAINTAINED DURING BYPASS OPERATIONS WITHOUT DAMAGE TO THE BYPASS PIPE OR DISRUPTION OF WATER SERVICE.
- ALL BYPASS PIPE INCLUDING APPURTENANCES SHALL CONFORM TO APPLICABLE AWWA STANDARDS AND BE CERTIFIED NSF 61. PIPE SHALL



CONSTRUCTION SEQUENCE GENERAL NOTES CONT.

- BE RATED FOR PRESSURE CLASS 200 OR EQUAL. TEMPORARY WATER MAINS SHALL BE SIZED AS SHOWN ON PLANS. TEMPORARY WATER MAINS SHALL BE A MINIMUM OF 1-1/2 INCH DIA. AND TEMPORARY SERVICE LINES SHALL MATCH THE SIZE OF THE METER SETTER. TEMPORARY SERVICE LINES SHALL EXTEND APPROXIMATELY PERPENDICULAR FROM THE TEMPORARY WATER MAIN TO THE BACK OF THE SETTER AT THE METER BOX.
- THE BYPASS PIPE SHALL BE PRESSURE TESTED AND DISINFECTED PER SPECIFICATIONS.
 - CONTRACTOR SHALL VERIFY LOCATION AND QUANTITY OF ALL EXISTING WATER SERVICES AND, IF NECESSARY, INSTALL ADDITIONAL CONNECTIONS NOT SHOWN ON THESE PLANS.
 - WATER BYPASS PIPE INCLUDING TEMPORARY BLOW-OFFS AND OTHER ASSOCIATED APPURTENANCES SHOWN ARE SCHEMATIC, NOT TO SCALE, AND PROVIDED FOR CONVENIENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND ROUTING THE WATER BYPASS PIPE TO COORDINATE WITH CONSTRUCTION ACTIVITIES, AND TO MEET ALL CONTRACT REQUIREMENTS. NO PORTION OF THE BYPASS PIPE SHALL BE LOCATED OUTSIDE CITY RIGHT-OF-WAY AND EASEMENT BOUNDARIES. RIGHT OF WAY SHOWN ON THESE PLANS IS SCHEMATIC AND BASED UPON GIS DATA.
 - CONTRACTOR SHALL COORDINATE, PREPARE AND POST LWSD-FURNISHED NOTICES PRIOR TO PROPOSED WATER SERVICE DISRUPTIONS AS SHOWN ON THE REVIEWED THREE-WEEK LOOK AHEAD SCHEDULE, AND AS MORE COMPLETELY DESCRIBED IN GENERAL WATER NOTES 11 AND 12, AND IN THE SPECIAL PROVISIONS. CONTRACTOR SHALL SCHEDULE AND COORDINATE IN ADVANCE, AND PERFORM THE WORK TO MINIMIZE WATER SERVICE DISRUPTIONS.
 - SEE SP 7-10 AND THIS SHEET FOR SUGGESTED WATER CONSTRUCTION SEQUENCE NARRATIVE CORRESPONDING TO THE CONSTRUCTION STAGING SHOWN ON THIS PLAN. FOR STAGING AND TEMPORARY WATER SERVICE DETAILS, SEE THIS SHEET AND LWSD STANDARD PLANS. FOR CONSTRUCTION OF NEW WATER MAINS, CONNECTIONS AND HYDRANTS ASSEMBLIES, SEE WATER PLANS AND PROFILES, SHEETS B5-B6.
 - ALL EXISTING UTILITY, RIGHT-OF-WAY AND PROPERTY LINE INFORMATION SHOWN ON SHEETS ARE SCHEMATIC AND ARE SOLELY FOR THE CONTRACTOR'S REFERENCE ONLY. SEE WATERLINE PLAN AND PROFILES, SHEETS B5 FOR THIS INFORMATION.
 - ALL WATER DRAINED FROM WATER MAINS DURING CONSTRUCTION SEQUENCING OR PROGRESSION OF PROJECT OR SHALL BE STORED AND TREATED IN STEEL ROLL OFF TANKS (BAKER TANK OR APPROVED EQUAL). PROPOSED LOCATION(S) SHALL BE SUBJECT TO THE ADVANCE REVIEW & APPROVAL OF COFW & LWSD.

