

KITSAP COUNTY PUBLIC WORKS SEWER UTILITY

Johnson to Norum Sewer Main Replacement

March 2024

Issued for Bid

Volume 1 of 3

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CERTIFICATE PAGE

Kitsap County Public Works Sewer Utility

Johnson to Norum Sewer Main Replacement

The engineering material and data contained in the Plans and Specifications were prepared under the supervision and direction of the undersigned, whose seal as a registered professional engineer is affixed below.



March 5, 2024

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KITSAP COUNTY PUBLIC WORKS SEWER UTILITY
JOHNSON TO NORUM SEWER MAIN REPLACEMENT

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**INVITATION TO BID
FORMAL BID CONTRACT
2024-017**

KITSAP COUNTY PUBLIC WORKS WASTEWATER DIVISION

JOHNSON TO NORUM SEWER MAIN REPLACEMENT

BID SUBMISSION DATE & TIME	Friday, April 19, 2024 @ 2:00 p.m. Purchasing Office 614 Division Street MS-7 Port Orchard, Washington 98366
BID OPENING TIME & LOCATION	Friday, April 19, 2024 @ 2:15 p.m. Port Madison Conference Room, 4th Floor Room #416 Kitsap County Administration Building 619 Division Street Port Orchard, Washington 98366
MANDATORY PRE-BID MEETING	Thursday, April 4, 2024 @ 10:00 a.m. Kitsap County Johnson Way NE and Peterson Way NE Poulsbo, Washington 98370
ENGINEERS ESTIMATE:	\$6,328,600

The Kitsap County Board of Commissioners will receive sealed bids for the construction of the **Johnson to Norum Sewer Main Replacement** until the time and date indicated above. Bids will be received, publicly opened and read aloud at the locations described above. Instructions for the delivery of bids are contained in the Special Provisions for the Project. Prospective Bidders are hereby notified that they are solely responsible for ensuring timely delivery of their bid to the Kitsap County Purchasing Office on or before the bid submission date and time indicated above.

The principal items or elements of construction include:

- Approximately 4,200 linear feet (LF) of 24-inch diameter AWWA PVC C900 SDR25 sanitary sewer main along Norum Rd NE, Tuk Wil La Rd NE, Brauer Rd NE, Shore Dr NE, and Peterson Way NE
- Isolation and cleaning of the existing sewer main and temporary sewer bypass pumping
- Miscellaneous pipeline improvements including air vacuum valve assemblies and blow-off assemblies
- All customers currently connected to the existing alignment will be transferred to the new sanitary sewer force main with small diameter HDPE force mains connecting to the existing Individual Pumping Stations (IPS)
- Installation of a new pig launch vault
- Connection to the existing Lemolo siphon

A mandatory pre-bid meeting will be held at the location described above. After the meeting, a tour of the site will be conducted. This will be the only tour of the sites and facilities.

Bid documents may be found on the Kitsap County Web site www.kitsapgov.com/purchasing/bids.htm. Questions regarding the bid process, contract terms and conditions, or how to obtain copies of the bid documents shall be directed to Glen McNeill at 360-337-4789, or email purchasing@co.kitsap.wa.us. Technical questions about the work covered by the bid documents shall be directed to Nick Martin, Construction Manager, at (360) 337-5631 or email NMartin@kitsap.gov.

Kitsap County reserves the right to reject any all bids and to waive informalities or irregularities. Bids received after the time set for submission of bids will not be considered.

Each bid proposal shall be completely sealed in a separate envelope, properly addressed as stated above, with the name and address of the bidder and the name of the project plainly written on the outside of the envelope. All bids shall be accompanied by:

- County Bid Proposal – as published in Invitation to Bid
- Signed acknowledgment of receipt of all addenda
- Surety company Bid Bond on an approved form, certified check, or cashier's check payable to Kitsap County in an amount not less than five percent (5%) of the basic Bid
- Subcontractor's List
- Bidder Information
- Bidder Responsibility Checklist;
- Subcontractor Responsibility Checklist;
- Non Collusion Affidavit
- Certification of Compliance with Wage Payment Statutes

Should the successful bidder fail to enter into such contract in accordance with the Bid and furnish all documents and bonds required within the time frames stated in the specifications, the bid proposal deposit or bond shall be forfeited to Kitsap County.

Bids are likely to be rejected if the lowest, responsible, responsive Bid received exceeds the Engineer's estimate by an unreasonable amount.

Kitsap County hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to the advertisement, Women and Minority Business Enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, or national origin in consideration for an award. Minority Business Enterprises will be required to meet all requirements of law as related to Public Works contracts, including the provision of the Equal Employment Opportunity and Affirmative Action Plan on the basis of any other bidder.

All contractors must be licensed in the State of Washington to conduct business.

Bidders are encouraged to review and understand the conditions, requirements and Contractor responsibilities of the project's "Permits and Licenses" section outlined in Special Provisions Section 1-07.6(1).

BID PROCEDURES AND CONDITIONS

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BID PROPOSAL

TO: Kitsap County Board of Commissioners
614 Division Street
Port Orchard, WA 98366

Board of Commissioners:

The undersigned bidder agrees, if this bid is accepted, to enter into a contract with the Contracting Agency, in the form included in the specifications to perform and furnish the work as specified or indicated in the bidding documents for the bid price and within the bid times indicated in this bid and in accordance with the other terms and conditions of the contract documents.

In submitting this bid, bidder represents, as more fully set forth in the contract, that:

1. This bid will remain subject to acceptance for 60 days after the day of bid opening. The Contracting Agency retains the right to request the apparent low bidder extend the award period or adjust their price accordingly. If an adjustment is requested, the Contracting Agency reserves the right to request the same adjustment from other bidders.
2. The Contracting Agency has the right to reject this bid.
3. Bidder will sign and submit the contract with the bonds and other documents required by the bidding requirements within 10 days after the date of Contracting Agency's Notice of Award.
4. Bidder has examined copies of all the bidding documents.
5. Bidder has made sufficient examination and has investigated and is satisfied as to the conditions to be encountered, the character, quantity, quality and scope of work, the quantities and qualities of materials to be supplied and equipment and labor to be used, and the requirements of the contract and proposal submitted, including all addenda for performance of the work.
6. Bidder has visited the jobsite and is completely familiar with the existing conditions, concurrently scheduled construction, access, staging and site limitations, and has made allowances for those conditions in their bid.
7. Bidder is familiar with all federal, state, and local laws, ordinances and regulations, which in any manner might affect those engaged or employed in the work, the materials, equipment, or procedures used in the work, or which in any other way, might affect the conduct of the work. The Bidder is assumed to be familiar with such laws and regulations, and no plea of misunderstanding or ignorance of the law will be considered.
8. Bidder has correlated the information known to bidder, information and observations obtained from visits to the site, reports and drawings identified in the bidding documents and additional examinations, investigations, explorations, tests, studies, and data with the bidding documents.
9. Bidder agrees that the work will be completed within the time period established in the Contract Document (see Section 1-08.5) from the date of Notice to Proceed.
10. The bidder has determined from careful examination the methods; materials, labor and equipment required to perform the work in full and shall reflect the same in his bid price. If, during the performance of the work, methods, materials, labor or equipment required are beyond those anticipated by the bidder, the Bidder will not be entitled to additional compensation except as may be provided for elsewhere in these specifications

Bidder has received the following addenda, receipt of which is hereby acknowledged:

DATE	NUMBER
_____	_____
_____	_____
_____	_____
_____	_____

SUMMARY OF BID DOCUMENTATION:

It is mandatory that each bidder complete and submit with its bid, documentation required by the contract documents, including, but not limited to the following:

- 1. Bid Proposal
- 2. Bid Guarantee Bond
- 3. Subcontractor's List
- 4. Bidder Information
 - a. Bidder Responsibility Checklist
 - b. Subcontractor Responsibility Checklist
- 5. Non-collusion Affidavit Certificate
- 6. Certification of Compliance with Wage Payment Statutes

BASIC BID:

Pursuant to and in compliance with the advertisement for bids and other documents relating thereto, the undersigned Bidder hereby certifies having carefully examined contract documents entitled **Johnson to Norum Sewer Main Replacement** as well as conditions affecting the work, and is familiar with the sites; and having made the necessary examinations, here proposes to furnish all labor, materials, equipment, and services necessary to complete the work in strict accordance with the above named documents for an amount computed upon the basis of the quantity of work actually performed at the Bid prices set forth herein.

PROPOSAL:

The Bidder certifies that the cost of all labor, equipment, plants, materials, including overhead and profit, necessary for proper completion of the work shall be included in the prices for the various bid items.

NOTE: UNIT PRICES FOR ALL ITEMS, ALL EXTENSIONS, AND THE TOTAL AMOUNT OF BID MUST BE SHOWN. All prices shall be in legible and written in ink or typed. The proposal shall include: a unit price for each item (omitting digits more than four places to the right of the decimal point); an extension for each unit price (omitting digits more than two places to the right of the decimal point); and the total contract price (the sum of all extensions). Unit prices for all numbers shall be shown in both words and figures. In case of conflict, words shall govern.

Descriptions for measurement and payment for the following Bid items are included in Section 1-09 of the Special Provisions.

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Bid Schedule

Item No.	Ref. Section	Est. Quantity	Unit Price (in words)	Unit Price (in Numbers)	Extended Amount (Qty x Unit Price) (in numbers)
1	Preconstruction Work Phase	1-04	1 LS		
2	Final Cleanup and Restoration	1-04	1 LS		
3	Surveying	1-05	1 LS		
4	Project Record Drawings ¹	1-05	1 LS		
5	Type B Schedules	1-08	6 MO	One Thousand Dollars and No Cents	\$1,000.00
6	Minor Change (Allowance)	1-09	1 FA	One Hundred Forty-Five Thousand Dollars and No Cents	\$145,000.00
7	Mobilization and Demobilization	1-09	1 LS		
8	Dewatering (Allowance)	Div. 31	1 FA	One Hundred Forty-Five Thousand Dollars and No Cents	\$145,000.00
9	Pothole Existing Services	1-09	19 EA		
10	Excavation Support Systems	Div. 31	1 LS		
11	Temporary Erosion and Sediment Control	Div. 31	1 LS		
12	Traffic Control	1-10	1 LS		

¹ The lump sum for this bid item shall be at least 0.5% of the total bid amount

Bid Schedule

Item No.	Ref. Section	Est. Quantity	Unit Price (in words)	Unit Price (in Numbers)	Extended Amount (Qty x Unit Price) (in numbers)
13	Hold Power Pole	1-09	2 EA	\$ _____	\$ _____
14	24-inch Diameter C900 DR 25 Pipe	Div.22	4,210 LF	\$ _____	\$ _____
15	24-inch Diameter DI 45 Degree Bend	Div. 22	7 EA		
16	24-inch Diameter DI 11.25 Degree Bend	Div. 22	1 EA		
17	2-inch Diameter Air Release Valve Assembly	Div. 40	1 EA	\$ _____	\$ _____
18	4-inch Diameter Blowoff Valve Assembly	Div. 40	2 EA	\$ _____	\$ _____
19	Connect IPS to New 24-inch Diameter PVC Pipe	Div. 22	12 EA	\$ _____	\$ _____
20	Connect IPS Manifold to New 24-inch Diameter PVC Pipe	Div. 22	3 EA	\$ _____	\$ _____
21	Connect Gravity Lateral to New 24-inch Diameter PVC Pipe	Div. 22	1 EA	\$ _____	\$ _____
22	Pig Launch	Div. 22	1 EA	\$ _____	\$ _____
23	Temporary Sewer Bypass	Div. 22	1 LS	\$ _____	\$ _____
24	Manhole 72-inch Diameter Type 2	Div. 22	1 LS	\$ _____	\$ _____

Bid Schedule

Item No.	Ref. Section	Est. Quantity	Unit Price (in words)	Unit Price (in Numbers)	Extended Amount (Qty x Unit Price) (in numbers)
25	Connect to Existing Lemolo Siphon and Pig Receiver	Div. 22	1 LS	_____	\$ _____
26	Grout and Abandon Existing Pipe	Div. 22	1 LS	_____	\$ _____
27	Asphalt Removal	Div. 32	9,600 SY	_____	\$ _____
28	Backfill	Div. 31	7,100TN	_____	\$ _____
29	Crushed Surfacing Top Course (CSTC)	Div. 31	950 TN	_____	\$ _____
30	Crushed Surfacing Base Course (CSBC)	Div. 31	950 TN	_____	\$ _____
31	HMA Cl. ½-inch PG 58H-22 for Trench Patch	Div. 32	750 TN	_____	\$ _____
32	HMA Cl. ½-inch PG 58H-22 Extended	Div. 32	1,100 TN	_____	\$ _____
Subtotal					\$ _____
Sales Tax @ 9.3%					\$ _____
Total with Sales Tax					\$ _____

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SALES TAX:

All work identified in the bid schedule is subject to collection of Washington State sales tax on the Contract Price. Bidders should contact the Washington State Department of Revenue for further clarification of sales tax rules. If the project extends through a sales tax increase, the Contractor will be allowed a commensurate increase in the sales tax and adjustment in the contract amount. However, the Contracting Agency will not adjust payment if the Bidder bases a Bid on a misunderstood tax liability.

OPENING OF BIDS:

Bids received prior to the time of opening will be kept unopened and secured until the time of the bid opening as specified in the Advertisement for Bids. No bid received thereafter will be considered. No responsibility will attach, and bidders waive any and all complaints against the County for premature opening of an improperly addressed or identified bid.

At the time and place fixed for the opening of bids, every bid received within appropriate time will be opened and publicly read aloud.

The Contracting Agency reserves the right to postpone the date and time for receiving and/or opening of bids at any time prior to the date and time established in the Advertisement for Bid. Postponement notices shall be mailed to bidders in the form of addenda.

The Contracting Agency may reject all bids if they exceed budgeted cost or the Contracting Agency may negotiate bid pricing with the apparent low responsive bidder including changes in the contract plans and specifications, to bring the bid within budgeted cost.

CONTRACT AND BOND:

If notified of the acceptance of this bid within sixty (60) days of the time set for opening of bids, the undersigned agrees to execute a contract for the above work, for a compensation computed from the above-stated sums, on the Contract Form bound with the specifications and to furnish a bond as required by the specifications on the form bound therein.

BID GUARANTEE:

It is agreed that if the undersigned fails to execute said Contract and furnish said Bond within ten (10) days after written notice of award of Contract, then the Bid Guarantee shall be retained by the County as liquidated damages. If this bid is not accepted within sixty (60) days after the time set for the opening of bids, or if the undersigned delivers said Contract and Bond in a timely manner, then the check or cash shall be returned, or the Bid Bond shall become void.

SIGNATURE

Signed By: _____ Date: _____

Please Print Name: _____ Title: _____

Name of Firm: _____

Address: _____

Telephone: (____) _____ Fax: (____) _____

END OF BID PROPOSAL

**BID GUARANTY BOND
2024-017 IFB**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____, hereinafter called the Principal, and _____, hereinafter called the Surety, are jointly and severally held and firmly bound unto the Kitsap County Department of Public Works, hereinafter called the Obligee, each in the penal sum of five percent (5%) of the total amount of the Bid of the Principal for the work, this sum not to exceed _____ dollars (\$_____) of lawful money of the United States for the payment thereof unto the Obligee, the Principal, and Surety jointly and severally bind themselves forever firmly by these presents.

WHEREAS, the Principal is herewith submitting its offer for the fulfillment of Obligee's contract for construction of: **Johnson to Norum Sewer Main Replacement.**

NOW, THEREFORE, the condition of this obligation is such that if the Principal is awarded the contract, and if the Principal, within the time specified in the bid for such contract, enters into, executes, and delivers to the Obligee an agreement in the form provided herein complete with evidences of insurance, and if the Principal within the time specified in the bid gives the Performance and Payment Bond on the form provided herein to the Obligee, then this obligation shall be void; otherwise, the Principal and Surety will pay unto the Obligee the difference in the money between the total amount of the Bid of the Principal and the amount for which the Obligee legally contracts with another party to fulfill the Contract if the latter amount be in excess of the former, but in no event shall the Surety's liability exceed the penal sum hereof.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable under this obligation as Principal, and that nothing of any kind or nature whatsoever that will not discharge the Principal shall operate as a discharge or a release of liability of the Surety.

IT IS HEREBY FURTHER DECLARED AND AGREED that this obligation shall be binding upon and inure to the benefit of the Principal, the Surety, and the Obligee and their respective heirs, executors, administrators, successors, and assigns.

SIGNED AND SEALED this _____ day of _____, 20____.

Contractor's Corporate Seal

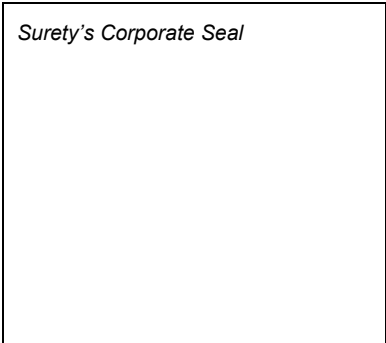


Principal

Signature for Principal

Title of Signatory

Surety's Corporate Seal



Surety

Signature for Surety

Title of Signatory

END OF BID GUARANTEE BOND

SUBCONTRACTORS LIST

Each Bidder is advised of the requirements of Washington Law, RCW 39.30.060. Pursuant to Title 39 of the Revised Code of Washington, each bidder is required to submit as part of the bid or within one hour after the published bid submittal time, the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of heating, ventilation and air conditioning; plumbing as described in RCW 18.106 and electrical as described in RCW 19.28 or to name itself for the work. Additionally, each bidder is required to submit as part of the bid or within 48-hours after the published bid submittal time, the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of structural steel and rebar. The Bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the bidder must indicate which subcontractor will be used for which alternate. Failure of the bidder to submit the names of such subcontractors or to name itself to perform such work or the naming of two or more subcontractors to perform the same work shall render the bidder's bid non-responsive and, therefore, void.

List subcontractors appropriately

PLUMBING

Subcontractor Name: _____

REBAR INSTALLATION

Subcontractor Name: _____

HOT MIX ASPHALT (HMA) PAVING (Note: This is required by this contract and not RCW 39.30.060)

Subcontractor Name: _____

**OTHER SUBCONTRACTORS (whose work is equal to or greater than 10% of the bid)
(Note: This is required by this contract and not RCW 39.30.060)**

[THIS FORM SHALL BE COMPLETED IN FULL AND SUBMITTED WITH THE BID PROPOSAL]

END OF SUBCONTRACTORS LIST

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BIDDER INFORMATION

Contracting Firm Name:
Number of Years Contractor has been in the construction business under its present firm name:
Present gross dollar amount of work under contract:
Present gross dollar amount remaining to be completed of work under contract:
General type of work performed by firm:

List the five major pieces of equipment to be used on this project:	Owned	Leased	Rented
1.			
2.			
3.			
4.			
5.			

List the name of the Project Manager and Superintendent responsible for this project	# of Years with Firm
Name of Project Manager:	
Name of Superintendent:	

Bank Reference:
Have you changed bonding companies within the last three years?
If so, why? (Optional)

Have you ever been sued by the client or have you ever sued the client on any public works contract for a special purpose district, municipality, county, or state government? _____

For what reason? _____

Disposition of case, if settled: _____

Do you have any outstanding payments due to the Department of Revenue? _____

If yes, describe the plan to address those payments _____

Bidder agrees that the County shall retain the right to obtain any and all credit reports?