CONSTRUCTION SEQUENCE PLANS:
FOR COMMON BIDDING PURPOSES, A SUGGESTED CONSTRUCTION STAGING SEQUENCE AND DETAILS CORRESPONDING TO THE FOLLOWING NARRATIVE IS SHOWN ON PLAN THIS SHEET.

GENERAL NOTES

- CONTRACTOR SHALL COORDINATE, PREPARE AND POST LWSD-FURNISHED NOTICES PRIOR TO PROPOSED WATER SERVICE DISRUPTIONS AS SHOWN ON THE REVIEWED THREE-WEEK LOOK AHEAD SCHEDULE AND AS MORE COMPLETELY DESCRIBED IN GENERAL WATER NOTE 11 AND IN THE SCHEDULE B SPECIAL PROVISIONS. CONTRACTOR SHALL SCHEDULE AND COORDINATE IN ADVANCE, AND PERFORM THE WORK TO MINIMIZE WATER SERVICE DISRUPTIONS.
- SEE SP 7-10. FOR LWSD STANDARD PLANS, SEE SHEETS B8-B9. FOR CONSTRUCTION OF NEW WATER MAINS, AND CONNECTIONS. SEE WATER PLANS AND PROFILES, SHEETS B5-B6.
- ALL EXISTING UTILITY, RIGHT-OF-WAY AND PROPERTY LINE INFORMATION SHOWN ON PLANS ARE SCHEMATIC AND ARE SOLELY FOR THE CONTRACTOR'S REFERENCE ONLY.
- ALL WATER DRAINED FROM WATER MAINS DURING CONSTRUCTION SEQUENCING OR PROGRESSION OF PROJECT SHALL BE STORED AND TREATED IN STEEL ROLL OFF TANKS (BAKER TANK OR APPROVED EQUAL). PROPOSED LOCATION(S) SHALL BE SUBJECT TO THE ADVANCE REVIEW & APPROVAL OF COFW & LWSD.

CONSTRUCTION NOTES

- CUT, CAP, AND INSTALL MODIFIED TEMPORARY BLOWOFF PER DETAIL, SHEET B3.
- SHUT OFF VALVE DURING CUT AND CAP AND TEMPORARY BLOWOFF INSTALLATION.

STAGE 1 SEQUENCING

- CLOSE (VALVE OPERATION BY LWSD STAFF ONLY) THE FOLLOWING GATE VALVES:
1 NORTH EASTERLY VALVE LOCATED AT REDONDO WAY S AND SITE ENTRANCE.
1 SOUTHERLY VALVE LOCATED ON THE TEE NORTH OF CULVERT.
- CUT AND CAP EXISTING 8 IN DI WATER MAIN AT THE LOCATION SHOWN ON PLANS, OR AS DIRECTED BY LWSD, AND INSTALL MODIFIED TEMPORARY BLOWOFF ASSEMBLIES.
- BACKFILL AROUND BLOWOFF ASSEMBLIES, AND EITHER COMPLETE SURFACE RESTORATION, OR INSTALL ANCHORED TEMPORARY STEEL PLATE(S), AND/OR TEMPORARY SURFACING. IN COORDINATION WITH LWSD, FLUSH EXISTING 8 IN DI WATER MAINS THROUGH THE BLOWOFF ASSEMBLIES. RETURN EXISTING WATER MAINS, AND ALL WATER SERVICES TO FULL SERVICE BY OPENING VALVES.
- IN COORDINATION WITH LWSD, AND USING THE TEMPORARY BLOWOFFS, FILL, DISINFECT, PRESSURE TEST, AND SAMPLE FOR PURITY TESTS THE NEW 8 IN DI WATER MAIN, AND FLUSH THROUGH TEMPORARY AND MODIFIED TEMPORARY BLOWOFFS AS NECESSARY TO ENSURE SAFE POTABLE WATER, AND NO ENTRAINED OR POCKETS OF AIR.
- INSTALL 8 IN DI WATER MAINS, INCLUDING FITTINGS, MODIFIED TEMPORARY BLOWOFF(S), AND CONNECTIONS TO THE EXISTING 8 IN DI WATER MAIN AT REDONDO WAY S AND NORTH OF CULVERT. IN COORDINATION WITH LWSD, FLUSH NEW AND EXISTING WATER MAINS THROUGH THE EXISTING HYDRANT APPROXIMATELY 400 FEET NORTH OF THE CULVERT. AS NECESSARY TO ENSURE SAFE POTABLE WATER, AND NO ENTRAINED OR POCKETS OF AIR. RESTORE NEW AND EXISTING WATER MAINS AND WATER SERVICES TO FULL SERVICE.