(_____) _____
Yes Signature

In the last 5 years, has the Bidder had a three-year average Experience Modification Rate (EMR) no greater than 1.1 (Include EMR documentation)?

(_____) _____
Yes/No Signature

Does the Bidder have sufficient bonding capacity?

(_____) _____
Yes/No Signature

The Bidder shall include with their Bid a notarized statement from an admitted and Washington State approved surety insurer, which states that Bidder's current bonding capacity is sufficient for this project.

In the last five (5) years, has the Bidder had their Contractor's license revoked?

(_____) _____
Yes/No Signature

In the last five (5) years, has the Bidder been "defaulted" or "terminated" by an owner (other than for convenience of the owner)?

(_____) _____
Yes/No Signature

BIDDER INFORMATION

In the last five (5) years, has the Bidder been convicted of a crime involving the awarding of a contract of a government (local, state, or federal) construction project or the bidding or performance of a government construction contract?

(____) _____

Yes/No Signature

In the last five (5) years, has the Bidder been found guilty in a criminal action, for making any false claim or material misrepresentations to any public agency or entity?

(____) _____

Yes/No Signature

In the last five (5) years, has the Bidder been convicted of a crime involving any federal, state or local law related to construction, including acts of dishonesty?

(____) _____

Yes/No Signature

[THIS FORM SHALL BE COMPLETED IN FULL AND SUBMITTED WITH THE BID PROPOSAL]

BIDDER RESPONSIBILITY CHECKLIST

The following checklist will be used to document that the Bidder meets the bidder responsibility criteria. Please print a copy of documentation from the appropriate website to be included with the submittal.

General Information	
Project Name: Johnson to Norum Sewer Main Replacement	Formal Bid Contract Number: 2024-017
Bidder's Business Name:	Bid Submittal Deadline:
Contractor Registration	
License Number:	Status: Active: Yes <input type="checkbox"/> No <input type="checkbox"/>
Effective Date (must be effective on or before Bid Submittal Deadline):	Expiration Date:
Contractor Infraction List	
Is Bidder on Infraction List? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Current UBI Number	
UBI Number:	Account Status: Open <input type="checkbox"/> Closed <input type="checkbox"/>
Industrial Insurance Coverage	
Account Number:	Account Current: Yes <input type="checkbox"/> No <input type="checkbox"/>
Employment Security Department Number	
Employment Security Department Number:	
Provide a copy of latest correspondence containing bidder's account number with Employment Security Department. Do not provide document containing personal information such as social security numbers.	
State Excise Tax Registration Number	
Tax Registration Number:	Account Status: Open <input type="checkbox"/> Closed <input type="checkbox"/>
Not Disqualified from Bidding	
Has the Bidder been listed on the "Contractors Not Allowed to Bid" list of the Department of Labor and Industries in the last two (2) years? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Bankruptcy	
Has the Bidder declared Bankruptcy in the last five (5) years? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Information Supplied by:	
Print Name of Bidder Representative:	Date:

[THIS FORM SHALL BE COMPLETED IN FULL AND SUBMITTED WITH THE BID PROPOSAL]

SUBCONTRACTOR RESPONSIBILITY CHECKLIST

The following checklist will be used to document that the Bidder meets the mandatory bidder responsibility criteria. Please print a copy of documentation from the appropriate website to be included with the submittal.

General Information	
Project Name: Johnson to Norum Sewer Main Replacement	Formal Bid Contact Number: 2024-017
Subcontractor's Business Name:	Bid Submittal Deadline:
Contractor Registration	
License Number:	Status: Active: Yes <input type="checkbox"/> No <input type="checkbox"/>
Effective Date (must be effective on or before Subcontract Bid Submittal Deadline):	Expiration Date:
Contractor Infraction List	
Is Subcontractor on Infraction List? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Current UBI Number	
UBI Number:	Account Status: Open <input type="checkbox"/> Closed <input type="checkbox"/>
Industrial Insurance Coverage	
Account Number:	Account Current: Yes <input type="checkbox"/> No <input type="checkbox"/>
Employment Security Department Number	
Employment Security Department Number:	
Please provide a copy of latest correspondence containing subcontractor's account number with Employment Security Department. Do not provide document containing personal information such as social security numbers.	
State Excise Tax Registration Number	
Tax Registration Number:	Account Status: Open <input type="checkbox"/> Closed <input type="checkbox"/>
Not Disqualified from Bidding	
Is the Subcontractor listed on the "Contractors Not Allowed to Bid" list of the Department of Labor and Industries? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Contractor Licenses	
<u>Electrical</u> : If required by Chapter 19.28 RCW, does the Subcontractor have an Electrical Contractor's License? Yes <input type="checkbox"/> No <input type="checkbox"/>	<u>Elevator</u> : If required by Chapter 70.87 RCW, does the Subcontractor have an Elevator Contractor's License? Yes <input type="checkbox"/> No <input type="checkbox"/>
Checked by:	
Name of Employee:	Date:

[THIS FORM SHALL BE COMPLETED IN FULL FOR EACH SUBCONTRACTOR AND SUBMITTED WITH THE BID PROPOSAL]

NON-COLLUSION AFFIDAVIT

The undersigned, being duly sworn, deposes and says that the person, firm, association, co-partnership or corporation herein named, has 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 the preparation and submission of this proposal to Kitsap County for its consideration in the award of the contract.

_____ Sole Proprietorship _____
Legal Name of Bidder
_____ Partnership _____
_____ Corporation _____
By (Signature) _____ Other _____

Street Address

City State Zip

Telephone

State of Washington Contractor's Number

STATE OF WASHINGTON)
() SS.
COUNTY OF KITSAP)

On this day personally appeared before me _____ to me known to be the individual described in and who executed the within and foregoing instrument, and acknowledged that _____ signed the same as _____ free and voluntary act and deed, for the uses and purposes therein mentioned.

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

Notary Public in and for the State of Washington, residing at

My Commission Expires: _____

[THIS FORM SHALL BE COMPLETED IN FULL AND SUBMITTED WITH THE BID PROPOSAL]

END OF NON-COLLUSION AFFIDAVIT

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CERTIFICATION OF COMPLIANCE WITH WAGE PAYMENT STATUTES

The bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date of March 15, 2024 the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Bidder's Business Name

Signature of Authorized Official*

Printed Name

Title

Date

City

State

Check One:

Sole Proprietorship Partnership Joint Venture Corporation

State of Incorporation, or if not a corporation, State where business entity was formed:

If a co-partnership, give firm name under which business is transacted:

** If a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign). If a co- partnership, proposal must be executed by a partner.*

[THIS FORM SHALL BE COMPLETED IN FULL AND SUBMITTED WITH THE BID PROPOSAL]

END OF CERTIFICATION OF COMPLIANCE WITH WAGE PAYMENT STATUTES

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BIDDER'S CHECKLIST

NOTE: The purpose of this checklist is to serve as a reminder of major items to be addressed in submitting a bid and by the Successful Bidder after notification of award, and is not intended to be all-inclusive. It does not alleviate the Bidder from the responsibility of becoming familiar with all aspects of the Project Manual and proper completion and submission of the Bid.

1. Contract Documents thoroughly read and understood. _____
2. Attend pre-bid conference. _____
3. All blank spaces in proposal filled in, preferably in black ink. _____
4. Receipt of all addenda acknowledged. _____
5. Review of geotechnical information acknowledged. _____
6. Bid Form and other documents are signed by authorized officer. _____
7. Prices computed and presented correctly. _____
8. Subcontractors are named as indicated in the Contract Documents. _____
9. The following documents, to be submitted with the bid, completed, signed, and dated as applicable. _____
 - a. Bid Proposal _____
 - b. Bid Guaranty Bond _____
 - c. Subcontractors List _____
 - d. Bidder Information _____
 - i. Bidder Responsibility Checklist _____
 - ii. Subcontractor Responsibility Checklist _____
 - e. Non-Collusion Affidavit Certificate _____
 - f. Certification of Compliance with Wage Payment Statutes _____
10. Bid documents submitted in sealed envelope and properly labeled. _____
11. The following documents shall be executed and complied with after the contract is awarded: _____
 - a. Capital Projects Contract Agreement _____
 - b. Performance and Payment Bond _____
 - c. Insurance Certificates _____

END OF BIDDER'S CHECKLIST

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CONTRACT REQUIREMENTS

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CAPITAL PROJECTS CONTRACT AGREEMENT
KC CONTRACT # _____

This Contract is made and entered into this _____ day of _____, 2024 between KITSAP COUNTY, with its principal offices at 614 Division Street, Port Orchard, Washington 98366, hereinafter called the Contracting Agency, and _____, a general Contractor licensed in the State of Washington, with its principal offices located at _____, hereinafter the Contractor.

WITNESSETH:

WHEREAS, the Contracting Agency desires to construct the **Johnson to Norum Sewer Main Replacement** and

WHEREAS, the Contractor has been selected by competitive bid as the responsible bidder with the lowest responsive bid as is required by Chapter 39.04 RCW.

NOW THEREFORE, the Contracting Agency and Contractor mutually agree as follows:

1. CONTRACT DOCUMENTS

The Agreement between the parties is expressed in the Contract Documents, which include the Invitation to Bid; the accepted Bid Proposal; the Bid Guaranty Bond; the Subcontractor's List; the Bidder Information; the Non-Collusion Affidavit; the Performance and Payment Bond; the Special Provisions; the Project Drawings; the Standard Specifications and Standard Plans; the Storm Water Pollution Prevention Plan; the Project Permits; and this Agreement.

2. DESCRIPTION OF THE WORK

This contract provides for the construction of approximately 4,200 feet of sanitary sewer force main construction, individual pump station connections, and miscellaneous site restoration in accordance with the Contract Documents entitled "Johnson to Norum Sewer Main Replacement." Contractor agrees to furnish all material, labor, carriage, tools, equipment, apparatus, facilities, and anything else necessary to complete the work in a professional and workmanlike manner.

The Contractor shall complete its Work in a timely manner and in general accordance with the agreed schedule submitted by the Contractor and approved by the Contracting Agency.

3. CONTRACT REPRESENTATIVES

Each party to this Contract shall have a representative. Each party may change its representative upon providing written notice to the other party. These representatives will be:

CONTRACTING AGENCY:

Name of Representative:	Nick Martin
Title:	Construction Manager
Mailing Address:	614 Division Street MS #27
City, State, and Zip Code:	Port Orchard, WA 98366
Telephone Number:	360-337-5631
Email Address:	NMartin@kitsap.gov

CONTRACTOR:

Name of Representative: _____

Title: _____

Mailing Address: _____

City, State, and Zip Code: _____

Telephone Number: _____

Fax Number: _____

Email Address: _____

All instructions, modifications, and changes to the Contract shall be conveyed to the Contractor through the Contracting Agency's Representative. Any work executed upon the direction of any person or entity other than the Contracting Agency's Representative may be considered defective and will be performed without reimbursement for said work to the Contractor. The Contracting Agency's Representative shall have the authority to reject any and all nonconforming or defective work under the Project Documents.

4. CONTRACT AMOUNT

The Contracting Agency hereby agrees to pay the Contractor according to the Contractor's Bid in the amount of \$ _____ (including accepted alternates and Washington State Sales Tax (WSST)), at the time and manner and upon the conditions provided for in this Contract.

5. CONTRACT TIME

Time is of the essence in the performance of this Contract. The Contractor agrees to work promptly and fully complete the work within the limits as described in the Contract Documents. Failure to complete the work within the allowed time limit as described in Section 1-08.5 of the Special Provisions will subject the Contractor to the payment of liquidated damages as described in Section 1-08.9 of the Standard Specifications and the Special Provisions.

6. PREVAILING WAGES

Contractor shall be responsible for complying with the prevailing wage requirements associated with RCW Chapter 39.12 and WAC 296-127 as further described in Section 1-07.9 of the Standard Specifications and the Special Provisions.

7. PERFORMANCE AND PAYMENT BOND

Contractor agrees to provide a Performance and payment Bond as described in Section 1-03.4 of the Standard Specifications as amended by the Special Provisions.

8. HOLD HARMLESS AND INDEMNIFICATION

The Contractor shall hold harmless, indemnify and defend the Contracting Agency, Engineer, its officers, officials, employees and agents, from and against any and all claims, actions, suits, liability, loss, expenses, damages, and judgments of any nature whatsoever, including, but not limited to, reasonable costs and attorneys' fees in defense thereof, for injury, sickness, disability or death to persons or damage to property or business, caused by or arising out of the performance of the services rendered under this contract by the Contractor, its employees, agents, or subcontractors or anyone for whose acts any of them may be liable. Provided however, that the Contractor's obligation hereunder shall not extend to injury, sickness, death or damage caused by or arising out of the sole negligence of the Contracting Agency, its officers, officials, employees or agents. Provided further, that in the event of the concurrent negligence of the parties, the Contractor's obligations hereunder shall apply only to the percentage of fault attributable to the Contractor, its employees, agents, or subcontractors.

In any and all claims against the Contracting Agency, Engineer, its officers, officials, employees and agents by any employee of the Contractor, subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this Section shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or subcontractor under Worker's Compensation acts, disability benefit acts, or other employee benefit acts, it being clearly agreed and understood by the parties hereto that the Contractor expressly waives any immunity the Contractor might have had under such laws. By executing the Contract, the Contractor acknowledges that the foregoing waiver has been mutually negotiated by the parties and that the provisions of this Section shall be incorporated, as relevant, into any contract the Contractor makes with any subcontractor or agent performing Work hereunder.

The Contractor's obligations hereunder shall include, but are not limited to, investigating, adjusting and defending all claims alleging loss from action, error or omission, or breach of any common law, statutory or other delegated duty by the Contractor, the Contractor's employees, agents or subcontractors.

9. INSURANCE

Contractor agrees to comply with the insurance requirements described in Section 1-07.18 of the Special provisions.

10. TERMINATION

This contract may be terminated by the officials or agents of the County authorized to contract for or supervise the execution of such work in accordance with Section 1-08.10 of the Standard Specifications as amended by the Special Provisions.

11. NON-WAIVER OF RIGHTS

The parties agree that the excuse or forgiveness of performance or waiver of any provisions of this Contract does not constitute a waiver of such provisions for future performance, or prejudice the right of the waiving party to enforce any of the provisions of this Contract at a later time.

12. INDEPENDENT CONTRACTOR

The Contractor shall perform this Contract as an Independent Contractor and not as an agent, employee or servant of the Contracting Agency. The parties agree that the Contractor is not entitled to any benefits or rights enjoyed by employees of the County. Contractor shall comply with all laws regarding workers' compensation.

The Contractor specifically has the right to direct and control Contractor's own activities in providing the agreed services in accordance with the specifications set out in this Contract. Furthermore, the Contractor shall have and maintain complete responsibility and control over all of its subcontractors, employees, agents, and representatives. No subcontractor, employee, agent, or representative of the Contractor shall be or deem to be or act or purport to act as an employee, agent, or representative of the Contracting Agency, unless otherwise directed by the terms of this Contract.

The Contractor agrees to immediately remove any of its employees or agents from assignment to perform services under this Contract upon receipt of a written request to do so from the Contracting Agency's Representative or designee.

13. NONDISCRIMINATION

The Contractor, its assignees, delegates, or subcontractors in the performance of this Contract shall not discriminate against any person on the basis of race, color, creed, religion, national origin, age, sex, marital status, sexual orientation, veteran status, disability, or other circumstance prohibited by federal, state, or local law, and shall comply with Title VI of the Civil Rights Act of 1964, P.L. 88 354 and Americans with Disabilities Act of 1990.

14. CHOICE OF LAW, JURISDICTION AND VENUE

Any action at law, suit in equity, or other judicial proceeding for the enforcement of this contract or any provisions thereof shall be instituted as provided for in RCW 36.01.050. It is mutually understood and agreed that this contract shall be governed by the laws of the State of Washington, both as to interpretation and performance.

15. SUCCESSORS AND ASSIGNS

The Contracting Agency, to the extent permitted by law, and the Contractor each bind themselves, their partners, successors, executors, administrators, and assigns to the other Party to this Contract and to the partners, successors, administrators, and assigns of such other party in respect to all covenants of this Contract.

16. ASSIGNMENT, DELEGATION, AND SUBCONTRACTING

- a. The CONTRACTOR shall perform the terms of the contract using only its bona fide employees or agents, and the obligations and duties of the CONTRACTOR under this Contract shall not be assigned, delegated, or subcontracted to any other person or firm without the prior express written consent of the COUNTY.
- b. The CONTRACTOR warrants that it has not paid nor has it agreed to pay any company, person, partnership, or firm, other than a bona fide employee working exclusively for CONTRACTOR, any fee, commission, percentage, brokerage fee, gift, or other consideration contingent upon or resulting from the award or making of this Contract.

17. SEVERABILITY

If a court of competent jurisdiction holds any part, term or provision of this Contract to be illegal, or invalid in whole or in part, the validity of the remaining provisions shall not be affected, and the parties' rights and obligations shall be construed and enforced as if the Contract did not contain the particular provision held to be invalid.

If it should appear that any provision of this Contract is in conflict with any statutory provision of the United States or the State of Washington, said provision which may conflict therewith shall be deemed inoperative and null and void insofar as it may be in conflict therewith, and shall be deemed modified to conform to such statutory provision.

18. ENTIRE AGREEMENT

The parties agree that this Contract is the complete expression of its terms and conditions. Any oral or written representations or understandings not incorporated in this Contract are specifically excluded.

19. NOTICES

Any notices shall be effective if personally served upon the other party or if mailed by registered or certified mail, return receipt requested, to the addresses set out in Section 3. Notice may also be given by facsimile with the original to follow by regular mail. Notice shall be deemed to be given three days following the date of mailing or immediately if personally served. For service by facsimile, service shall be effective upon receipt during working hours. If a facsimile is sent after working hours, it shall be effective at the beginning of the next working day.

20. THIRD PARTY BENEFICIARY

All parties agree that the State of Washington shall be, and is hereby, named as an express third-party beneficiary of this contract, with full rights as such.

21. MODIFICATION

All amendments or modifications shall be in writing, signed by both parties, and attached to this Contract.

22. COMPLIANCE WITH LAWS

The CONTRACTOR shall comply with all applicable federal, state and local laws, rules and regulations in performing this Contract.

**CAPITAL PROJECTS CONTRACT AGREEMENT
KC CONTRACT #2024-017**

23. COMPLIANCE WITH PUBLIC RECORDS ACT

Contractor acknowledges that the County is subject to the Public Records Act, chapter 42.56 RCW ("PRA"). All records owned, used, or retained by the County are public records subject to disclosure unless exempt under the Act, whether or not such records are in the possession or control of the County or Contractor. Contractor shall cooperate with the County so County may comply with all of its obligations under the Act. Contractor shall promptly provide County with all records relating to this Agreement requested by County for purposes of complying with the PRA. In addition to its other indemnification and defense obligations under this Agreement, Contractor shall indemnify and defend the County from and against any and all losses, penalties, fines, claims, demands, expenses (including, but not limited to, attorney's fees and litigation expenses), suits, judgments, or damage arising from or relating to any failure of Contractor to comply with this subsection. This subsection shall survive expiration or termination of the Agreement.

This Contract shall take effect this _____ day of _____, 2024.

CONTRACTOR:

BOARD OF COUNTY COMMISSIONERS
Kitsap County, Washington

Firm _____

Christine Rolfes, Chair

By _____

Signature: _____
(Authorized Representative)

Katie Walters, Commissioner

Title _____

Address: _____

Charlotte Garrido, Commissioner

Attest:

Contractor Registration No. _____

Dana Daniels, Clerk of the Board

Federal Tax ID No. _____

Approved as to form by the Prosecuting Attorney's Office.