SUGGESTED CONSTRUCTION SEQUENCING AND TEMPORARY WATER SERVICE LEGEND

- | | | | |
|-------|----------------------------------|---|------------------------|
| — w — | EXISTING WATER LINE | ⊗ | EXISTING WATER VALVE |
| — w — | PROPOSED WATER LINE | ⊞ | EXISTING WATER SERVICE |
| --- | PARCEL LINE OR RIGHT-OF-WAY LINE | ⊕ | PROPOSED ANGLE BEND |
| | | ⊞ | PROPOSED COUPLING |
| | | ⊞ | WATER VALVE OPERATION |
| | | ⊞ | CUT AND CAP |



BID DOCUMENT

U-10

CITY OF Federal Way
Centered on Opportunity
33325 8TH AVE S FEDERAL WAY, WA 98003
PHONE: (253) 835-2700
WWW.CITYOFFEDERALWAY.COM

KPG PSOMAS
Seattle
3131 Elliott Avenue, Suite 400
Seattle, WA 98121 206.286.1640
Tacoma | Wenatchee | KPG.com

DRAFTED:	AJO
DESIGNED:	MKE
REVIEWED:	SOD
APPROVED:	NJD



DRAWING VERSION / REVISION LOG		
NO.	DATE	REVISION

CULVERT REPLACEMENT PROJECT
REDONDO CREEK AT 16TH AVENUE S
WATER SEQUENCING & TEMPORARY SERVICE PLAN
(SCHEDULE B)

SHT. B10
OF B10
CITY PROJECT #: 34293

K:\FEDERAL WAY\21086 - Redondo Culvert Replacement\DESIGN\Drawings\Contract\21086\WATR_SEO.dwg, 1/31/2024

**APPENDIX C
PERMITS**

CITY OF FEDERAL WAY

SP-105

**REDONDO CREEK AT 16TH AVE S
CULVERT REPLACEMENT
PROJECT #34293**

CFW SPECIAL PROVISIONS VER. 2024.01B

***** Official bid documents, plan holder's list, and addenda (if applicable) are available on [BXWA.com](https://www.bxwa.com) *****



HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: May 24, 2024
Project End Date: May 23, 2029

Permit Number: 2024-4-249+01
FPA/Public Notice Number: N/A
Application ID: 30887

PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
City of Federal Way ATTENTION: John Mulkey 33325 8th Avenue South Federal Way, WA 98003	GeoEngineers, Inc. ATTENTION: David Conlin 1101 Fawcett Ave, Ste 200 Tacoma, WA 98402-2012

Project Name: Redondo Creek Culvert Replacement

Project Description: The City of Federal Way (City) plans to replace an existing pipe culvert conveying Redondo Creek beneath a utility access road with a new box culvert meeting current fish passage design standards.