END OF CAPITAL PROJECTS CONTRACT AGREEMENT

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**PUBLIC WORKS PAYMENT BOND
TO KITSAP COUNTY, WA**

Bond No. _____

Kitsap County, Washington, (County) has awarded to _____ (Principal), a contract for the construction of the project designated as **Johnson to Norum Sewer Main Replacement**, Kitsap County Contact #KC-____-____, in Kitsap County, Washington (Contract), and said Principal is required under the terms of that Contract to furnish a payment bond in accord with Title 39.08 Revised Code of Washington (RCW) and (where applicable) 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 County, in the sum of _____ US Dollars (\$ _____) Total Contract Amount, subject to the provisions herein.

This statutory payment bond shall become null and void, if and when the Principal, its heirs, executors, administrators, successors, or assigns shall pay all persons in accordance with RCW Titles 39.08 and 39.12 including all workers, laborers, mechanics, subcontractors, and material suppliers, and all persons who shall supply such contractor or subcontractor with provisions and supplies for the carrying on of such work; 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, except as provided herein, 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 may be executed in two (2) original counterparts, and shall be signed by the parties' duly authorized officers. This bond will only be accepted if it is accompanied by a fully executed and original power of attorney for the officer executing on behalf of the surety.

PRINCIPAL

SURETY

Principal Signature Date

Surety Signature Date

Printed Name

Printed Name

Title

Title

Name, address, and telephone of local office/agent of Surety Company are:

--

Approved as to form:

Signature Title Date

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**PERFORMANCE BOND
TO KITSAP COUNTY, WA**

Bond No. _____

The Kitsap County, Washington, (County) has awarded to _____ (Principal), a contract for the construction of the project designated as **Johnson to Norum Sewer Main Replacement**, Kitsap County Contact #KC-____-____, in Kitsap County, Washington (Contract), and said Principal is required to furnish a bond for performance of all obligations under the Contract.

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 County, in the sum of _____ US Dollars (\$ _____) Total Contract Amount, subject to the provisions herein.

This statutory performance bond shall become null and void, if and when the Principal, its heirs, executors, administrators, successors, or assigns shall well and faithfully perform all of the Principal's obligations under the Contract and fulfill all the 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 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 may be executed in two (2) original counterparts, and shall be signed by the parties' duly authorized officers. This bond will only be accepted if it is accompanied by a fully executed and original power of attorney for the officer executing on behalf of the surety.

PRINCIPAL

SURETY

Principal Signature

Date

Surety Signature

Date

Printed Name

Printed Name

Title

Title

Name, address, and telephone of local office/agent of Surety Company are:

Approved as to form:

Signature

Title

Date

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SPECIAL PROVISIONS

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INTRODUCTION TO THE SPECIAL PROVISIONS

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 project-specific Special Provisions are not labeled as such. 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)

Project specific Special Provisions are labeled under the heading of each Special Provision as follows:

(Local Agency SP)

The specifications also include Construction Specification Institute (CSI) formatted specifications Divisions 1 to 41 (6-digit format). The CSI specifications are supplemental to the WSDOT Special Provisions and WSDOT standards.

Also incorporated into the Contract Documents by reference are:

1. *Manual on Uniform Traffic Control Devices for Streets and Highways*, currently adopted edition, with Washington State modifications, if any
2. *Standard Plans for Road, Bridge and Municipal Construction, WSDOT/APWA, current edition*

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

END OF INTRODUCTION

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1-01 Definitions and Terms**1-01.3 Definitions**

*Section 1-01.3 is supplemented as follows:
(Local Agency SP)*

All references in the Standard Specifications, Amendments, or WSDOT General Special Provisions, to the terms “State”, “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 “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 final payment form established by the Contracting Agency.

The venue of all causes of action arising from the advertisement, award, execution, and performance of the contract shall be in the Superior Court of the County where the Contracting Agency’s headquarters are located.

Acceptance – Formal action of the Owner in determining that the Contractor’s work has been completed in accordance with the contract and in notifying the Contractor in writing of the acceptability of the work.

Act of God – A cataclysmic phenomenon of nature, such as an earthquake, flood or cyclone. Rain, wind, high water, or other natural phenomenon which might reasonably have been anticipated from historical records of the general locality of the work shall not be construed as acts of God.

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.

Application for Payment – The form accepted by the Engineer which is to be used by the Contractor in requesting progress and final payments and which is to include such supporting documentation as is required by the Contract Documents.

Bid Proposal Form – Bid Proposal Form shall mean the same as the definition provided for the term “Proposal Form.”

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

Construction Manager – The person designated, in writing, by the Owner to act as its representative and to perform administrative functions relating to this contract. Initial contact by the Contractor with the Owner shall be through the Construction Manager.

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 Drawings – Contract Drawings or Drawings shall mean the same as the definition provided for the term “Contract Plans” or “Plans.”

Contracting Agency – The Contracting Agency shall mean Kitsap County, a municipal corporation, acting and existing under the laws of the State of Washington.

Contract Price – The amount payable to the Contractor under the terms and conditions of the contract provisions based on the lump sum prices, unit prices, or combination thereof, on the Bidding Schedule, with adjustments made in accordance with the Contract.

Contract Time – The period of time established by the terms and conditions of the contract within which the work must be physically completed.

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

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.

Limited Notice to Proceed with Construction Date – The date stated in the Limited Notice to Proceed on which the Preconstruction Phase contract time begins.

Notice to Proceed with Construction Date – The date stated in the Notice to Proceed with Construction on which the Construction Phase 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.

SYNCHRO – SYNCHRO is a project management system for facilitating document workflows, communication, and collaboration, which assists in the management of construction projects. It serves as a single source for project information for communication and collaboration among all project participants by automating various tasks in an organization of modules. SYNCHRO provides secure, permissions-based access requiring the identification of all users and their approved access rights.

Electronic Documents – The electronic form or image of Project Communications that can be stored on and retrieved from an electronic storage device through a collaboration system over the Internet. Includes all written and graphic products produced with computer software or converted to electronic form or electronic image by computer software.

Engineer – Engineer shall mean either the Contracting Agency’s design engineer or the Contracting Agency’s construction administration representative.

Field Directive – A written order issued by Engineer which requires minor changes in the Work, but which does not involve a change in the Contract Price or the Contract Times.

Invitation to Bid – The definition is the same as that provided for the term “Call for Bids.”

LF – Linear feet.

Limited Notice to Proceed – Written notice from the Contracting Agency informing the successful Bidder to start the Work associated with the Preconstruction Work Phase. See Section 1-04.3 for additional information.

Notice – As defined in the Contract. Notice for documents transmitted through SYNCHRO is the time and date when the document is sent to the other party as recorded in SYNCHRO.

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 with Construction – The written notice from the Contracting Agency or Engineer to the successful Bidder authorizing and directing the Contractor to proceed with the Construction Work Phase. The Notice to Proceed with Construction establishes the date on which the contract time begins. See Sections 1-04.3 and 1-08.4 for additional information.

Owner – The definition is the same as that provided for the term “Contracting Agency”.

Performance and Payment Bond – The definition is the same as that provided for the term “Contract Bond.” The Contractor will be required to submit a Performance and Payment Bond on the Contracting Agency provided form within ten (10) calendar days of receipt of Notice of Award.

Project Communications – All written documentation and written communications required by the Contract Documents including, but not limited to: correspondence, reports, notices, submittals, transmittals, RFI’s, request for change orders, payment applications, change orders, claims, change proposals, field orders, meeting agendas and minutes, substitutions, test reports, monitoring reports, punchlists, and all other formal Contract communications. Project communications shall also include documents required by the Contract that include written documents, demands, instruments, or directives, unless otherwise indicated in this Section.

Project Data – Samples, certifications, material specifications, installation procedures, catalog data or other materials, equipment, or other information intended to describe items to be furnished by the Contractor for the project and which are identified as required submittals in the Standard Specifications and Special Provisions.

Project Team – The associated members of the Owner, Owner Consultants, Construction Manager, Design Engineer, Contractor, Subcontractors, and Vendors.

Quality Assurance – A program establishing policies, procedures, standards, training, guidelines, testing, and systems necessary to provide quality in the work to meet the project requirements and accepted industry standards.

Quality Control – Those activities that provide confidence that materials and workmanship will meet the requirements of the contract to fulfill the project objectives. The Contractor is responsible for the quality control of the project.

Shop Drawings – Drawings prepared by the Contractor or his/her suppliers or subcontractors to describe detailed dimensions and materials of items to be furnished for the work. Shop drawings are not contract Drawings.

Total Bid Price – The sum of all bid prices offered by the bidder as set forth in the Bidding Schedule on the Bid Proposal form.

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

Work Directive – A written directive to the Contractor, recommended by the Engineer, issued on or after the effective date of the Notice to Proceed and signed by the Contracting Agency’s Representative, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed, or to emergencies. A Work Directive may or may not change Contract Price or Contract Time, but is evidence that the parties expect that the change directed or documented by the Work Directive will be incorporated in a subsequently issued Change Order following negotiations of the parties as to its effect, if any, on the Contract Price or Contract Time.

END OF SECTION 1-01

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1-02 Bid Procedures and Conditions**1-02.1 Prequalification of Bidders**

*Section 1-02.1 is deleted and replaced with the following:
(Local Agency SP)*

1-02.1 Bidder Responsibility

It is the intent of the Contracting Agency to award a contract to the lowest responsive, and responsible bidder. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder will be required by the Contracting Agency to submit documentation demonstrating compliance with the criteria. The bidder must:

1. Have a current certificate of registration as a contractor in compliance with Chapter 18.27 RCW at the time of bid submittal;
2. Have a current Washington Unified Business identifier (UBI) number;
3. If applicable, have:
 - a. Industrial insurance coverage for the bidder's employees working in Washington as required in Title 51 RCW;
 - b. A Washington Employment Security Department number per Title 50 RCW;
 - c. A Washington Department of Revenue state excise tax registration number as required in Title 82 RCW;
4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).
5. Have current bonding capacity adequate for this project.
6. Not have filed for bankruptcy in the last five (5) years.
7. Not have had their Contractor's license revoked in the last five (5) years.

1-02.1(1) Subcontractor Responsibility

The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontracts to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Contracting Agency, the Contractor shall promptly provide documentation to the Contracting Agency demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier. The subcontractor shall:

1. Have a current certificate of registration as a contractor in compliance with Chapter 18.27 RCW at the time of subcontract bid submittal;
2. Have a current Washington Unified Business identifier (UBI) number;
3. If applicable, have:
 - a. Industrial insurance coverage for the subcontractor's employees working in Washington as required in Title 51 RCW;
 - b. A Washington Employment Security Department number per Title 50 RCW;
 - c. A Washington Department of Revenue state excise tax registration number as required in Title 82 RCW; and/or
 - d. An electrical contractor license, if required by Chapter 19.28 RCW.
4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3).

1-02.1(2) Supplemental Bidder Responsibility Criteria

In addition to the bidder responsibility criteria above, the bidder must meet the following relevant supplemental bidder responsibility criteria applicable to the project:

1. Bidder shall not be "inactive" or "not in good standing with the Washington State Secretary of State's Office, the Department of Revenue, or the Department of Labor and Industries.
2. Bidder shall have been in business as an underground pipeline construction contractor under its present name for a minimum of two (2) years;
3. Bidder shall not have been disqualified from entering a construction contract by another governmental agency in the last two (2) years;
4. Bidder shall not have declared bankruptcy or been in receivership in the last five (5) years;
5. Bidder, Bidder's designated project manager, and Bidder's designated superintendent/foreman for this project shall each have successfully completed at least three (3) projects of a similar size and scope as required by the Contract Documents for this project within the last ten (10) years. In evaluating whether the project were "successfully completed," the Contracting Agency may check references for the previous projects and may evaluate the bidder's performance including but not limited to, the following areas:
 - a. Quality control;
 - b. Safety record;
 - c. Timeliness of performance;
 - d. Use of skilled personnel, including subcontractors;
 - e. Management of subcontractors;
 - f. Availability of and use of appropriate equipment;
 - g. Compliance with contract documents;
 - h. Management of submittals process, change orders and closeout.
6. Bidder shall not owe delinquent taxes to the Washington State Department of Revenue without a payment plan approved by the Department of Revenue.

For purposes of meeting this criterion, the Contracting Agency has determined that "similar size and scope" means municipal public works projects that include sewer pipe installations with a minimum inside diameter of 24-inches and a minimum length of 3,000 LF. Separate projects may be used to demonstrate compliance with these installation requirements. Each project shall also have a construction cost in excess of \$3,000,000.

1-02.1(3) Documentation

As evidence the bidder meets the responsibility criteria above, the Bidder shall complete and submit the following documentation as part of the Bidder's Bid Proposal.

1. Bidder Responsibility Checklist.
2. Subcontractor Responsibility Checklist, provide for each subcontractor identified in Bidder's Subcontractors List.

In addition, the two lowest bidders must submit the following documentation for each referenced project to the Contracting Agency within 48 hours of the bid submittal deadline. The Contracting Agency reserves the right to request such documentation from other bidders. In the event a bidder refuses to provide the requested information or fails to provide the requested information within the time periods specified in the Bid Documents, then the Contracting Agency may find the bidder non-responsible.

1. Documented information from the Washington State Secretary of State's Office, the Department of Revenue, or the Department of Labor and Industries providing the date of incorporation or formation, the state of incorporation or formation, that the bidder is active and in good standing in the State of Washington, State of Washington tax reporting

- number, and the name and address of the registered agent, general partner, or managing member.
2. Bidder shall not be listed on the Washington State Department of Revenue's "Delinquent Taxpayer List" website: <http://dor.wa.gov/content/fileandpaytaxes/latefiling/dtlwest.aspx>.
 3. List of projects of similar size and scope. This list shall include the following for each project:
 - a. Project Name.
 - b. Project Manager's Name and Project Superintendent's Name.
 - c. Project owner's name and contact information for the project owner's representative.
 - d. Awarded contract amount.
 - e. Final contract amount.
 - f. Project start and completion date.
 - g. Location of the project.
 - h. A description of the scope of the project and how the project is similar to this project. The description should include, but not be limited to the pipe size and type, the site work that was required, the ground conditions encountered, and other information relevant to the successful completion of the referenced project.
 - i. Claims (either resolved or unresolved) filed by the Contractor and basis for the claims.

The basis for evaluation of Bidder compliance with these supplemental criteria shall be any documents or facts obtained by the Contracting Agency (whether from the Bidder or third parties) which any reasonable owner would rely on for determining such compliance, including but not limited to:

1. Financial, historical, or operational data from the Bidder.
2. Information obtained directly by the Contracting Agency from owners for whom the Bidder has worked, or other public agencies or private enterprises.
3. Any additional information obtained by the Contracting Agency which is believed to be relevant to the matter.

1-02.1(4) Appeals

If the Contracting Agency determines the bidder does not meet the bidder responsibility 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 24 hours of receipt of the Contracting Agency's determination by presenting additional information to the Contracting Agency. The Contracting Agency will consider the additional information before issuing its final determination. If the final determination affirms that that bidder is not responsible, the Contracting Agency will not execute a contract with any other bidder until two (2) business days after the bidder determined to be not responsible has received the final determination. For purposes of this section, the date of the Contracting Agency's transmission of the Contracting Agency's determination(s) by facsimile or electronic mail to the bidder at the facsimile number or email address provided by the bidder in its bid shall constitute the date of receipt by the bidder of the written notices provided for herein.

1-02.1(5) Other Conditions

Specialty contractor experience and qualification requirements are specified in other sections of the Special Provisions. While the Contractor will be required to conform to those additional qualifications, they are not criteria that will be evaluated as a condition for determining if the bidder is responsible.

If two or more prospective bidders desire to bid jointly as a Joint Venture on a single contract, each must be deemed qualified, as provided above, and they must also include with the bid proposal packet an agreement to Joint Venture. The Joint Venture is then treated as a new firm and qualified as such. The Joint Venture and any of its members are subject to the conditions as stated elsewhere within these specifications. Any agreement to Joint Venture shall be signed by each of the bidders and must specify each individual who is authorized to execute proposals, contracts, bond and other documents on behalf of the Joint Venture. If any of the bidders is a corporation, the agreement must be accompanied by a resolution of the corporation authorizing such Joint Venture agreement and designating the officer(s) authorized to sign such Joint Venture agreement or contract on behalf of such corporation.

1-02.2 Plans and Specifications

*Section 1-02.2 is deleted and replaced with the following:
(Local Agency SP)*

Information as to where Bid Documents can be obtained or reviewed will be found in the Invitation to Bid for the work.

After award of the contract, conformed 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")	5	Furnished automatically with the limited NTP
Standard plans (22" x 34")	2	Furnished automatically with the limited NTP
Contract Provisions	5	Furnished automatically with the limited NTP

Additional copies of the Contract Plans and Contract Provisions may be purchased by the Contractor by payment of the cost of reproduction and delivery charges.

1-02.4(2) Subsurface Information

*The first paragraph of Section 1-02.4(2) is deleted and replaced with the following:
(Local Agency SP)*

The Contracting Agency has made limited subsurface investigations and the boring log data and soil sample test data accumulated by the Contracting Agency is available in an appendix in the Bid Documents. This data is informational only and shall not be considered as part of the Contract. The Contracting Agency makes no representation or warranty expressed or implied that:

1. The Bidder's interpretations from the boring logs are correct.
2. Moisture conditions and indicated water tables will not vary from those found at the time the borings were made.
3. The ground at the location of the borings has not been physically disturbed or altered after the boring was made.

The Contractor may not rely upon or make any claim against the Contracting Agency or Engineer with respect to:

1. The completeness of such data and reports for Contractor's purposes, including, but not limited to any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
2. Other data, interpretations, opinions, and information contained in such reports; or

3. Any Contractor interpretation of, or conclusion, drawn from such technical data or any such other data, interpretations, opinions, or information.

The Contractor is advised that additional geotechnical investigations and engineering could be required and should be considered and taken into account as part of the requirements of the work. Such investigations and engineering could be required to augment or support the available technical data, particularly to assess or verify the in-situ conditions in areas which were not investigated in order to meet the Contractor's needs and requirements for construction, especially for shoring, dewatering, or other special construction that is dependent on, and affected by, site specific in-situ conditions. Contractor shall evaluate his needs for this additional information and all costs for gathering said information shall be incidental to other bid items.

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 UDBE/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

(December 10, 2020 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 UDBE 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 UDBE requirements are to be satisfied through such an agreement.

1-02.7 Bid Deposit

*Section 1-02.7 is supplemented with the following:
(Local Agency SP)*

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.

Bid bonds shall be issued by a surety company licensed to do business in the State of Washington. Bidder shall use the bond form included in the Contract Provisions.

Bid bonds and checks will be returned to all except the three lowest bidders within ten (10) days after the bid award. Bid bonds or checks of each of the three lowest bidders will be returned within three (3) days after execution of the Contract, and after the Contract has been executed and approved by Kitsap County.

1-02.9 Delivery of Proposal

*The first and second paragraphs of Section 1-02.9 are deleted and replaced with the following
(Local Agency SP)*

Each Bid Proposal shall be submitted in a sealed envelope, with the Project Name and Formal Bid Contract Number as stated in the Invitation to Bid clearly marked on the outside of the envelope, or as otherwise stated in the Bid Documents, to ensure proper handling and delivery.

The Contracting Agency will not open or consider any Bid Proposal that is received after the time specified in the Invitation to Bid for receipt of Bid Proposals, or received in a location other than that specified in the Call for Bids.

1-02.10 Withdrawing, Revising, or Supplementing Proposal

*The second paragraph of Section 1-02.10 is deleted and replaced with the following:
(Local Agency SP)*

The bidder has no right to withdraw or modify the bid for any reason whatsoever after the time set for the opening thereof, unless the award of the contract is delayed for a period exceeding sixty (60) days from the time set for opening of the bids.

Prior to the time set for opening of bids, a bidder may withdraw or revise his bid proposal, provided that an individual authorized to sign proposals files the request for withdrawal or revision with the County Purchasing Office in writing. The original proposal, as modified in writing by an attached revision filed before the time set for opening of bids will be considered as the bid proposal by the bidder. No oral, fax, telephone, or telegraphic Bid Proposals or modifications will be considered or accepted.

1-02.13 Irregular Proposals

*Item 1 in Section 1-02.13 is revised to read as follows:
(Local Agency SP)*

1. A proposal will be considered irregular and will be rejected if:
 - a. The bidder is not prequalified when so required;
 - b. The authorized proposal form furnished by the Contracting Agency is not used or is altered;
 - c. The completed proposal form contains any unauthorized additions, deletions, alternate bids, or conditions;
 - d. The bidder adds provisions reserving the right to reject or accept the award, or enter into the contract;
 - e. A price per unit cannot be determined from the bid proposal;
 - f. The proposal form is not properly executed;
 - g. The bidder fails to submit or properly complete a subcontractor list, if applicable, as required in Section 1-02.6.
 - h. The bidder fails to submit or properly complete a Disadvantaged Business Enterprise Certification, if applicable, as required in Section 1-02.6;
 - i. The Bidder fails to submit written confirmation from each DBE firm listed on the Bidder's completed DBE Utilization Certification that they are in agreement with the bidders DBE participation commitment, if applicable, as required in Section 1-02.6, or if the written confirmation that is submitted fails to meet the requirements of the Special Provisions;
 - j. The Bidder fails to submit DBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award was made;
 - k. The bid proposal does not constitute a definite and unqualified offer to meet the material terms of the bid invitation, or
 - l. More than one proposal is submitted for the same project from a Bidder under the same or different names.
 - m. The bidder fails to submit or properly complete a Bidder Responsibility Checklist as required in Section 1-02.1(3).
 - n. The bidder fails to submit or properly complete a Subcontractor Responsibility Checklist for each subcontractor as required in Section 1-02.1(3).

*Item 2 in Section 1-02.13 is supplemented with the following:
(Local Agency SP)*

- f. If the County, for good cause, deems the bid bond inadequate or improper.

1-02.14 Disqualification of Bidders

*Section 1-02.14 is supplemented with the following:
(Local Agency SP)*

A Bidder will be deemed not responsible if:

1. The Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1), as amended; or
2. The Bidder fails to meet the Project-specific supplemental bidder responsibility criteria listed in Section 1-02.1.

1-02.15 Pre Award Information

*Section 1-02.15 is revised to read as follows:
(August 14, 2013 APWA GSP)*

Before awarding any contract, the Contracting Agency may require one or more of these items or actions of the apparent lowest responsible bidder:

1. A complete statement of the origin, composition, and manufacture of any or all materials to be used,
2. Samples of these materials for quality and fitness tests,
3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,
4. A breakdown of costs assigned to any bid item,
5. Attendance at a conference with the Engineer or representatives of the Engineer,
6. Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located.
7. Any other information or action taken that is deemed necessary to ensure that the bidder is the lowest responsible bidder.

1-02.16 Addenda

*Section 1-02.16 is added as the following:
(Local Agency SP)*

Where appropriate, responses to questions, inquiries or requests for additional information or for substitution of proposed material will be issued in the form of Addenda, and copies of each addendum will be issued to all prospective bidders of record. Additionally, addenda are on file at the Kitsap County Purchasing Office. During the bidding period, prospective bidders will be advised by Addendum of additions to, deletions from or changes in the requirements of the contract documents.

Kitsap County will not be responsible for the authenticity or correctness of oral interpretations of contract documents or for information obtained in any other manner than through the media of Addenda. Bidders shall acknowledge receipt of Addendum in their bid proposals and each Addendum shall be considered a part of the Contract Documents. Failure to acknowledge receipt of any Addenda issued will invalidate a proposal as incomplete.

Should a bidder have a Request for Clarification or find discrepancies, ambiguities or omissions in the drawings or specifications, or should a bidder be in doubt as to their meaning, bidder shall at once notify Nick Martin, Construction Manager, at (360)-271-1427 or email nmartin@kitsap.gov. If appropriate, the Contracting Agency will send a written instruction to all bidders in the form of an Addendum. Neither the Contracting Agency nor the Engineer may be held responsible for any oral instruction. Questions received by the Contracting Agency less than seventy-two (72) hours before bids close may not be answered. All addenda issued prior to the time of bid closing are incorporated into the contract. Interpretations, corrections and changes of the Bidding documents will be made by addendum only through the Kitsap County Purchasing Office. Interpretations, corrections and changes in the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

Any variances to the contract documents shall not be accepted unless agreed to by the County in writing. Substitutions will not be considered until after award of contract.

END OF SECTION 1-02

1-03 Award and Execution of Contract**1-03.1 Consideration of Bids**

*The first paragraph of Section 1-03.1 is revised to read as follows:
(January 23, 2006 APWA GSP)*

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.

*Section 1-03.1 is supplemented with the following:
(Local Agency SP)*

The Contracting Agency will consider all material submitted by the bidder to determine whether the bidder's offering is in compliance with the Contract Documents. The Contracting Agency will consider all material submitted by the bidder, and evidence it may obtain otherwise, to determine whether the bidder, its key personnel, and proposed subcontractors have the qualifications and experience to successfully complete contracts of this type. Such evaluation will include, but not be limited to, the following factors: 1) whether the bidder has adequate financial resources to complete the work; 2) whether the bidder has the necessary experience and organization to perform the work; 3) whether the bidder has a satisfactory record of performance, integrity, experience, and skills to perform and complete the work; 4) whether the bidder has a history of completing, failing to complete, defaulting on or otherwise not completing construction contracts; and 5) whether the bidder's proposed major subcontractors appear capable of and have histories of successfully completing construction contracts.

1-03.3 Execution of Contract

*Section 1-03.3 is revised to read as follows:
(Local Agency SP)*

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

Within fourteen (14) calendar days after receipt of the Contracting Agency-prepared contract, 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. 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 fourteen (14) 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,
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).

END OF SECTION 1-03

1-04 Scope of the Work**1-04.1(2) Bid Items Not Included in the Proposal**

*Section 1-04.1(2) is deleted and replaced with the following:
(Local Agency SP)*

When the Contract specifies Work that has no Bid Item in the Bid Proposal, that work shall be considered incidental to other items in the Bid Proposal whether specified as incidental or not in the measurement and payment descriptions for the individual Bid Items.

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

*The second paragraph of Section 1-04.2 is revised to read as follows:
(Local Agency SP)*

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. Change Orders,
2. Work Directives,
3. Addenda,
4. Proposal Form,
5. CSI Special Provisions,
6. WSDOT Special Provisions,
7. Contract Plans,
8. Amendments to the Standard Specifications,
9. Standard Specifications,
10. Contracting Agency's Standard Plans or Details (if any), and
11. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

1-04.3 Preconstruction Work Phase

*Section 1-04.3 is added as follows:
(Local Agency SP)*

This Section specifies planning and work included within the Preconstruction Work Phase that takes place during the period after the Limited Notice to Proceed and prior to the start of the work authorized by the Notice to Proceed with Construction. The planning effort includes identifying and organizing the Contractor's work team, attending a preconstruction public meeting whose purpose is to introduce the Contractor to the public impacted by the project, planning the construction activities with Kitsap County, the Construction Manager, and Design Engineer, establishing the initial survey control, preparing and delivering priority submittals for equipment, and other activities related to planning activities identified herein.

To accomplish the preconstruction activities, the Contractor shall provide staff to meet on the project site as needed and shall establish and maintain an office in the Puget Sound region to accomplish the work. Satisfactory completion of the Preconstruction Work Phase activities will be a prerequisite to the Notice to Proceed with Construction for the Construction Work Phase.

Submittal information shall be provided in sufficient detail to verify compliance with the specifications during the Preconstruction Work Phase and shall be provided prior to Notice to Proceed with Construction for the Construction Work Phase. The Contractor shall make arrangements with subcontractors and suppliers for the preparation and submittal of required documentation.

1-04.3(1) Activities

The following is a list of the activities to be included in the Preconstruction Work Phase. Each of the activities and required work products are defined either within this specification or in specification sections in the Special Provisions.

1. Contractor's Management and Work Plan
2. Project Safety and Accident Prevention Program
3. COVID-19 Health and Safety Plan (CHSP)
4. Onsite Investigations
5. Preconstruction Photographs
6. Submittals
 1. Submittal Plan and Schedule
 2. Priority or Long Lead Time Material Submittals
 3. Priority Technical Submittals
 - a. Dewatering Plan(s)
 - b. Erosion Control Plan(s)
 - c. Sheeting, Shoring, and Bracing Plan(s)
 - d. Spill Prevention, Control, and Countermeasures Plan
 - e. Temporary Sewage Bypass Plan(s)
7. Apply for and Obtain Contractor Furnished Permits
 - a. Construction General Stormwater Permit
8. Spill Prevention, Control, and Countermeasures Plan
9. Schedules
 - a. Contractor's Scheduler Qualifications
 - b. Schedule of Values for Lump Sum Bid Items
 - c. Contractor's Construction Schedule
10. Traffic Control Plan(s)
11. Attend SYNCHRO Training

1-04.3(2) Contractor's Management and Work Plan

Contractor shall prepare and submit a plan describing in detail the approach and methods for prosecuting the work in accordance with the contract. The Management Plan shall include the following:

1. An organizational chart describing:
 - a. The hierarchy and relationship of the Contractor's project staff;
 - b. The hierarchy of subcontractors and suppliers including the trade(s) or portion(s) for which each is responsible; and
 - c. A resume for the proposed Project Manager and/or site superintendent.
2. An address and phone directory of the Contractor, Subcontractor, and priority equipment suppliers.
3. A narrative describing how the Contractor intends to staff, equip, and supply the job by trade in order to meet the contract work sequence and schedule constraints. Include the

size of the work crew, description of on-site equipment, working hours, and requirements for material and equipment procurement, lay down, and storage.

4. Provide rates for craft labor likely to be used to complete the Work in accordance with Section 1-07.9(1). At a minimum, provide basic wage and benefits cost, worker's insurance costs, federal insurance costs, safety costs, and travel allowance costs, if applicable. Craft labor cost for the Contractor and all his subcontractors shall be provided.
5. Provide rates for equipment likely to be used to complete the Work. At a minimum, provide complete equipment description, hourly cost, operating cost per hour, and operated cost per hour. Equipment cost for the Contractor and all his subcontractors shall be provided.

1-04.3(3) Project Safety and Accident Prevention Program

Contractor shall prepare and submit a Safety and Accident Prevention Program. This program shall outline the anticipated hazards and safety controls necessary to safeguard Contractor's employees, the public, Kitsap County staff and Kitsap County representatives. It shall be specific to the job and site and meet federal, state and local jurisdictional requirements. The program will be reviewed for compliance with this Section prior to the start of work.

1-04.3(4) COVID-19 Health and Safety Plan (CHSP)

COVID-19 Health and Safety Plan (CHSP)

The Contractor shall prepare a project specific COVID-19 health and safety plan (CHSP). The CHSP shall be prepared and submitted as a Type 2 working drawing prior to beginning physical Work.

The Contractor shall update and resubmit the CHSP as the work progresses and new activities appear on the look ahead schedule required under Section 1-08.3(2)D. If the conditions change on the project, or a particular activity, the Contractor shall update and resubmit the CHSP. Work on any activity shall cease if conditions prevent full compliance with the CHSP.

The CHSP shall address the health and safety of all people associated with the project including Contractor's employees, Kitsap County staff, Kitsap County representatives, project staff, subcontractors, suppliers and anyone on the project site, staging areas, or yards. The plan shall contain the following minimum elements:

1. The CHSP shall identify all standards, guidance, publications, and sources on which it is based. Those standards may include references to OSHA, WISHA, and CDC publications that are current at the time the CHSP is prepared.
2. The CHSP shall identify a responsible individual from the Contractor who is responsible for implementation of the CHSP. The individual(s) contact information shall be listed in the CHSP.
3. The CHSP shall specifically identify the project for which it is applicable, and if applicable, shall address project work areas outside the project limits such as staging areas or yards.
4. The CHSP shall identify the PPE and administrative and engineered controls necessary to maintain a safe site. This includes but is not limited to: sanitation resources, screening stations, safety briefings, controlling access, and personal protective equipment (PPE) needed to protect workers from COVID-19.
5. The CHSP shall identify measures for screening and managing workers or visitors to areas identified in the CHSP. The plan shall include procedures should a person exhibit symptoms of COVID-19.
6. The CHSP shall identify how the plan will be updated as new work activities are added with each Weekly Look-Ahead schedule. The CHSP updates shall identify the number of workers, crews, work tasks, and the degree of congestion or confinement workers will experience for the work activities in the Weekly Look-Ahead schedule.

7. The CHSP shall include how the Contractor will ensure everyone on the site has been trained on the CHSP requirements. This includes subcontractors, suppliers, and anyone on the project site.

COVID-19 Health and Safety Plan (CHSP) Inspection

The Contractor shall grant full and unrestricted access to the Engineer for CHSP Inspections. The Engineer (or designee) will conduct periodic compliance inspections on the project site, staging areas, or yards to verify that any ongoing work activity is following the CHSP plan. If the Engineer becomes aware of a noncompliance incident either through a site inspection or other means, the Contractor will be notified immediately (within 1 hour). The Contractor will be given 24 hours to either remedy the noncompliance incident or halt the associated work activity. If the Contractor fails to comply within 24 hours of receiving the Engineer's notification, the Engineer may suspend Work. The Contractor must satisfy the Engineer that the noncompliance incident has been corrected before the suspension will end.

1-04.3(5) Onsite Investigations

The Contractor shall perform on-site investigations in support of technical submittal preparation. See Section 1-02.4(2) for additional information. Activities include but may not be limited to the following:

Survey Control

The Contractor shall establish sufficient survey control to identify vertical and horizontal location of features identified during these on-site investigations. A minimum of two vertical control, temporary benchmarks (TBMs) shall be established for each Schedule for the entire duration of the project. Maintain and place TBMs to prevent disturbance. A registered surveyor employed by the Contractor shall be responsible for setting the TBMs.

Utility Locations

Perform utility excavations to support collection of the as-built location of existing utilities that may impact or be impacted by the Work under this Contract. Locations of excavations shall be in coordinated and identified jointly by the Contractor and the Construction Manager. Proper equipment, labor, trench support methods, backfill, and asphalt patching materials shall be made available to support the operations. The Contractor shall be prepared to repair any damage caused during exploratory activities. Prior to any utility excavations, provide the Construction Manager advance notice of at least four (4) working days. All information from exploratory excavations shall be submitted to the Construction Manager within two working days after completion of said excavation. See Section 1-07.17 for further information regarding utilities and similar facilities.

1-04.3(6) Preconstruction Photographs or Video

Contractor shall perform preconstruction photo or video documentation in accordance with Section 1-05.4(6) Construction Photographs or Video.

1-04.3(7) Submittals

Prepare and submit the Submittal Control Document in accordance with Section 1-06.1.

Contractor shall provide submittals in accordance with Section 1-06.1 for all priority materials or materials that may take more than six (6) weeks to be obtained. Prior to submission of these priority or long lead time material submittals, Contractor shall attend pre-submittal meetings with the Construction Manager and Design Engineer as deemed appropriate for particular submittals.

Priority Technical Submittals:

Priority technical submittals have been identified which have an impact on work activities starting immediately following Notice to Proceed for construction. The list includes but may not be limited to the following items. Should the Contractor's schedule identify a critical submittal not listed, preparation and submittal shall be performed during the preconstruction period:

1. Provide an Erosion Control Plan identifying erosion control measures to be used by the Contractor, including those already shown and specified. The Erosion Control Plan shall

- employ best management practices. Refer to requirements in Section 31 25 14 and Section 1-07.15 as amended by the Special Provisions.
2. Provide a Dewatering Plan, including drawings and complete design data showing methods and equipment to be utilized in dewatering, including relief of hydrostatic head, and in maintaining the excavation in a dewatered and in a hydrostatically relieved condition. The Dewatering plan shall address excavation operations for new structures and pipelines and shall comply with Sections 31 23 43 and 1-05.
 3. Provide a Sheeting, Shoring, and Bracing Plan. Information to be provided shall be prepared in accordance with Section 31 41 00 and shall, at a minimum, include the following:
 - a. Design calculations and method of installation and removal of all Sheeting, Sheet Piling, Shoring, and Bracing. Calculations shall be made by a Washington State registered structural or civil engineer and shall comply with applicable requirements of the Washington State Safety Code and the rules of the WISHA Department of Labor and Industries with respect to excavation and construction.
 - b. Detailed excavation support drawings.
 4. Provide a Spill Prevention, Control and Countermeasures Plan per Section 1-07.15(1) as amended by the Special Provisions.
 5. Provide Temporary Sewage Bypass Systems in accordance with Section 01 59 00, including drawings and complete design data showing methods and equipment to be utilized to temporarily bypass sanitary sewage systems while making connections to the existing system and/or installing new facilities that require the temporary bypass of the existing facilities.
 6. Provide PVC pipe submittals in accordance with 33 34 00

1-04.3(8) Contractor Furnished Permits

The Contractor shall apply for and obtain the Contractor Furnished Permits per Section 1-07.6(2) during the Preconstruction Work Phase.

1-04.3(9) Schedules

The Contractor shall submit the Contractor's scheduling qualifications including the resume(s) of the designated person(s) responsible for schedules and reports (the "Contractor's Scheduler"). The Contractor's Scheduler shall have demonstrable capability to plan, coordinate, execute, and monitor a CPM schedule as required for this Project. The Construction Manager will approve or reasonably disapprove the Contractor's proposed scheduler. In the event of disapproval, a new scheduler shall be proposed within one week and be subject to the same consideration criteria as noted above. In addition, the Contractor shall prepare and submit the following schedule information:

1. Schedule of Values for the lump sum Bid items included in the Bid Proposal.
2. Contractor's Construction Schedule (CPM) prepared in accordance with Section 1-08.3.

1-04.3(10) Traffic Control Plan(s)

Contractor shall provide traffic control plan(s) in accordance with Section 1-10.2.

1-04.3(11) Attend SYNCHRO Training

Contractor shall attend SYNCHRO training in accordance with Section 1-12.8.

1-04.3(12) Attend Public Meeting

Contractor shall attend one evening public meeting during the Preconstruction Work Phase to be introduced to the public that may be impacted by the project and answer general construction related questions.

1-04.4 Changes

*The seventh paragraph of Section 1-04.4 is revised to read as follows:
(Local Agency SP)*

The Contractor shall proceed with the Work upon Receiving:

1. A written change order approved by the Engineer, or
2. A work directive from the Engineer before actually receiving the written change order.