PROVISIONS

1. This STANDARD HPA for a Fish Habitat Enhancement Project (FHEP) is issued for work along Redondo Creek in the City of Federal Way, including:
 - A. Replacement of two (2) existing 24-inch diameter corrugated metal pipe culverts including:
 - i. Removal and disposal of the two (2) existing culverts;
 - ii. Installation of a new fully fish passable, 4-sided concrete box culvert of a stream simulation design with the following dimensions: 12-foot wide, 8-foot tall, 77-foot long, with wing walls, and a stormwater outlet crossing through the southeast wingwall (upstream, right bank), as shown in the approved plans;
 - iii. Construction of soldier pile shoring walls adjacent to either side of the new culvert sidewalls;
 - iv. Stream realignment, and construction of a roughened channel, which must be maintained to provide continuous fish passage throughout the project area;
 - v. Permanent impacts to existing riparian areas for culvert installation, including:
 - a. Excavation of approximately 1,600 cubic yards (CY) of material from the channel bed and embankment, waterward of the Ordinary High Water Line (OHWL);
 - b. Excavation of approximately 500 CY of material from the channel side slopes and embankment, landward of the OHWL;
 - c. Placement of approximately 700 CY of streambed sediments, AND;
 - d. Placement of approximately 500 CY of streambed boulders.
 - B. Replacement of an existing stormwater outfall, with the new outfall to be located landward of the OHWL, and including a cobble splash pad for energy dissipation of flows;
 - C. Stream habitat enhancement along the length of the project area, including:
 - i. Installation of at least 22 pieces of large woody material (LWM) habitat features, including 11 key pieces, as shown in the approved plans, AND;
 - ii. Installation of native riparian tree and shrub plantings, as shown in the approved plans.

Note: This project occurs along Redondo Creek, a fish bearing stream known to support fish life including coho, sea run cutthroat and resident trout.

2. TIMING - PLANS - INVASIVE SPECIES CONTROL



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3. **TIMING LIMITATIONS:** You may begin the project immediately and you must complete the project by May 23, 2029, provided that all work below the ordinary high water line (OHWL) of Redondo Creek may only occur between July 1 and September 30 of a given year.

4. **APPROVED PLANS:** You must accomplish the work per plans and specifications submitted with the application and approved by the Washington Department of Fish and Wildlife, entitled, "Redondo 100 Per Design_Signed_20240429-REDUCED.pdf," submitted May 20, 2024, the JARPA application, entitled, "Redondo_JARPA Form_20221206 signed.pdf," submitted February 9, 2023, the hydraulic modeling memo entitled, "Redondo Final Hydraulics Report Addendum Memo.pdf," submitted May 21, 2024; and all supporting documents and communications uploaded to the Aquatic Protection Permitting System (APPS) project file; except as modified by this Hydraulic Project Approval. You must have a copy of these plans available on site during all phases of the project construction.

5. **INVASIVE SPECIES CONTROL:** Follow Method 1 for low risk locations (i.e. clean/drain/dry). Thoroughly remove visible dirt and debris from all equipment and gear (including drive mechanisms, wheels, tires, tracks, buckets, and undercarriage) before arriving and leaving the job site to prevent the transport and introduction of invasive species. For contaminated or high risk sites please refer to the Method 2 Decontamination protocol. Properly dispose of any water and chemicals used to clean gear and equipment. You can find this and additional information in the Washington Department of Fish and Wildlife's "Invasive Species Management Protocols", available online at <https://wdfw.wa.gov/species-habitats/invasive/prevention>.

6. NOTIFICATION REQUIREMENTS

7. **PRE- AND POST- CONSTRUCTION NOTIFICATION:** You, your agent, or contractor must contact the Washington Department of Fish and Wildlife by e-mail at HPAapplications@dfw.wa.gov; mail to Post Office Box 43234, Olympia, Washington 98504-3234; or fax to (360) 902-2946 at least three business days before starting work, and again within seven days after completing the work. The notification must include the permittee's name, project location, starting date for work or date the work was completed, and the permit number. The Washington Department of Fish and Wildlife may conduct inspections during and after construction; however, the Washington Department of Fish and Wildlife will notify you or your agent before conducting the inspection.

8. **PHOTOGRAPHS:** You, your agent, or contractor must take photographs of the job site before the work begins and after the work is completed. You must upload the photographs to the post-permit requirement page in the Aquatic Protection Permitting System (APPS) or mail them to Washington Department of Fish and Wildlife at Post Office Box 43234, Olympia, Washington 98504-3234 within 30-days after the work is completed.