1-04.4(2) Work Directives

*Section 1-04.4(2) is added as the following:
(Local Agency SP)*

Where situations involve changes in the Work that might delay the Project, if not processed expeditiously, the changed work shall be initiated through use of a Work Directive. The Work Directive is not a Change Order, but only a directive issued by the Engineer to proceed with work that may be included in a subsequent Change Order.

The Engineer initiates the form which shall include the project name, number, contract number, and Contractor name. In addition, the reason for the change and a description of the desired Work shall be included in sufficient detail to fully describe the required Work and necessity for the change. A method of payment and estimated cost shall be included along with any modifications to the Contract Time.

Once the Engineer has completed and signed the form, copies of the form and any supporting design criteria, sketches, modified drawings, or specifications attached to the form will be sent to the Contracting Agency's representative for approval. Once authorized by the Contracting Agency's representative, the Work Directive will be forwarded to the Contractor for signature and returned to the Engineer. The Contractor shall then perform the work described in the work directive.

As Work directed by the Work Directive progresses, Contractor shall submit to the Engineer any documentation required by the Work Directive on the day that work is performed for inclusion in a subsequent Change Order. Documentation may include records of force account work, material invoices, as-built data or quality control documentation.

1-04.4(3) Requests for Information

*Section 1-04.4(3) is added as the following:
(Local Agency SP)*

Requests for Information (RFIs) will be used by the Contractor where necessary to provide written direction to clarify or provide additional information or direction regarding the Plans and Specifications. Unless otherwise approved, the Contractor shall use a form provided by the Engineer. While the Engineer will attempt to respond to RFIs in an expeditious manner to avoid impacting the Contract Time, the Engineer shall have a minimum of five (5) working days to review and respond to RFIs. RFIs shall be used if the matter could result in a change in the contract price or time.

1-04.6 Variation in Estimated Quantities

Section 1-04.6 is supplemented with the following:
(Local Agency SP)

For certain items, quantities have been entered into the Bid Proposal only to provide a common Bid Proposal for bidders. Actual quantities will be determined in the field as the work progresses, and will be paid at the original unit bid price, regardless of final quantity. These bid items, identified by the term "allowance" in their title, shall not be subject to the price adjustment provisions of 1-04.6 of the Standard Specifications.

1-04.11 Final Cleanup

*Section 1-04.11 is deleted and replaced with the following:
(Local Agency SP)*

1-04.11 Cleanup

The Contractor shall be responsible for ongoing and final cleaning of the project site. The Contractor shall continually, from the first day of work on the project to the last, include in his operations sufficient personnel, equipment, and materials specifically assigned to cleanup all areas which are affected or disturbed by the work operations.

1-04.11(1) Daily Cleanup

The Contractor shall cause all disturbed areas to be cleaned of all debris and excess construction materials, to be temporarily or permanently graded and finished to smooth lines and grades, to be maintained free of dust, to control surface runoff such that there is no soil erosion or contaminated runoff onto adjacent areas or drainages, and to not have any detrimental impacts. Trenches shall be patched with temporary cold mix or HMA, and sections of the trench to be left open shall be covered with steel plates properly wedged with HMA. All such cleanup shall be conducted to the satisfaction of the Contracting Agency.

The Contractor shall clean all roadways, streets, sidewalks, and other facilities of all material and debris that are dropped or otherwise deposited thereon as a result of the Contractor's operations. All such areas shall be cleaned at the conclusion of each day's operations and at such other times as ordered by the Contracting Agency.

In addition, the Contractor shall use water for dust control on paved, surfaced, or unimproved streets or roadways as may be required to prevent inconvenience to the public. The Contractor shall also use water, if necessary, to remove mud and other debris from streets and roadways.

If the roadways and facilities are not properly or promptly cleaned and the conditions so warrant, as determined by Contracting Agency, the Contractor shall provide facilities to remove soil from truck or other equipment tires or between dual wheels or outside of truck beds before trucks or equipment may be allowed to travel over streets.

1-04.11(2) Final Cleanup

The Contractor shall perform final cleanup of the project site to the satisfaction of the Contracting Agency after completion of all work and prior to Final Acceptance. The Contracting Agency will not establish the Physical Completion Date until this is done. Such cleanup shall include, but not be limited to, removal of all rubbish, surplus materials, construction materials, equipment, and debris. Oversize rock, stumps, brush, and other extraneous materials shall be removed from the project site and disposed of in a lawful manner.

Roadway surfaces shall be thoroughly broom cleaned and washed to remove all material or debris which was deposited on the surfaces.

Any existing fencing removed or damaged by the Contractor shall be replaced in kind and to the satisfaction of the property owner.

The Contractor shall not remove temporary warning, regulatory or guide signs until authorized to do so by the Contracting Agency.

1-04.11(3) Corrective Action

Any violation of the above requirements, as determined by the Contracting Agency, will be sufficient grounds for the Contracting Agency to order the cleanup work to be performed by others. The costs for such corrective action shall be deducted from any monies due or to become due to the Contractor.

1-04.12 Temporary Facilities

*Section 1-04.12 is added as the following:
(Local Agency SP)*

The Contractor shall furnish, for the duration of the project, a temporary field trailer(s) for his use as well as the Contracting Agency's use within a reasonable distance of the project site. Temporary facility installation shall meet the construction safety requirements of OSHA, State, and other governing agencies and the noise limitations shall meet the requirements in Section 1-07.5(5) in the Special Provisions. Contractor shall be responsible for providing telephones, fax machines, and copier and shall pay for installation and monthly service charges for all utilities, including telephone, copy machines, and fax machines. Provide and pay for equipment service contracts for all furnished equipment.

Upon completion of the work, and subject to approval of the Engineer, the Contractor shall completely remove all temporary facilities. Temporary utilities shall be removed to the temporary service connection point, and capped or terminated.

All disturbed surfaces shall be restored to the condition which existed prior to installation of temporary facilities or utilities. All roadway surfaces or other improvements which have been damaged by construction activities shall be repaired or replaced by the Contractor, as directed.

1-04.12(1) Space Allocation

On-site space is limited. Arrangements for additional space required for Contractor's staging and storage of materials and equipment (in addition to that allocated), shall be made for locations off site as described below.

Due to the limited space available outside project limits (and within the existing right of way and temporary construction easements), the Contractor shall make the necessary arrangements with nearby property owner(s) in order to establish an area(s) for the temporary facilities and storing of equipment and materials. All costs associated with third parties arrangements shall be considered incidental to the construction and shall be included in the costs of other items of work involved in the project.

1-04.12(2) Contractor's Work Area

Contractor shall limit operations and storage of equipment and materials to the areas designated on the Plans, unless written agreements have been obtained from third parties that allow the use of areas outside those described on the Plans. Contractor shall provide a copy of all such third party agreements to the Contracting Agency prior to using areas described by the agreement. All such agreements shall contain provisions that hold the Contracting Agency harmless from any and all damages and costs associated with the use of said areas. Contractor shall be solely responsible for the use of said areas.

Contractor shall maintain the area(s) during construction and shall proceed with the work in an orderly manner, maintaining the construction site free of debris and unnecessary equipment or materials. Material shall be stored on pallets or racks off the ground and in a manner to allow access for inspection.

1-04.12(3) Temporary Water for Construction and Testing

Contractor shall be responsible for obtaining a source of temporary water for construction and testing and potable water required by construction personnel. Provide water from off-site sources as necessary. Contractor shall determine availability and make arrangements, and pay all costs, with the local utility for temporary construction water, including metering equipment.

1-04.12(4) Temporary Electric Power

Contractor shall verify existing electric service and provide temporary electric power, if required, for use during construction. Electric power should be available at or near the site. The Contractor shall determine the type and amount available and make arrangements with the local utility for obtaining temporary electric power service, including metering equipment. The Contractor shall provide temporary lighting at least to meet all applicable safety requirements to allow erection, application or installation of materials and equipment, and observation or inspection of the Work. Meet safety requirements of OSHA, State and other governing agencies for electrical installations. Facilities for providing temporary electric power shall meet all noise restriction requirements of Section 1-07.5(5) in the Special Provisions.

The Contractor shall provide all electrical power required for construction, testing, general and security lighting, and all other purposes whether supplied through temporary or permanent facilities.

1-04.12(5) Sanitary Facilities

The Contractor shall provide suitable chemical toilets or water closets at appropriate locations within the site of the work in compliance with the requirements of Section 1-07.4 of the Standard Specifications. Secondary containment shall be provided for each chemical toilet or water closet. At the end of the job such toilets shall be removed.

1-04.12(6) Temporary Telephone Service

Contractor shall furnish onsite telephone service to the temporary field trailer, including fax, for the duration of construction of the Contract and shall be responsible for verifying existing service and making all arrangements with the local telephone utility for providing service as required. Said services shall be provided to the construction trailer(s).

1.04.12(7) Site Access and Parking

All vehicles shall be parked in such a manner so as to not encroach on public right-of-way or be a traffic hazard. Ready access to and through the site by emergency vehicles shall be maintained at all times. The Contractor shall be responsible for control of parking by all of the Contractor's and subcontractor's work force to assure compliance. The Contractor shall anticipate that there may not be sufficient parking space for all of the work force in the construction project area. If this is the case, Contractor shall arrange for carpooling and/or off-site parking and shuttle service, as necessary.

1.04.12(8) Removal of Temporary Facilities

Upon completion of the work, and subject to approval of the Engineer, the Contractor shall completely remove all temporary facilities. Temporary utilities shall be removed to the temporary service connection point, and capped or terminated.

All disturbed surfaces shall be restored to the condition which existed prior to installation of temporary facilities or utilities. All roadway surfaces or other improvements which have been damaged by construction activities shall be repaired or replaced by the Contractor, as directed.

END OF SECTION 1-04

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1-05 Control of Work**1-05.2 Authority of Assistants and Inspectors**

*Section 1-05.2 is supplemented with the following:
(Local Agency SP)*

The Contracting Agency or the Contracting Agency's Representatives shall have the right to inspect and obtain copies of all written licenses, permits, or approvals issued by any governmental entity or agency to the Contractor, its delegates, or subcontractors, which are applicable to the performance of this Contract, and to inspect all Work and Materials for conformity with the Contract terms. The Contractor shall be responsible for ensuring the Work and materials conform to the Contract terms even if the Contracting Agency or the Contracting Agency's Representative conducts any inspection of the same.

1-05.4 Conformity With and Deviations from Plans and Stakes

*Section 1-05.4 is supplemented with the following:
(Local Agency SP)*

1-05.4(1) Contracting Agency-Furnished Reference Points and Surveying

The Contracting Agency has established survey control for construction purposes. This survey control information is provided on the drawings.

The Contractor shall protect and preserve survey control points and property corners. If these points or corners are disturbed by the Contractor, the Contractor shall pay all costs associated for re-establishment of the control points and property corners. The Contractor shall have the work performed by the Contractor's surveyor. Delays resulting from the destruction and re-establishment of survey control points and property corners shall not constitute the basis for additional compensation or extensions to the Contract Time.

1-05.4(2) Contractor-Furnished Surveying

The Contractor shall provide all necessary construction surveys to complete the Work as required by the Contract Documents. The Contractor shall use competent and experienced survey personnel, and suitable equipment necessary for establishing, checking, and maintaining points, lines and grades. Survey shall provide sufficient alignment and off-set control points for proper vertical and horizontal alignment, grade, station and construction of the facilities. In addition, the center point and/or corners of all structures shall be staked. Survey work shall be within the following tolerances:

- | | | |
|----|---------------------|---------------|
| 1. | Stationing, | +/- 0.01 feet |
| 2. | Alignment | +/- 0.01 feet |
| 3. | Structure elevation | +/- 0.01 feet |

Contractor shall employ or retain a registered Washington Land Surveyor to perform and/or oversee and direct construction surveys, as well as surveys to verify/document locations and elevations of all completed facilities for record drawings. Minor surveying, such as grade staking may be performed by the Contractor's personnel with approval of the Engineer. Contractor shall be responsible for detailed dimensions, elevations, and excavation measured from the construction staking.

The Engineer may verify the Contractor's work with spot-checks. These spot-checks do not change the requirements for normal checking and testing as specified elsewhere or the Contractor's responsibility for the work and producing a finished product that is in accordance with the Contract Documents. If errors are found, the Contractor shall correct the errors, which may include removal and replacement of incorrectly installed improvements. All costs in correcting work shall be at the Contractor's expense in accordance with Section 1-05.7.

In the event the Engineer determines the survey work is insufficient, the Contractor shall provide suitable and acceptable corrective measures immediately at no additional expense to the Contracting Agency.

The Contractor shall perform preconstruction survey of roads (i.e., Norum Rd NE, Tuk Wil La Rd NE, Brauer Rd NE Lemolo Shore Dr NE, Peterson Way NE) to be affected by the work. Preconstruction survey shall be performed in accordance with Section 1-05.4. The Contractor's preconstruction survey of roads shall be the basis for restoring the affected roads to existing lines and grades and in-kind restoration of pavement markings. Prior to the Contractor beginning the work, the construction manager and engineer will review, for approval, the roads preconstruction survey.

1-05.4(3) Survey Submittals

Contractor shall submit the qualifications and resume(s) of the proposed survey firm and surveyor(s) along with a description of the survey efforts to be performed. Cut-sheets shall be provided to the Engineer for review a minimum of five (5) working days in advance of construction.

1-05.4(4) Survey Records

Field books shall be hard-back field books, such as K&E 82-0056 or similar. The Contractor shall maintain on-site a copy of all field surveying records prepared by surveyor. These records shall be available for review by the Engineer upon request. At the conclusion of the work, the Contractor shall provide the Contracting Agency with a copy of the surveying records.

1-05.4(5) Resurveys

The Contractor shall direct all questions regarding interpretation of provided survey data to the Engineer. Failure to correctly interpret and utilize survey control data or plans as provided by the Engineer shall not constitute justification for a claim of extra work. The Contractor shall immediately notify the Engineer of any survey data discrepancies.

Any claim by the Contractor for extra compensation by reason of alterations or reconstruction work allegedly due to error in Contracting Agency-Furnished survey control, will not be allowed unless the original control points still exist and are proven to be incorrect, or unless other satisfactory substantiating evidence to prove the error is furnished to the Engineer.

1-05.4(6) Construction Photographs or Video

Prior to and after construction, the Contractor shall provide still photographs, or alternatively, audio color video of project area and adjacent site conditions. Filming plan shall be coordinated with the Contracting Agency's Representative. Filming shall be done at reasonable intervals along the project so sufficient detail and coverage of the area is provided (e.g. approximately every 100 feet, intersections, staging areas, pump station sites, etc). Filming shall be done from differing directions, spacing, and angles to sufficiently show/depict the project area's conditions.

Photographs shall be done by a qualified commercial professional photographer. Photos shall be taken with a high-quality digital camera, with minimum 8-mega-pixel resolution.

Photographs shall be 3-inch by 5-inch color matte prints mounted on 8-1/2" by 11" cardstock, enclosed within plastic film folders, or other approved mounting. Pictures shall be logically arranged and bound in a 3-ring D binder. Photographs shall also be provided on CDs with an index correlated with the mounted prints. Pictures shall have the date, location, description, direction of filming and other pertinent reference information (e.g., facing east, facing south, etc.) on or below each image. Submit sample for review and approval in advance of producing bound document.

Video shall be done by qualified commercial professional photographer. Video equipment shall be a high quality digital recorder. The video shall contain an audio track which narrates the progression of the video through the project area/site. Recording shall display index counter, date and time of recording.

The pre-construction photographs or video shall be performed prior to commencement of the work and after initial staking of the project and construction limits. Post construction photographs shall be taken at final completion of the work. Post construction filming locations shall be similar to preconstruction filming locations. Submit 1 copy of photographs and CDs to the Engineer.

1-05.4(7) Existing Markers and Monuments

Contractor shall take necessary precautions to locate and protect existing markers, property corners, monuments, section corners, subdivision corners, plat markers, bench marks, and all other reference points that may be affected by construction. All markers that may be disturbed by construction shall be identified, referenced, and replaced if disturbed in accordance with recognized surveying practices. Property corners, fences and other indications of property lines shall be referenced by the Contractor prior to construction and reset after completion of the construction operations in accordance with recognized survey practices.

Contractor shall not knowingly remove or disturb any such marker before a licensed land surveyor can reference such marker. Contractor shall be responsible for providing said survey services and shall be responsible for all costs for replacing markers and recording of surveys. Contractor will not be entitled to any delay costs for referencing an existing marker.

In the event that any of these items are not replaced by the Contractor, they shall be replaced by Engineer and the cost of this work shall be billed to the Contractor by the Contracting Agency.

1-05.4(8) Re-establishment of Existing Markers and Monuments

If a marker or monument must be disturbed, Contractor shall follow these steps in accordance with recognized survey practices:

1. Survey work associated with WAC 332-120 shall be performed for the removal and resetting of monuments.
2. Before Contractor disturbs monument(s), surveyor shall establish reference points to perpetuate the position of the monument(s) and an Application For Permit to Remove or Destroy a Survey Monument shall be filed with the Department of Natural Resources (DNR) as set forth in WAC 332-120, for all existing monuments that are subject to being disturbed, prior to construction of improvements.
3. Once a permit has been authorized by DNR, the Contractor may excavate monument(s).
4. The Contractor shall provide replacement monuments as shown on the Plans or as required by the County.
5. The Contractor shall set replacement monument, case, and cover in position.
6. Surveyor shall verify the position and punch mark the brass cap.
7. Surveyor shall file Completion Report for Monument Removal and Destruction with the Department of Natural Resources upon completion of monument replacement.

The Contractor shall be responsible for removal and resetting of markers and monuments.

1-05.5 Project Record Drawings

*Section 1-05.5 is added as the following:
(Local Agency SP)*

The Contractor shall maintain two sets of full size drawings and specifications for the Contract on site during the construction that shall be accessible for review by the Contracting Agency and the Engineer at all times. The Contractor's superintendent or authorized representative shall update the documents with clear and accurate red-lined field revisions and record information on a daily basis and within two (2) business days after receipt of information that a change in Work has occurred. The quality of the Record Drawings, in terms of accuracy, clarity, and completeness, shall be adequate to allow the Contracting Agency to modify the computer-aided drafting (CAD) Contract Drawings to produce a complete set of Record Drawings for the Contracting Agency without further investigative effort by the Contracting Agency.

The Record Drawing markups shall document all changes in the Work, both concealed and visible and shall be legible and accurately marked to indicate modifications in the completed work that differ from the design information shown on the Contract Plans. The Contractor shall not conceal any Work until the

required information is recorded. Items that must be shown on the markups include, but are not limited to:

1. Actual dimensions, arrangement, and materials used when different than shown in the Plans.
2. Changes made by Change Order or Work Directive.
3. Changes made by the Contractor.
4. Accurate locations of storm sewer, sanitary sewer, water mains, and other water appurtenances, underground power and telephone, gas lines, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement markings, etc. Include pipe invert elevations, top of castings, (manholes, inlets, etc.).

As-built surveying/staking provided by the Contractor shall meet the following tolerance limits:

	<u>Vertical</u>	<u>Horizontal</u>
As-built sanitary & 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

Redline entries on the Record Drawings shall conform to the following standard:

1. Use erasable colored pencil (not ink) for all markings on the Record Drawings, conforming to the following color code:
2. Additions - Red
3. Deletions - Green
4. Comments - Blue
5. Dimensions - Graphite
6. Provide the applicable reference for all entries, such as the change order number, the request for information (RFI) number, or the approved shop drawing number.
7. Date all entries.
8. Clearly identify all items in the entry with notes similar to those in the Contract Drawings (such as pipe symbols, centerline elevations, materials, pipe joint abbreviations, etc.).

The Record Drawings shall be used for this purpose alone, shall be kept separate from other Plan sheets, and shall be clearly marked as Record Drawings. One set shall be submitted to the Engineer monthly along with the Contractor's request for progress payments. Failure to supply the record drawings each month or failure of the record drawings to reflect the above information in a clear and concise manner shall be basis for withholding the Contractor's Progress Payments until such time as they are completed to the satisfaction of the Engineer. Upon completion of review of the drawings, the Engineer shall either return the set of record drawings to the Contractor for continued use or may provide a new, unused set of documents for the Contractor's use.

Upon completion of all the work and prior to final acceptance, one or both of the sets of record drawings and specifications shall be delivered to the Engineer along with a copy of all supporting information. The

Contractor shall certify on the Record Drawings that said drawings are an accurate depiction of built conditions, and in conformance with the requirements detailed above.

1-05.5(1) Project Electronic Data and Information

Electronic submittals shall conform to Section 1-12. This may include RFIs, Work Directives, Project Data Submittals/Shop Drawings, and other project correspondence. Protocol and requirements shall be discussed and worked out with the Contracting Agency and Engineer in advance. Electronic data and information shall be in a PDF format that conforms to Section 1-06.1(3). Due to security and other IT system constraints, file sizes may be limited. Contractor shall provide paper copies at the request of the Contracting Agency or Engineer.

Once the Contract is awarded, the Contracting Agency will grant the Contractor access to their SYNCHRO software for the Contractor's use on this project. No user fees will be charged to the Contractor for this software. All costs for the training and use of this software shall be considered incidental to the Contract.

1-05.7 Removal of Defective and Unauthorized Work

*Section 1-05.7 is supplemented with the following:
(October 1, 2005 APWA GSP)*

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 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.

1-05.8 Coordination with Owner and Adjacent Homes

*Section 1-05.8 is added as the following:
(Local Agency SP)*

Access to homes and business shall be maintained at all times. To maintain access to homes and businesses during the contract, the contractor shall observe the following requirements:

1. Post signs and notify homes and businesses at least five (5) working days ahead of any construction that may impact their access.
2. Provide alternate access as required to affected homes and businesses.
3. Provide a Traffic Control Plan prior to construction as described in Section 1-10 and keep it updated as construction progresses.

Maintaining access to homes and businesses shall be considered incidental to the Contract and included in other bid items. No separate payment shall be made.

1-05.10 Guarantees

*Section 1-05.10 is deleted and replaced with the following:
(Local Agency SP)*

In addition to any special warranties provided elsewhere in the Project Documents, the Contractor warrants to the Contracting Agency that materials and equipment furnished under the Contract will be of good quality and new unless otherwise required or permitted by the Project Documents, and that the Work will conform to the requirements of the Project Documents as described herein. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective and may be rejected. The Contractor's warranty excludes remedy for damage caused by abuse, improper or insufficient maintenance, or improper operation. If required by the Contracting Agency's Representative or Contracting Agency, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment provided.

Neither final acceptance by the Contracting Agency nor partial and final payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship.

If, prior to the expiration of one year after the date of final acceptance of all work or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work (including materials and equipment) that is found to be defective or not in compliance with the Contract Documents, the Contractor shall promptly, without cost to Contracting Agency, either correct such work, or, if it has been rejected by Contracting Agency, remove and replace it with acceptable work. If the Contractor does not promptly comply with the notification issued by the Contracting Agency for correction of defective and/or non-complying work, the Contracting Agency may have the Work corrected or removed and replaced and all direct and indirect costs of such removal and replacement, including costs of all professional services, shall be paid by Contractor as provided for herein.

Actual or alleged knowledge by the Contracting Agency, Engineer and/or inspector(s), prior to acceptance of all work by the Contracting Agency, of defects or deficiencies in the Work shall not, in any way, affect or diminish the guarantee by the Contractor. The guarantee shall apply to all elements and parts of the Work, regardless of knowledge by the Contracting Agency, Engineer and inspector(s) of defects or deficiencies and regardless of failure of the Contracting Agency, Engineer and/or inspector(s) to inform the Contractor of known or suspected defects or deficiencies prior to final acceptance of the Work by the Contracting Agency.

All subcontractor's, manufacturers', and suppliers' warranties and guarantees, express or implied, for any part of the Work, materials and equipment shall be deemed obtained and shall be enforced by the Contractor for the benefit of the Contracting Agency without the necessity of formal transfer or assignment thereof. Warranties and guarantees by subcontractors, manufacturers, and suppliers shall begin on and extend for one year after the date of final acceptance by the Contracting Agency of all work.

All work (including materials and equipment) repaired or replaced in accordance with this Section shall be guaranteed for a period of one year after the date of acceptance by the Contracting Agency of the repair/replacement work.

Nothing contained in these provisions shall defeat or impair the right of persons furnishing materials or labor to recover under any bond given by the Contractor for their protection, or any rights under any law permitting such persons to look to funds due the Contractor in the hands of the Contracting Agency.

These guarantee provisions shall be inserted in all subcontracts and material contracts, and notice of these provisions shall be given to all persons furnishing materials for the Work when no formal contract is entered into for such materials.

1-05.11 Final Inspection

*Section 1-05.11 is deleted and replaced with the following:
(Local Agency SP)*

1-05.11 Facility Startup, Testing and Training

Contractor shall provide complete startup and testing/commissioning to ensure that all equipment are properly installed and function, operate, and perform as intended and required. Contractor shall submit a startup and testing plan showing how the testing will be accomplished for review and acceptance by the Engineer prior to commencing startup and testing of the facilities.

All equipment shall be tested by the Contractor before any system is put into operation. Testing procedures shall be designed to duplicate as nearly as possible all conditions of operations and shall be carefully selected to ensure that the equipment is not damaged. Tests shall be as specified herein and shall be made to determine whether the equipment has been properly assembled, aligned and connected. Any changes, adjustments or replacements required to make the equipment operate as required shall be carried out by the Contractor or a qualified technician of the seller or equipment representative as part of the work.

Copies of field test reports shall be signed by the Contractor and provided to the Engineer along with the testing report.

Initial startup and testing or commissioning services shall include a minimum of one (1) 8-hour day(s).

Contractor is responsible for determining that all equipment and all systems are functioning properly by start-up time. Prior to startup, the Contractor shall furnish documentation that the equipment provided is installed and is functioning in compliance with the manufacturer's recommended specification and instructions.

The Contractor shall anticipate that the Contracting Agency may delay acceptance of all work under the Contract if, in the judgment of the Contracting Agency, malfunctions or failures in operation of the system repeatedly occur after startup. The Contractor shall not be entitled to an extension of time or to any claim for damages because of hindrances, delays, or complications caused by or resulting from delay by the Contracting Agency in accepting the work because of malfunctions or failures in operation of the system.

Immediately prior to final acceptance, Contractor shall make a final check of all lubrication requirements and leave all equipment properly lubricated, ready for Contracting Agency's use.

The Contractor shall demonstrate to the Contracting Agency's personnel, the proper manner of maintaining the equipment, making adjustments, and maintaining the system. Work performed by the manufacturer's representative required for startup will not be considered as operator training even if the operators are present and witnessing the adjustments. Equipment startup will be completed before the required on-the-job operator training begins. Operator training services shall include a minimum of one (1) 8-hour day.

1-05.11(1) Substantial Completion

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 and prepare a punch list of unresolved items. If the number of unresolved items exceeds 20, the Engineer may stop the inspection and notify the Contractor that the project is not ready for the Substantial Completion Inspection. The list of unresolved items shall be provided by the Engineer to the Contractor within 10 working days of the Contractor's request for Substantial Completion. The Engineer may also establish the Substantial Completion Date unilaterally. 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.

If the Engineer concurs with the Contractor that the work is substantially complete and the facilities can be used safely and are ready for the 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) Operational Testing

It is the intent of the Contracting Agency to have a complete and operable system prior to establishing the Substantial Completion Date. Therefore, when the work involves the installation of process, mechanical and electrical systems, the Contractor will be required to operate and test these systems for a period of time prior to the Substantial Completion Date. Process and mechanical equipment, electrical controls, meters, or other devices and equipment to be tested during this period, shall be tested under the observation of the Contracting Agency or Engineer. Where such operational testing is required, the systems shall be tested under operating conditions for a reasonable period of time, but no less than the number of days stipulated, to assure their proper operation and function prior to establishing the Substantial Completion Date. During and following the test period, the Contractor shall correct any items of workmanship, materials, or equipment which do not meet the requirements of the Contract Documents, prove faulty, or that are not in good operating condition. Equipment that repeatedly breaks down or fails to operate or perform properly during this operational testing period will be cause to extend the testing period. The Substantial Completion Date will not be established until the necessary corrections and tests have been completed to the satisfaction of the Engineer and Contracting Agency.

The costs for equipment, labor, materials, supplies, power, gas, water, 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 shall not affect a manufacturer's guaranties or warranties furnished under the terms of the contract.

1-05.11(3) Final Inspection and Physical Completion

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. If the number of unresolved items exceeds 20, the Engineer may stop the inspection and notify the Contractor that the project is not ready for the Physical Completion Inspection.

The Contractor shall immediately take such corrective measures as are 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 list of unresolved items shall be provided by the Engineer to the Contractor within 10 working days of the Contractor's request for Physical Completion. 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.

1-05.12 Final Acceptance

*The first paragraph of Section 1-05.12 is deleted and replaced with the following:
(Local Agency SP)*

The Contractor must perform all the obligations under the contract before a completion date and final acceptance can occur. Failure of the Contractor to perform all the obligations under the contract shall not bar the Contracting Agency from unilaterally accepting the contract as provided in Section 1-09.9. The Contracting Agency, or a duly authorized representative, accepts the completed contract and the items of work shown in the Comparison of Quantities by signature of the Notice of Completion and Acceptance. The date of that signature constitutes the acceptance date. Progress estimates or payments shall not be construed as acceptance of any work under the contract.

1-05.12(1) One-Year Guarantee Period

*Section 1-05.12(1) is added as the following:
(Local Agency SP)*

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

*Delete the sixth and seventh paragraphs of Section 1-05.13 is revised to read as follows:
(August 14, 2013 APWA GSP)*

1-05.13(1) Emergency Contact List

The second sentence in the first paragraph of Section 1-05.13(1) is revised to read as follows:
(Local Agency SP)

The list shall include, at a minimum, the Prime Contractor's Project Manager, or equivalent, the Prime Contractor's Project Superintendent, and the Certified Erosion and Sediment Control (CESCL) Lead.

1-05.14 Cooperation with Other Contractors

*Section 1-05.14 is supplemented with the following:
(Local Agency SP)*

The Contractor shall not cause unnecessary hindrance or delay to others working in the project area. If the performance of any contract for the project is likely to be interfered with by the simultaneous performance of other contracts, the Contracting Agency and Engineer will decide which Contractor shall cease work temporarily and which Contractor shall continue, or whether the work under the contracts can be coordinated so that the contractors may proceed simultaneously.

On questions concerning conflicting interest of contractors performing related work, the decision of the Contracting Agency and Engineer shall be binding upon all contractors concerned and the Contracting Agency, the Engineer, the Contracting Agency's Representative, and their consultants shall not be responsible for damages suffered or extra costs incurred by the Contractor resulting directly or indirectly from the award, performance, or attempted performance of other contracts in the project area or caused by a decision or omission of the Contracting Agency and Engineer regarding the order of precedence in the performance of the contracts.

If, through acts of neglect on the part of the Contractor, other parties suffer loss or damage in their Work, the Contractor agrees to settle with such others by agreement or arbitration, if such others will so settle. If such others assert any claim against the Contracting Agency, the Engineer, the Contracting Agency's Representative, or their consultants on account of damage alleged to have been so sustained, the Contracting Agency shall notify the Contractor, who shall hold harmless, indemnify, and defend the Contracting Agency, Engineer, the Contracting Agency's Representative, and their consultants, and each of their directors, officers, employees, and agents against any such claim, including all attorney's fees and any other costs incurred by the indemnified parties relative to any such claim.

The Contractor shall coordinate his work with other contractors, public agencies, property owners, and utility companies which may have facilities or be working in the project area to minimize mutual interference. The Contractor shall cooperate with the utility companies and/or their subcontractors and conduct his operations in a manner that the necessary construction of their facilities can be accomplished to the mutual satisfaction of the Contracting Agency and the utility companies.

He shall also coordinate his activities with the Contracting Agency; and no water or sewer mains, individual water or sewer services, street, or private driveways may be closed off without a minimum five (5) working days notice to the Contracting Agency and the private property owner. Should the property owner or the Contracting Agency have reasonable reason, as determined by the Engineer, to avoid access or water or sewer service shutoff at the scheduled time, the Contractor shall reschedule his work to meet the new condition.

The Contractor shall maintain overall coordination for the execution of the work. Based on the Construction Schedule prepared in accordance with these Specifications, the Contractor shall obtain from each subcontractor a similar schedule and shall be responsible for all parties maintaining these schedules or for coordinating required modifications.

1-05.15 Method of Serving Notices

*The second paragraph of Section 1-05.15 is revised to read as follows:
(March 25, 2009 APWA GSP)*

All correspondence from the Contractor shall be directed to the Project 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 in paper format, hand delivered or sent via mail delivery service to the Project 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.

END OF SECTION 1-05

1-06 Control of Materials**1-06.1 Approval of Materials Prior to Use**

*Section 1-06.1 and its associated subsections are deleted and replaced with the following:
(Local Agency SP)*

All equipment, materials, and articles incorporated into the permanent work:

1. Shall be new, unless the Special Provisions permit otherwise;
2. 1-06. May be inspected or tested at any time during their preparation and use; and
3. Shall not be used in the work if they become unfit even after being previously approved.

Prior to use, the Contractor shall assemble and submit to the Contracting Agency, Project Data and Shop Drawings for all proposed materials. The Contractor shall prepare and update on at least a monthly basis a submittal control document that indicates the status of all submittals. The status report shall be initially developed to identify all shop drawing and submittal data to be assembled and submitted by Contractor for Engineer's review.

The Contractor is cautioned that equipment and materials for which submittals are required, and which are constructed, installed, or incorporated prior to Engineer's review is at Contractor's risk. Such equipment or materials may be rejected by the Contracting Agency, and if rejected, shall be removed and replaced by the Contractor if so ordered by the Engineer at the Contractor's expense.

1-06.1(1) Contractor Responsibility for Submittals

The Contract Drawings were developed to provide a general description of the work. These drawings do not and are not intended to provide all the details of each and every element of the work. The Contractor shall be responsible for, and prepare (or have prepared), all shop and working drawings required to supplement the Contract Drawings to establish the necessary details for construction.

Supplemental shop and working drawings shall be prepared by the Contractor as required by these Special Provisions. Supplemental shop and working drawings shall include, but not be limited to: metal fabrication plans and details, erection plans and details, masonry layout plans and details, reinforcing steel plans and details, shoring plans and details, concrete formwork plans and details, equipment installation plans and details, piping layout and support plans and details. The Contractor shall be fully and completely responsible for the accuracy of the dimensions and details of the supplemental shop and working drawings, including those prepared by subcontractors, suppliers, and detailers and for full and complete conformity with the defined and implied intent of the Contract Documents. The Contractor shall check all shop drawings to make sure they conform with the Contract Documents, and in the case of re-submittals, that all review comments have been addressed prior to transmittal.

The Contractor shall coordinate between suppliers to verify that equipment, mechanical, electrical, structural elements, and other parts of the work correctly interface. The Contractor shall check and verify field dimensions of new and existing work as needed to ensure that shop drawings and other submittals are correctly dimensioned. Catalog cut sheets shall be clearly marked or notated as to which items are intended to be supplied. The Contractor's shop drawings and submittals that have been carelessly or improperly prepared and clearly not reviewed by the Contractor will be returned un-reviewed.

The Contractor shall prepare and timely transmit submittals so as not to delay the construction schedule. The Contractor is responsible for the timeliness of submittals prepared by his suppliers and subcontractors. The Contractor shall anticipate the time required for review and possible re-submittals, and shall include reasonable amounts of time for preparation, distribution and review of submittals in the construction schedule. The Contracting Agency and Engineer shall process submittals expeditiously and endeavor to complete reviews as quickly as possible, but is under no obligation to waive procedures or expedite processing because of untimely submittals by the Contractor.

By approving and submitting shop drawings, product data and samples, the Contractor represents that he/she has determined and verified all materials, field measurements, and field construction criteria related thereto, and that he/she has checked and coordinated the information contained within such

submittals with the requirements of the work and Contract Documents, including with associated subcontractors, and is fully satisfied that they conform to the Contract Documents.

The Contract Price shall include the cost of furnishing all shop drawings, product data and samples, and the Contractor will be allowed no extra compensation for such drawings, product data or samples.

1-06.1(2) Limitations of Engineer's Submittal Reviews

Engineer's review and acceptance will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

Engineer's review and acceptance will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and acceptance of a separate item as such will not indicate acceptance of the assembly in which the item functions.

Engineer's review and acceptance of required Shop Drawings or Samples shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Section 1-06.1(4) of the Special Provisions, and Engineer has given written acceptance of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and acceptance shall not relieve Contractor from responsibility for complying with the requirements of Section 1-06.1(3) of the Special Provisions.

Engineer's check and review of Shop Drawings and Samples, Standard Specifications and descriptive literature submitted by Contractor will be only for general conformance with design concept, except as otherwise provided, and shall not be construed as:

1. Permitting any departure from the Contract Requirements;
2. Relieving the Contractor of the responsibility for any error in details, dimensions or other issues that may exist in such submittals;
3. Constituting a blanket acceptance of dimensions, quantities, or details of the material or equipment shown; or
4. Approving departures from additional details or instructions previously furnished by Engineer. Such check or review shall not relieve Contractor of the full responsibility of meeting all of the requirements of the Contract Documents.

1-06.1(3) Submittal Procedures and Requirements

The Contractor shall transmit each submittal to the Engineer using a transmittal form provided by the Engineer. The Contractor shall certify that the contents of the submittal have been checked by the Contractor for conformance with the requirements of the Contract Documents. Submittals will not be reviewed without this certification. If it appears to the Engineer that the submittal has not been checked by the Contractor, no further review will occur and it will be deemed incomplete and returned to the Contractor with a determination of "Revise and Resubmit".

Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

1. All field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
2. The suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;
3. All information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

4. Shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

A separate form shall be used for a given specification section. That is, only an item or items that pertain to a given section shall be listed. Different items within a given section shall be listed.

All submittals shall be transmitted to the Engineer via the Contractor. Submittals direct from subcontractors or suppliers will not be accepted. Any communications which may occur between the Engineer and subcontractors and suppliers shall not be construed as binding on the Engineer, Contracting Agency or Contractor unless formalized in accordance with procedures set forth in the Contract Documents.

Approved File Formats

Submittals shall be Adobe PDF file format, version 8.0 or greater.