9. **FISH KILL/ WATER QUALITY PROBLEM NOTIFICATION:** If a fish kill occurs or fish are observed in distress at the job site, immediately stop all activities causing harm. Immediately notify the Washington Department of Fish and Wildlife of the problem. If the likely cause of the fish kill or fish distress is related to water quality, also notify the Washington Military Department Emergency Management Division at 1-800-258-5990. Activities related to the fish kill or fish distress must not resume until the Washington Department of Fish and Wildlife gives approval. The Washington Department of Fish and Wildlife may require additional measures to mitigate impacts.

STAGING, JOB SITE ACCESS, AND EQUIPMENT

10. Establish staging areas (used for equipment storage, vehicle storage, fueling, servicing, and hazardous material storage) in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials from entering waters of the state.

11. Use existing roadways or travel paths.

12. Limit the removal of native bankline vegetation to the minimum amount needed to construct the project.

13. Equipment used for this project may operate waterward of the ordinary high water line, provided the drive mechanisms (wheels, tracks, tires, etc.) do not enter or operate waterward of the ordinary high water line, equipment may operate waterward of the ordinary high water line of the stream only after all fish exclusion has been completed and water bypass systems are in place and functioning properly.



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14. Check equipment daily for leaks and complete any required repairs in an upland location before using the equipment in or near the water.

15. If wet or muddy conditions exist, in or near a riparian zone or wetland area, use equipment or techniques that reduce ground pressure.

16. Use environmentally acceptable lubricants composed of biodegradable base oils such as vegetable oils, synthetic esters, and polyalkylene glycols in equipment operated in or near the water.

CONSTRUCTION-RELATED SEDIMENT, EROSION AND POLLUTION CONTAINMENT

17. Work in the dry watercourse (when no natural flow is occurring in the channel, or when flow is diverted around the job site).

18. Protect all disturbed areas from erosion. Maintain erosion and sediment control until all work and cleanup of the job site is complete.

19. All erosion control materials that will remain onsite must be composed of 100% biodegradable materials.

20. Straw used for erosion and sediment control, must be certified free of noxious weeds and their seeds.

21. Stop all hydraulic project activities except those needed to control erosion and siltation, if flow conditions arise that will result in erosion or siltation of waters of the state.

22. Prevent project contaminants, such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials, from entering or leaching into waters of the state.

23. Route construction water (wastewater) from the project to an upland area above the limits of anticipated floodwater. Remove fine sediment and other contaminants before discharging the construction water to waters of the state.

24. Deposit waste material from the project, such as construction debris, silt, excess dirt, or overburden, in an upland area above the limits of anticipated floodwater unless the material is approved by the Washington Department of Fish and Wildlife for reuse in the project.

CONSTRUCTION MATERIALS

25. Do not stockpile construction material waterward of the ordinary high water line.

26. Use only clean, suitable material as fill material (no trash, debris, car bodies, tires, asphalt, concrete, etc.).

FISH LIFE EXCLUSION AND REMOVAL

28. All persons participating in capture and removal must have training, knowledge, and skills in the safe handling of fish life.

29. Capture and safely move fish life from the work area to the nearest suitable free-flowing water.

30. If electrofishing is conducted, a person with electrofishing training must be on-site to conduct or direct all electrofishing activities.

IN-WATER WORK AREA ISOLATION USING A TEMPORARY BYPASS

32. Isolate fish from the work area by using either a total or partial bypass to reroute the stream through a temporary channel or pipe.

33. Sequence the work to minimize the duration of dewatering.

34. Install a cofferdam or similar device at the upstream and downstream end of the bypass to prevent backwater from entering the work area.

35. Use the least-impacting feasible method to temporarily bypass water from the work area. Consider the physical characteristics of the site and the anticipated volume of water flowing through the work area.

36. During all phases of bypass installation and decommissioning, maintain flows downstream of the project site to



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ensure survival of all downstream fish.