1. Bookmark all chapters, sections, and drawings.
 - a. Bookmarks shall include a logical description of the chapter or section or the title and number of the drawing.
2. Format shall be standard letter 8.5" x 11" for text and/or 11" x 17" landscape for drawings.
3. Acceptable fonts include:
 - a. Arial
 - b. Verdana
 - c. Helvetica,
 - d. Times New Roman
4. Font sizes for text based documents must be no less than 10 pt and no greater than 14 point for general text and no less than 12 pt and no greater than 18 pt for headers.
5. Font color must be black.
6. Text decoration, such as bold and italic, may only be used to emphasize key points.
7. Hyperlinks and graphics within the file is encouraged when appropriate.
8. Hyperlinks must use relative addressing.
9. Hyperlinks to information outside the primary domain of the client's intranet are unacceptable.
10. File names shall be in English, clearly convey the information contained in the file, and shall not exceed 100 characters in length. Only standard abbreviations may be used in file names.
11. Scanned documents are unacceptable.
12. Files shall not be password protected.

Each submittal shall be numbered consecutively, i.e. 1, 2, 3, etc. Assign re-submittals the same number as the original with a suffix of a sequential letter to denote it as a re-submittal. For example, the first re-submittal of submittal 25 would be 25A. Include only those items previously issued under the original submittal in re-submittals. Do not combine new submittals with re-submittals.

Where contents of submitted literature from manufacturers include data not pertinent to the submittal, the Contractor shall clearly indicate which item(s) or portion of the contents is provided and is to be reviewed by the Engineer.

The project data must be submitted in accordance with the instructions or the submittal may be returned without review, and the Contractor will not be entitled to any increase in Contract time. The Engineer will,

upon completion of the review, return the transmittal form and a PDF copy of the submittal project data to the Contractor.

Engineer's review will be completed within ten (10) working days after receipt by Engineer of each complete submittal in proper sequence and will be returned to Contractor with one of the following markings:

1. "No Exceptions" indicates submittal has been reviewed and appears to be in conformance with requirements of the Contract Documents.
2. "Make Corrections Noted" indicates submittal appears to be in general conformance with requirements of the Contract Documents, but requires some corrections. Contractor shall incorporate the corrections noted. No re-submittal is required.
3. "Revise-Resubmit" indicates submittal does not appear to be in conformance with the Contract Documents. Engineer's comments will be noted on the submittal or in a separate letter. Contractor shall recheck, make necessary revisions, and resubmit.
4. "Reference" or "For Information Only" indicates submittal gives general information incidental to, but not required for, review or acceptance by the Engineer.
5. "Submittal Not Required-No Action Taken" indicates that the submittal is not called for by the Contract Documents and that no action was taken by Engineer on the submittal.

The Contractor shall submit to the Contracting Agency, to demonstrate compliance with applicable safety and environmental regulations, copies of any safety and accident prevention or pollution control and/or environmental monitoring plans applicable to the project and required of the Contractor by law, as well as any on-site safety program measures applicable to the Contracting Agency or its agents or members of the public visiting the work area. When such documents require approval by a government agency, the Contractor shall also furnish evidence of approval. These submittals are informational and any comment or lack of comment by the Contracting Agency or Engineer thereon shall not be construed as either acceptance or rejection of these documents, which shall be a matter for agencies having jurisdiction.

If the Contractor fails to make the proper changes to the submittal and the Engineer is required to review a submittal more than three (3) times, the Contracting Agency may deduct the costs for subsequent reviews from the Contract Price.

1-06.1(4) Submittal Variations

Variations from the Contract Document are not allowed without prior acceptance by the Engineer and shall be made at no additional cost to the Contracting Agency or extension of the contract time unless accepted by a change order. Contractor shall give Engineer specific written notice of any such variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. The variations shall be specifically identified on each Shop Drawing or Sample submitted to Engineer for review and acceptance and shall direct specific attention to each deviation from the Contract Documents and state any trades, dimension, functions or other aspects of the work that will be affected by the proposed change. Otherwise, the Contractor will not be relieved of the responsibility of executing the Work in accordance with the Contract Documents, even though such Shop Drawings or Samples have been otherwise reviewed.

The Contractor is responsible for the design of any construction changes resulting from any such deviation, for dimensions which shall be confirmed and coordinated at the job site, for fabrication processes and techniques of construction, for coordination of the work with that of all trades and for a complete installation which will function as intended and originally specified.

If a Shop Drawing or Sample, as submitted, indicates a variation from the Contract Requirements as set forth in the Contract Documents, Contractor shall identify the cost of the variation on the Shop Drawing or Sample. If the Engineer finds the variation to be in the interest of Contracting Agency and the variation involve no change in the Contract Price or time for performance, Engineer may approve the Shop Drawings or Samples.

1-06.1(5) Re-submittals

Contractor shall make corrections required by Engineer and shall return corrected copies in accordance with procedures described in Special Provision 1-06.1(3). Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

1-06.4 Handling and Storing Materials

*Section 1-06.4 is supplemented with the following:
(Local Agency SP)*

1-06.4(1) Pipe

Pipe and appurtenances shall be handled, stored, and installed as recommended by the manufacturer. Pipes with soft coatings such as coal tar enamel, paint, or the like shall be stored to protect the coating from physical damage or other deterioration and shall only be handled with padded, wide slings. Pipes shipped with interior bracing shall have the bracing removed only when recommended by the pipe manufacturer.

1-06.4(2) Equipment and Devices

All equipment shall be adequately and effectively protected against damage from moisture, dust, handling, or other causes during transport from manufacturer's premises to the site. Each item or package shall be clearly marked with the number unique to the specification reference covering the item.

Stiffeners shall be used where necessary to maintain shapes and to give rigidity. Parts of equipment shall be delivered in assembled or sub-assembled units where possible.

All equipment items and valves with an assigned equipment number in this Project Manual shall have affixed to them in a prominent location, a label or tag displaying the assigned equipment number. Equipment item and valves lacking a number shall have a similar tag providing a unique description of the item. Markers shall be of stainless steel or aluminum, affixed to the item with stainless steel fasteners, or as otherwise approved by the Engineer. Plastic labels will not be acceptable.

During the interval between delivery and installation, all equipment shall be stored in enclosed, weather-tight licensed commercial warehouses. Environmental controls such as heaters or protective encapsulation shall be provided to ensure against condensation and moisture damage. In the event prolonged (more than 90 days) storage is required for any item of rotative equipment, the Contractor shall institute a preventive maintenance program that shall include grease protection of bare metal surfaces, periodic indexing of rotating parts, renewal of grease in bearings, and any procedures recommended by the manufacturer. The Contractor shall maintain adequate records to demonstrate full compliance with these requirements. All equipment shall be available for inspection by the Engineer.

After installation, all equipment shall be protected from damage, including but not limited to moisture, dust, abrasive particles, debris, and dirt generated by the placement, chipping, sandblasting, cutting, finishing, and grinding of new or existing concrete, terrazzo, and metal; and the fumes, particulate matter, and splatter from welding, brazing, and painting of new and existing piping and equipment. The Contractor is advised that as a minimum, vacuum cleaning, blowers with filters, protective shielding, and other dust-suppression methods will be required at all times to adequately protect all equipment. During concreting, including finishing, all equipment that may be affected by cement dust must be completely covered. During painting operations, all grease fittings and similar openings shall be covered to prevent the entry of paint. Electrical switch gear, unit substation, and motor load centers shall not be installed until all concrete work and sandblasting in those areas have been completed and accepted.

1-06.4(3) Delivery of Material or Equipment

The Contracting Agency's or Engineer's personnel or representatives of the Contracting Agency or Engineer will not accept materials or equipment deliveries for the Contractor.

1-06.6 Substitutions

Section 1-06.6 is added as the following:
(Local Agency SP)

Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review.

"Or Equal Items"

"Or Equal" Items: If, in Engineer's sole discretion, an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or equal" item, in which case review and acceptance of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if, in the exercise of reasonable judgment Engineer determines:

1. The proposed item is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
2. The proposed item will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
3. Operation and maintenance costs and requirements are reasonably similar; and
4. The proposed item has a proven record of performance and comparable availability of service and parts.

Contractor shall also certify that, if approved and incorporated into the Work:

1. No increase in cost to the Contracting Agency or increase in Contract Times will result, and
2. The proposed item will conform to the detailed requirements of the item named in the Contract Documents.

If requested by the Engineer, Contractor shall furnish additional information for the Engineer's review and consideration. Insufficient or inadequate information to substantiate an "or equal" determination by the Engineer will be grounds for rejection.

Substitute Items

If, in Engineer's sole discretion, an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, it will be considered a proposed substitute item. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefore. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

The requirements for review by Engineer will be as set forth herein and as Engineer may decide is appropriate under the circumstances. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1. Shall certify that the proposed substitute item will:
 - a. Perform adequately the functions and achieve the results called for by the general design,

- b. Be similar in substance to that specified, and
 - c. Be suited to the same use as that specified;
2. Will state:
- a. The extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;
 - b. Whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Contracting Agency for other work on the Project) to adapt the design to the proposed substitute item; and
 - c. Whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
3. Will identify:
- a. All variations of the proposed substitute item from that specified;
 - b. Available engineering, sales, maintenance, repair, and replacement services; and
 - c. Schedule impacts and changes to the construction schedule
4. Shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

Contractor shall supply three (3) copies of data substantiating compliance of proposed product or supplier with Contract Documents on all requests for acceptance of change of any product or manufacturer. Each copy shall include:

- 1. Detailed description of the proposed change, including:
 - a. Product identification, including manufacturer's name and address;
 - b. Manufacturer's identification, including manufacturer's name and address;
 - c. Samples of proposed products;
 - d. Name, address, and telephone number of contact persons for similar projects on which product was used and date of installation; and
 - e. Drawings indicating and vertical details of all architectural, structural, mechanical and electrical elements of proposed change.
- 2. Itemized comparison of proposed substitution with product or supplier specified;
- 3. Relation to separate subcontracts and trades;
- 4. Cost data on proposed substitution in comparison with product or supplier specified; and
- 5. Operation and maintenance requirements and costs;

Requests for change of product or design shall include certification by the Contractor that:

- 1. The Contractor has personally investigated the proposed product or design deviation and has determined that it is equal or superior in all respects to that specified;
- 2. The Contractor will provide the same guarantee for product or design deviation as for product or design specified; and
- 3. The Contractor will coordinate installation of accepted product or design deviation into work, making such changes as may be required for work to be complete in all respects.

Requests for change of products will not be considered if:

1. They are indicated or implied on project data submittals without a formal request having been submitted; and/or
2. Acceptance will require substantial revision to the Contract Documents.

Substitute Construction Methods or Procedures

If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those required for substitute items.

Engineer's Evaluation

Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made. Engineer may require Contractor to furnish additional data about the proposed substitute item, method or procedure. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order or an approved Shop Drawing. Engineer will advise Contractor in writing of any negative determination. The Engineer may elect to reject any or all requests for deviation at his sole discretion without cause or justification. The Contractor shall immediately proceed with the Work in accordance with the Contract Documents upon notification of rejection of any request for deviation.

Special Guarantee

Contracting Agency may require Contractor to furnish, at Contractor's expense, a special performance guarantee or other surety with respect to any substitute, change in construction methods or procedures, or change in design.

Engineer's Cost Reimbursement

Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, the Contracting Agency may subtract said costs from payments due to the Contractor. The Contracting Agency may also subtract any charges of the Engineer associated with making changes in the Contract Documents (or in the provisions of any other direct contract with Contracting Agency) resulting from the acceptance of each proposed substitute.

Contractor's Expense

Contractor shall provide all data in support of any proposed substitute or "or equal" at Contractor's expense. The Contractor shall be responsible for and assume all costs of all elements involving implementing and completing approved deviations including, but not limited to, coordination, confirming dimensions at the job site, design, preparation of plans, procurement of materials and equipment, fabrication, construction, installation and instigation of service. If, in the opinion of the Engineer, the completed improvements of each deviation do not fulfill, provide and meet the defined and implied intent of the Contract Documents, the Contractor shall provide the labor, materials, and equipment required to modify the Work to the satisfaction of the Engineer.

The Contractor shall be responsible for modifications to electrical, structural, mechanical, or other aspects of the work or design as required to install or incorporate materials or equipment selected by the Contractor.

Regardless of the method of specification or selection, any product which is installed or incorporated into the work without prior acceptance of the Engineer may not be accepted by the Contracting Agency.

When material or equipment is specified by performance requirement or reference to specifications, standards, or publications of organizations, the Contractor shall select material or equipment which the Contractor considers to comply with the specified reference standard. The Contractor shall submit a request for acceptance of the selected product in accordance with these Special Provisions.

1-06.7 Testing and Quality Control

Section 1-06.7 is added as the following:
(Local Agency SP)

Contracting Agency-Furnished Testing and Inspections

The Contracting Agency will retain a qualified independent testing laboratory to perform the laboratory and field tests listed below:

1. Testing of backfill materials (e.g., sieve analysis, sand equivalent)
2. Moisture-density relationships of backfill materials
3. In-place soil density of trench backfill
4. In-place soil density of structure backfill
5. In-place soil density of paving sub-base and structural section, including asphalt concrete
6. Concrete slump and compressive strength on field placed cement concrete
7. Special inspections

The Contractor shall fully cooperate with Contracting Agency-Furnished Testing and Inspections. Contractor shall provide Contracting Agency's Representative timely notice on the readiness of work for required inspections, tests or acceptance. The Contractor shall provide access to the work for testing personnel. Where testing is to be performed in a potentially unsafe or confined work area, the Contractor shall stop work and provide all required safety measures to assure the safety of testing personnel.

The Contracting Agency will provide one copy of test results to the Contractor as soon as they are available. The Contractor shall anticipate that extensive laboratory and/or field testing will be performed by the laboratory retained by the Contracting Agency.

The Contractor shall anticipate that such testing may hinder, delay, or complicate execution of the work. The Contractor shall not be entitled to an extension of Contract Time or to any claim for damages because of hindrances, delays, or complications caused by or resulting from laboratory and/or field testing performed by the Contracting Agency.

Special inspection by certified inspectors and a certified testing lab may be required on the following, but not limited to:

1. Structural steel
2. Structure concrete reinforcement and concrete
3. Masonry
4. Structure excavation/fill
5. Anchor bolts

The Contractor shall coordinate with the Contracting Agency's Representative and fully cooperate with the testing services company for the above testing and special inspections and other testing and special inspections as may be specified elsewhere in the Special Provisions. The Contractor shall provide access to the work for testing personnel. Where testing is to be performed in a potentially unsafe or confined work area, the Contractor shall stop work and provide all required safety measures to assure the safety of testing personnel. Contractor shall furnish Engineer copies of all agency inspection reports or approvals.

Correction of Defective Work

If test or operational results indicate that the work performed, or materials or equipment furnished, by the Contractor does not comply with the Contract Documents, the Contractor shall immediately take all necessary measures to correct the defective work, and/or replace defective materials or equipment. Depending on the situation, an independent testing firm may be retained to test the corrected work to

determine if the corrections are satisfactory. All costs that are incurred by the Contracting Agency and Engineer as a result of the defective work, materials or equipment, including retesting, shall be borne by the Contractor and will be deducted from progress payments.

END OF SECTION 1-06

1-07 Legal Relations and Responsibilities to the Public**1-07.1 Laws to be Observed**

*Section 1-07.1 is supplemented with the following:
(October 1, 2005 APWA GSP)*

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 DOSH.

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 further supplemented with the following:
(Local Agency SP)*

The Contractor shall be responsible to immediately report to the Engineer any deviation from the contract provisions pertaining to environmental compliance, including but not limited to spills, unauthorized fill in waters of the State, including wetlands, water quality standards, noise, air quality, etc.

1-07.2 State Taxes

*Section 1-07.2 is deleted, including its sub-sections, and replaced with the following:
(June 27, 2011 APWA GSP):*

1-07.2 State Sales Tax

The Washington State Department of Revenue has issued special rules on the State sales tax. Sections 1-07.2(1) through 1-07.2(4) 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; 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).

1-07.23

1-07.5(5) Noise Restrictions

*Section 1-07.5(5) is added as the following:
(Local Agency SP)*

The Contractor shall comply with all local controls and noise level rules, specified requirements, regulations and ordinances which apply to any work performed pursuant to the Contract. If the requirements of this Section are more restrictive than those of the local regulations or specified in Section 02 22 29, the requirements of this Section shall govern.*

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

Noise levels for scrapers, pavers, graders and trucks shall not exceed 90 dBA and pile drivers shall not exceed 95 dBA at 50 feet as measured under the noisiest operating conditions. For all other equipment, noise levels shall not exceed 85 dBA. Equipment that cannot meet these levels shall be quieted by the use of improved exhaust mufflers, portable acoustical screens, or other means. Equipment not modified to meet these requirements shall be removed from the project.

Where feasible, the Contractor shall use electric rather than diesel or gas-powered equipment.

1-07.6 Permits and Licenses

Section 1-07.6 is deleted and replaced with the following:
(Local Agency SP)

1-07.6(1) Contracting Agency-Furnished Permits

The Contracting Agency is responsible for obtaining the following permits:

1. SEPA Permit or SEPA Exemption.
2. Kitsap County Right-of-Way Permit

Copies of these Contracting Agency-Furnished permits are included in Appendix D.

The Contractor shall comply with all conditions and requirements of the Contracting Agency-Furnished Permits. The Contractor shall provide access to the project by regulatory officials for determination of compliance. The Contractor shall anticipate that compliance with the permits and any necessary corrective action may result in delay or hindrance of the Contractor's prosecution of the work. The Contractor shall not be entitled to any additional compensation or extension of Contract Time for delays or additional work resulting from compliance with Contracting Agency-Furnished Permits.

1-07.6(2) Contractor-Furnished Permits

The Contractor shall apply for, and pay all costs associated with all other required permits not listed as Contracting Agency-Furnished Permits in Section 1-07.6(1) above. Failure of the Contractor to identify and obtain all required permits shall not relieve the Contractor of the responsibility of compliance with all applicable regulatory requirements.

The Contractor shall comply with all conditions and requirements of the Contractor-Furnished Permits. The Contractor shall provide safe access to the project by regulatory officials for determination of compliance. The Contractor shall anticipate that compliance with the permits and any necessary corrective action may result in delay or hindrance of the Contractor's prosecution of the work. The Contractor shall not be entitled to any additional compensation or extension of Contract Time for delays or additional work resulting from compliance with Contractor-Furnished Permits.

The Contractor shall furnish all bonds and insurance required by the controlling agencies, and shall, if requested, pay for any inspection and testing.

The Contractor shall furnish the Engineer with one copy of each permit issued for borrow, fill, or waste material required for or generated by the contract work. The Contractor shall notify the Engineer in writing of the location of all borrow, fill, and waste sites regardless of whether a permit is required.

All costs incurred by the Contractor in procuring permits and complying with stipulations in the permits and approvals shall be incidental to and included in the various items of work in the project; and no additional compensation will be made.

Anticipated Contractor-Furnished Permits include:

1. State of Washington Department of Ecology Construction Stormwater General Permit
2. Kitsap County Encroachment/ROW/Roadway Permit.

A draft Storm Water Pollution Prevention Plan (SWPPP) has been included in Appendix B. Contractor may modify this SWPPP to address the Contractor's means and methods or prepare a new SWPPP as required by the Construction Stormwater General Permit.