37. Install the temporary bypass before starting other construction work in the wetted perimeter using a method approved by the Washington Department of Fish and Wildlife.

38. If the bypass is a pumped diversion, once started it must run continuously until it is no longer necessary to bypass flows. This requires back-up pumps on-site and twenty-four-hour monitoring for overnight operation.

39. If the diversion inlet is a gravity diversion that provides fish passage, place the diversion outlet where it facilitates gradual and safe reentry of fish into the stream channel.

40. The pump intake structure must have a fish screen installed, operated, and maintained in accordance with RCW 77.57.010 and 77.57.070. Screen the pump intake with one of the following: a) Perforated plate: 0.094 inch (maximum opening diameter); b) Profile bar: 0.069 inch (maximum width opening); or c) Woven wire: 0.087 inch (maximum opening in the narrow direction). The minimum open area for all types of fish screens is twenty-seven percent. The screened intake facility must have enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second.

41. The fish screen must remain in place whenever water is being withdrawn from the stream through the pump intake.

42. Return diverted water to the channel immediately downstream of the work area. Dissipate flow energy from the diversion to prevent scour or erosion of the channel and bank.

CULVERT REMOVAL

43. Remove the two (2) existing culverts in the dry or in isolation from the stream flow by using a bypass channel or culvert, or by pumping the stream flow around the work area. The Washington Department of Fish and Wildlife may grant exception if removing the culvert in the flowing stream reduces siltation or turbidity.

44. Remove all the components of the two (2) culvert crossings (approach material, riprap, fill material, etc.).

45. CULVERT INSTALLATION

46. The new authorized culvert is a stream simulation design.

47. Establish the culvert invert elevation with reference point(s) or benchmark(s) created before to starting work on this project. Clearly mark and preserve the reference point(s) for post-project compliance. Before backfilling, confirm the invert elevation, as stated on the plans, relative to the reference points with at least a construction-grade leveling device (such as an optical auto-level or laser level).

48. Install the culvert in the dry or in isolation from the stream flow by using a bypass channel or culvert, or by pumping the stream flow around the work area. The Washington Department of Fish and Wildlife may grant exception if installing the culvert in the flowing stream reduces siltation or turbidity.

49. The length of the culvert must not exceed 77 feet. The width of the channel-bed inside the stream simulation culverts must be equal to or greater than 12 feet.

50. Set the stream simulation culvert at the same gradient as the prevailing stream gradient. As stated in the uploaded application materials the prevailing channel gradient of the realigned stream channel will be 9.8%.

51. Size streambed material to mimic the stream's natural gradation as found in nearby reference channel reaches. Place a minimum of 3 feet deep of clean, rounded, and well-graded (includes all size classes) material. Angular rock is not permitted within the channel.

52. The streambed must include a sinuous low-flow channel expected under common conditions in the reach and a high-flow bench on both sides of the culvert.

53. Countersink the stream simulation culvert a minimum of thirty percent and a maximum of fifty percent of the culvert rise, but not less than two feet. This criterion applies through the full length of the culvert.

54. Approach material must be structurally stable and composed of material that if eroded into the water will not harm fish life.



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Olympia, WA 98504-3234
(360) 902-2200

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FPA/Public Notice Number: N/A
Application ID: 30887

55. The owner(s) must install and maintain the culvert and the roughened channel to ensure it provides continued, unimpeded fish passage. If the culvert or the roughened channel becomes a hindrance to fish passage, the owner must obtain a Hydraulic Project Approval and provide prompt repair.

56. LARGE WOODY MATERIAL

57. Large woody material (LWM) means trees or tree parts larger than four inches in diameter and longer than six feet, and rootwads, wholly or partially waterward of the ordinary high water line.

58. Large woody material must be repositioned with at least a third of the LWM length within the low flow channel to provide functional fish habitat.

OUTFALL

59. Locate and construct the outfall landward of the OHWL, per the approved plans.

60. To prevent scouring, protect the watercourse bank and bed at the point of discharge using biotechnical techniques, such as a cobble splash pad.

61. DEMOBILIZATION AND CLEANUP

62. Upon completion of the project, restore the disturbed bed, banks, and riparian zone to preproject condition to the extent possible.

63. Seed areas disturbed by construction activities with a native seed mix suitable for the site that has at least one quick-establishing plant species.

64. Replace any native riparian zone vegetation damaged or destroyed by construction with native plantings with species and distribution approved by WDFW.

65. Complete replanting of riparian vegetation during the first dormant season (late fall through late winter) after project completion per the approved plan. Maintain plantings for at least three years to ensure at least eighty percent of the plantings survive. Failure to achieve the eighty percent survival in year three will require you to submit a plan with follow-up measures to achieve requirements or reasons to modify requirements.

66. Restore the site to the original contours or a configuration approved by the Washington Department of Fish and Wildlife. There must be no vertical drops in the streambed within the project area greater than 0.5 feet.

67. Upon completion of the project, remove all materials or equipment from the site and dispose of all excess spoils and waste materials in an upland area above the limits of anticipated floodwater.

68. Return water flow slowly to the in-water work area to prevent the downstream release of sediment laden water. If necessary, install silt fencing above the bypass outlet to capture sediment during re-watering of the channel.

69. Remove temporary erosion and sediment control methods after job site is stabilized or within three months of project completion, whichever is sooner.

LOCATION #1:	Site Name: Redondo Creek at 16th Ave S , Federal Way, WA 98003					
WORK START:	May 24, 2024			WORK END:	May 23, 2029	
WRIA	Waterbody:			Tributary to:		
09 - Duwamish - Green	Other			Other		
1/4 SEC:	Section:	Township:	Range:	Latitude:	Longitude:	County:



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NW 1/4	04	21 N	04 E	47.33757	-122.313404	King
<u>Location #1 Driving Directions</u>						

The site is near the intersection of SR 509 and SR 99 in Federal Way, Washington. From I-5, take exit 143 for westbound S 320th St. Continue straight for 0.8 miles on S 320th St., then turn right (north) onto Pacific Hwy S (SR 99). Continue northbound for 1.4 miles, then turn left (west) onto S Dash Point Road, then an immediate right (north) onto Redondo Way S. Continue straight for approximately 0.1 miles and the crossing is on the right (east) side of Redondo Way S.

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW. Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person (s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in civil action against you, including, but not limited to, a stop work order or notice to comply, and/or a gross misdemeanor criminal charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.



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MINOR MODIFICATIONS TO THIS HPA: You may request approval of minor modifications to the required work timing or to the plans and specifications approved in this HPA unless this is a General HPA. If this is a General HPA you must use the Major Modification process described below. Any approved minor modification will require issuance of a letter documenting the approval. A minor modification to the required work timing means any change to the work start or end dates of the current work season to enable project or work phase completion. Minor modifications will be approved only if spawning or incubating fish are not present within the vicinity of the project. You may request subsequent minor modifications to the required work timing. A minor modification of the plans and specifications means any changes in the materials, characteristics or construction of your project that does not alter the project's impact to fish life or habitat and does not require a change in the provisions of the HPA to mitigate the impacts of the modification. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a minor modification through APPS. A link to APPS is at <http://wdfw.wa.gov/licensing/hpa/>. If you did not use APPS you must submit a written request that clearly indicates you are seeking a minor modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234, or by email to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

MAJOR MODIFICATIONS TO THIS HPA: You may request approval of major modifications to any aspect of your HPA. Any approved change other than a minor modification to your HPA will require issuance of a new HPA. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a major modification through APPS. A link to APPS is at <http://wdfw.wa.gov/licensing/hpa/>. If you did not use APPS you must submit a written request that clearly indicates you are requesting a major modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send your written request by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. You may email your request for a major modification to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-660-460 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.



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A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee may conduct an informal hearing or review and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-660-470 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

Habitat Biologist Julian.Douglas@dfw.wa.gov
Julian Douglas 206-584-9808

for Director
WDFW