1-07.6(3) Business and Contracting Licenses

At a minimum, the Contractor and his subcontractors shall have the following licenses and shall submit proof of such licensing to the Contracting Agency upon request:

1. Washington State Contractor License

1-07.9(1) General

*Section 1-07.9(1) is supplemented with the following:
(Local Agency SP)*

Workers shall be paid at least the wages printed in the current prevailing wage rates at the time of the bid opening as prepared by the Department of Labor and Industry. A copy of the journey level rates for Kitsap County rates is included in Appendix A and is made a part of the Contract. The Contractor is referred to the Department of Labor and Industries website stated below for information regarding apprentice level rates. Contractor shall be responsible for checking and obtaining any updates or corrections to these wage rates and complying with any modifications prior to bidding. Contractor shall account for increased labor costs in his bid and no additional payment shall be made for increases in the prevailing wage rates for the project's duration. Prevailing wage rates can be obtained from the Industrial Statistician upon request at the following address:

Department of Labor and Industries
Prevailing Wage Office
P.O. Box 44540
Olympia, WA 98504-4540
Telephone: (360) 902-5335
Fax: (360) 902-5300
<http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates>

Contractors may also contact the Kitsap County Purchasing Office at the contact information contained in the Invitation to Bid to view or obtain a hard copy of the applicable wage rates.

Before payment is made by or on behalf of the Contracting Agency of any sums due under this Contract, the Contractor and each subcontractor shall submit a Statement of Intent to Pay Prevailing Wages and an Affidavit of Wages Paid. It shall be the responsibility of the Contractor to require all subcontractors to complete Affidavits of Wages Paid and to make the proper filing of same.

A fee per each Statement of Intent to Pay Prevailing Wages and Affidavit of Wages Paid is required to accompany each form submitted to the Department of Labor and Industries. The Contractor is responsible for payment of these fees and shall make all applications directly to the Department of Labor and Industries with a copy of all said applications being provided to the Contracting Agency. These fees shall be incidental to and included in the Contract Price.

1-07.13(1) General

*Section 1-07.13(1) is supplemented with the following:
(Local Agency SP)*

The Contracting Agency reserves the right to use and/or occupy any portion of the project or it's improvements which have been completed sufficiently to permit use and occupancy and such use shall not be construed as an acceptance of the work or any part thereof, and any claims which the Contracting Agency may have against the Contractor shall not be deemed to have been waived by such use and/or occupancy.

1-07.14 Responsibility for Damage

*Section 1-07.14 is supplemented with the following:
(Local Agency SP)*

The Contractor shall protect, defend, indemnify, and save harmless the Contracting Agency, its officers, officials, employees, agents, and Engineer from any and all claims, demands, suits, penalties, losses, damages, judgments, or costs of any kind whatsoever (hereinafter "claims"), arising out of or in any way resulting from the Contractor's officers, employees, agents, and/or subcontractors of all tiers, acts or omissions, performance or failure to perform this Contract, to the maximum extent permitted by law or as defined by RCW 4.24.115, now enacted or as hereinafter amended.

The Contractor's obligations under this section shall include, but not be limited to:

1. The duty to promptly accept tender of defense and provide defense to the Contracting Agency at the Contractor's own expense.
2. The duty to indemnify and defend the Contracting Agency and Engineer from any claim, demand, and/or cause of action brought by or on behalf of any of its employees, or agents. The foregoing duty is specifically and expressly intended to constitute a waiver of the Contractor's immunity under Washington's Industrial Insurance Act, RCW Title 51, as respects the Contracting Agency with a full and complete indemnity and defense of claims made by the Contractor's employees. The parties acknowledge that these provisions were mutually negotiated and agreed upon by them.
3. To the maximum extent permitted by law, the Contractor shall indemnify and defend the Contracting Agency and Engineer from and be liable for all damages and injury which shall be caused to owners of property on or in the vicinity of the work or which shall occur to any person or persons or property whatsoever arising out of the performance of this Contract, whether or not such injury or damage is caused by negligence of the Contractor or caused by the inherent nature of the work specified.

The Contracting Agency may, in its sole discretion, withhold amounts sufficient to pay the amount of any claim for injury, and/or pay any claim for injury of which the Contracting Agency may have knowledge, regardless of the formalities of notice of such claim, arising out of the performance of this Contract.

An amount withheld will be held until the Contractor secures a written release from the claimant, obtains a court decision that such claim is without merit, or satisfies any judgment on such claim. In addition, the Contractor shall reimburse and otherwise be liable for claims costs incurred by the Contracting Agency, including, without limitation, costs for claims adjusting services, attorneys, engineering, and administration.

In the event the Contracting Agency incurs any judgment, award, and/or costs arising, including attorneys' fees, from enforcing the provisions of this provision, all such fees, expenses, and costs shall be recoverable from the Contractor.

1-07.15 Temporary Water Pollution/Erosion Control

*Section 1-07.15 is supplemented with the following:
(Local Agency SP)*

The Contractor shall submit bi-weekly updates of the temporary water pollution/erosion control plan. These updates shall include, but are not limited to, sketches showing location of control facilities such as straw bales, silt fences, and areas to be covered at end of shift. These updates shall be submitted to the Engineer for review every other week unless otherwise directed by the Engineer. The Engineer will review the updated plan and provide comments to Contractor.

The Contractor shall be responsible throughout the life of the project to take all necessary precautions to prevent pollution, erosion, siltation, and related damage to property caused by any water leaving work areas, including borrow and stockpile areas. All silt shall be contained within the construction area. Required temporary water pollution control measures shall be in accordance with the requirements of Section 31 25 14.

The Contractor shall pay all fines and citations charged to the Contracting Agency for discharging turbid water from the site during the life of the project. In addition, the Contractor shall pay all costs for repair to property damaged (onsite and offsite) by water discharged from work areas used in this Contract.

Construction and maintenance of erosion control measures shall be performed according to the Contract Documents and applicable permits. Other or additional temporary water pollution/erosion control measures may be required at the discretion of the Engineer. Costs for temporary water pollution/erosion control shall be in accordance with that specified in Section 8-01 as amended in the Special Provisions.

The Contractor shall meet all federal, state and local pollution control regulations for all work performed under this contract. No lime, wet concrete, petroleum products, silts, organic material or other deleterious materials are allowed to fall, flow, leach, or otherwise enter public waters.

The Contractor shall observe all statutes, ordinances and regulations pertaining to the prevention of environmental pollution and the preservation of public natural resources. All such statutes, ordinances, regulations or portions thereof pertaining to work under this contract are hereby incorporated with and made part of this contract.

The Contractor shall be aware of these provisions and coordinate with the specific controlling agencies.

The Contractor shall furnish all bonds and insurance required by the controlling agencies and shall, if requested, pay for any inspections and testing accomplished or furnished by them.

1-07.15(1) Spill Prevention, Control and Countermeasures Plan

*Section 1-07.15(1) is supplemented and modified as follows:
(Local Agency SP)*

All costs associated with this work shall be considered incidental to the construction and included in other items of work.

1-07.16(1) Private/Public Property

*Section 1-07.16(1) is supplemented with the following:
(Local Agency SP)*

The Contractor shall restore all roads and streets in which the surface is removed, broken or damaged, or in which the ground has caved or settled, due to hauling of materials, equipment and/or supplies and installation of the improvements covered by this contract, to the original grade and crown section unless otherwise indicated. Contractor shall match the existing surfacing for depth, materials and surface finish, including striping and pavement markings, except as otherwise specified.

At all times during work, the Contractor shall keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment and leave the project free from all rubbish and excess material of any kind.

The Contractor shall reconstruct all curbs, driveways, sidewalks and similar structures and utilities, which are broken or damaged during construction. Reconstruct with the same kind of material with the same finish, and in not less than the same dimensions as the original work. Remove and replace the entire portions between joints or scores and not merely by refinishing the damaged part. Match the appearance of the existing improvements as nearly as possible.

The Contractor shall be fully responsible for the prevention of damage to the City's, County's or State's roads. Prior to beginning construction, the Contractor shall obtain any and all licenses or permits required for the travel on, and work within, the Road Right-of-Way.

Paved areas including adjacent or haul route streets shall be maintained for the duration of the Contract. Street sweeping shall be performed as required and at the direction of the Engineer using a self-propelled vehicle outfitted with rotating brushes and a filtered vacuum system to collect sediment, dust, and debris from paved road surfaces. The vehicle shall store street sweepings internally. Collected street sweepings shall be disposed of by approved disposal method(s) in accordance with the Contract. The Contractor shall provide a wheel wash, if necessary, to prevent tracking of mud and dirt onto paved roads. Wheel wash water shall not be discharged to any storm drain or stream. Thoroughly clean all spilled dirt, gravel, or other material caused by the construction activities from all roads and streets at the end of each day.

The Contractor shall at all times maintain the integrity of the existing pavement, shoulder, culverts, and roadside ditches. If the existing pavement or shoulder is removed, broken, or damaged as a result of the construction of the improvements covered by this Contract, the Contractor shall restore the damaged area to the original grade and crown sections in accordance with the Standard Specifications. New surfacing shall match the existing surfacing for depth, materials and surface finish, including striping and pavement markings. Restore all culverts equal to existing condition or better.

Vehicles leaving the site shall be cleaned and loads secured to prevent the deposition of muds, silts, sands and construction materials on roads or highways. Any such degradation of roads or highways shall

be corrected by the end of each working day so that the road is in a clean state. Tracked vehicles shall be constrained to paved or unpaved areas that will be restored.

1-07.16(2) Vegetation Protection and Restoration

*Section 1-07.16(2) is supplemented with the following:
(Local Agency SP)*

Restore all areas that are disturbed or damaged by actions of the Contractor to their original condition. Remove ornamental trees and shrubbery with earth surrounding the roots wrapped in burlap, and replant in their original positions, or, as an alternative, replace with equal material.

For lawn areas, cut sod, roll and replace after the excavation has been properly compacted or, as an alternative, cover the excavated area with top soil to the depth of the original top soil and reseed, water and maintain as directed.

The materials storage areas shall be re-graded and seeded at the conclusion of the project. Any damage to fences, walks, curbs, driveways, etc. shall be handled in accordance with the applicable sections of these specifications.

The Contractor shall obtain a signed release from all property owners whose property is impacted by the construction stating that the restoration has been done to the property owner's satisfaction. If the Contractor cannot obtain such a release, and the restoration has been done to what should be acceptable, the Contractor shall notify the Engineer and explain why a signed release cannot be obtained. Engineer shall then judge whether Contractor may be released from this requirement for that property.

1-07.16(6) Interfering Structures

*Section 1-07.16(6) is added as the following:
(Local Agency SP)*

The Contractor shall take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the Drawings. The completeness and accuracy of information shown however, cannot be guaranteed. Protect underground and aboveground existing structures from damage, whether or not they lie within the limits of the easements obtained by the Contracting Agency. Where such existing fences, gates, barns, sheds, buildings, or any other structure must be removed in order to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the Contractor's own expense. Notify the Engineer of any damaged underground structure, and make repairs or replacements before backfilling.

If existing structures are encountered which prevent the construction, and which are not properly shown on the Drawings, notify the Engineer before continuing with the construction in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures. It is expected that minor relocations of the work will be necessary during the progress of construction. If the Contractor fails to notify the Engineer when an existing structure is encountered, and proceeds with construction despite this interference, the Contractor shall do so at the Contractor's own risk and expense.

1-07.17 Utilities and Similar Facilities

*Section 1-07.17 is supplemented with the following:
(Local Agency SP)*

The information shown or indicated in the Contract Documents with respect to existing underground facilities at or contiguous to the site is based on available information furnished to the Contracting Agency or Engineer by the owners of such Underground Facilities without necessarily uncovering, measuring or other verification of the utilities. The depth of existing utilities, if indicated, may only be an approximation. Additional utilities may be encountered and the actual locations of the utilities indicated on the Plans may vary from the locations indicated. The information is provided for the convenience of the Contractor only, and no responsibility is assumed by either the Contracting Agency or the Engineer for its accuracy or completeness. The Contractor shall have full responsibility for reviewing and checking utility information,

locating all underground facilities, and coordinating work with the owners of such underground facilities. The Contractor shall take the necessary precautionary measures to protect the existing utilities and structures indicated and any other utilities or structures which may be encountered during construction and shall be responsible for the repair of any damage thereto resulting from the work if:

1. The utility owner has field located and marked its facilities and the actual location of any portion of the utility is within two feet horizontally either side of said location mark; or
2. The utility system is visible or has become visible or can be reasonably assumed to exist at the location due to visible evidence prior to the damage; or
3. The Contractor failed to provide the required notification to the utility owner prior to the damage to the utility; or
4. The actual depth is different by more than one (1) foot from that indicated on the Plans.

Existing underground utilities, whether public or private, which are damaged by the Contractor, will be repaired by the utility owner or as directed by the utility owner.

All existing utilities shall be maintained in continuous operation and properly protected during the Contractor's operations, unless the Contractor receives written approval from the utility owner for interruption of service. In addition, all work by the Contractor adjacent to, or in the vicinity of, existing utilities shall be performed in accordance with the requirements of the utility owners. The Contractor shall pay all permit, inspection, and other fees levied by the utility owners. Where the Contractor's operations could damage or inconvenience other utility systems or services, the operations shall be suspended until all arrangements necessary for the protection or relocation of these utilities and services have been made by the Contractor. Notify all utility offices, which are affected by the construction operation at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.

The Contractor shall anticipate that service lines between utility systems and private residences will be encountered and no additional compensation shall be made with work associated with crossings of any service lines. Service lines may not be shown on the Plans and may not be field located by the utility. The Contractor shall determine the actual location and protect from damage all service lines. If any utilities or service lines are damaged by the construction operations, Contractor shall promptly notify the proper authority and begin or cause the repair as required by the utility so that the utility or service is back in service as promptly as possible. In no case shall interruption of any water, sewer, or other utility service be allowed to exist outside working hours unless prior approval is granted.

In the event the Contractor encounters water service lines that interfere with trenching, the Contractor may, by obtaining prior approval of the property owner, Water Department and the Engineer, cut the service, dig through, and restore the service with similar and equal materials at the Contractor's sole expense. In the event the Contractor encounters water service lines that interfere with new improvements, the Contractor shall notify the Engineer.

Some existing utility poles, lines, piping and/or appurtenances may need to be held in place, removed or relocated as part of this project. If said work is required, the Contractor shall coordinate and schedule all such work with the respective utilities so that the Contractor's work and schedule are not impacted. Public and private utilities, or their contractors, will furnish all work necessary to hold, adjust, relocate, replace, or construct their facilities unless otherwise provided for in the Plans or these Special Provisions. Such work, if required, will be done during the prosecution of the work for this project. The Contractor's attention is directed to the fact that significant lead times may potentially be required to coordinate and schedule with the utility companies to perform the work.

Removal, relocation, and adjustment of existing utilities where shown on the Plans or where it could reasonably be foreseen to accommodate the work by the Contractor shall be ordered and paid for by the Contractor. If or when utility conflicts occur, the Contractor shall continue construction on other aspects of the project. Any change to the operation necessary to work around the conflicts shall be incidental to the various bid items of the contract and no further compensation will be made.

The Contractor shall anticipate that the owners of existing utilities may choose to modify and/or improve the existing systems at the time that the Contractor is working. The Contractor shall perform any and all work required to accommodate concurrent work by the owners of existing utilities. The Contractor shall coordinate his activities with those of the utility owners to enable both activities to proceed without delay.

The Contractor shall call the Utilities Underground Locate Center (One Call Center) for field location of utilities not less than two or more than ten business days before the scheduled date for commencement of excavation which may affect underground utility facilities. Notice shall be provided individually to those owners who are not members of the one-number locator service and are known to or suspected of having underground facilities within the area of proposed excavation. The Washington State Department of Transportation is not a participant in the One Call Center and shall be contracted directly for any work that may impact utilities in the State right of way.

The Contractor shall anticipate that work may be hindered or delayed by:

1. The removal, relocation and adjustment of any utility;
2. Maintenance operations of existing utility systems; or
3. The requirements of the owners of existing utility systems.

The Contractor shall not be entitled to an extension of time or to any claim for damages because of hindrances or delays caused by these activities.

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

Kitsap County Public Works
 614 Division Street
 Port Orchard, WA 98366
 (360) 337-5777
 Doug Benoit

Lumen/Century Link
 Raymond Jones
 (253) 313-3666, Office
 (360) 626-0263, Cell
 Raymond.c.jones@lumen.com

Comcast
 1225 Sylvan Way
 Bremerton, WA 98310
 (360) 377-8528, Office
 (877) 824-2288, Service
 (800) 424-5555, Buried Cable Location

Puget Sound Energy
 22884 Ryen Dr NW
 Poulsbo, WA 98370
 (360) 394-6646
 Fon Kuo

Lemolo Point Water System
 Lemolo Point LLC
 PO BOX 1743
 Poulsbo, WA 98370
 (206) 265-1653
Lemoloreceipts@gmail.com
 Shea Stimac

Kitsap Transit
 60 Washington Avenue, Suite 200
 Bremerton, WA 98337
 (360) 479-6966
 Kathryn Jordan

1-07.18 Public Liability and Property Damage Insurance

*Section 1-07.18 is deleted and replaced with the following:
(Local Agency SP):*

1-07.18 Insurance**1-07.18(1) General Requirements**

The Contractor shall obtain the insurance described in this section from insurers that are licensed to do business in the state of Washington with a rating of A-: VII or higher in the A.M. Best's Key Rating Guide. The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer (including financial condition), terms and coverage, the Certificate of Insurance, and/or endorsements.

The Contractor's insurance shall apply separately to each insured against whom a claim is made or suit is brought, except with respect to the limits of the insurer's liability.

The insurance limits mandated for any insurance coverage required by this Contract are not intended to be an indication of exposure nor are they limitations on indemnification.

The Contractor shall keep this insurance in force during the term of the contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated. Certificates, policies, and endorsements expiring before completion of services shall be promptly replaced as well as the verification sent to the Contracting Agency.

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 Final Completion 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.

The insurance policies shall contain a "cross liability" or "separation of insureds" provision.

The Contractor's and all subcontractors' insurance coverage shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or insurance pool coverage.

The Contractor shall provide written notice to the Contracting Agency and all Additional Insureds of any policy cancellation, expiration, or material reduction in coverage within two (2) business days of the Contractor's receipt of such notice.

Written notice of any cancellations or changes in coverage shall be mailed to the Contracting Agency at the following address:

Attn: Risk Manager
Department of Administrative Services
614 Division Street
Port Orchard, Washington 98366

Upon request, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s).

The Contractor shall not begin work under the contract until the required insurance has been obtained and approved by the Contracting Agency.

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.

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.

1-07.18(2) Additional Insured

All insurance policies, with the exception of Professional Liability and Workers Compensation, shall name the following listed entities as additional insured(s) with respect to performance of services:

1. The Contracting Agency and its officers, elected officials, employees, agents, and volunteers;
2. The Contracting Agency's consultant, Consor North America, Inc. and its subconsultants;
 - a. Landau Associates, Inc.
 - b. AES Consultants, Inc.
 - c. Applied Professional Services
3. The Contracting Agency's Special Inspection and Testing consultant.

The above-listed entities shall be additional insureds for the full available limits of liability maintained by the Contractor, whether primary, excess, contingent or otherwise, 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(3) describes limits lower than those maintained by the Contractor.

A failure to comply with reporting provisions of the policies shall not affect coverage provided to the above listed entities.

1-07.18(3) Subcontractors

Contractor shall ensure that each subcontractor of every tier obtains and maintains at a minimum the insurance coverages listed herein. Upon request of the Contracting Agency, the Contractor shall provide evidence of such insurance.

1-07.18(4) Evidence of Insurance

The Contractor shall deliver to the Contracting Agency a properly executed Certificate(s) of Insurance and/or signed policy endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. The certificate and endorsements must conform to the following requirements:

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 Section 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. A statement of additional insured status on an ACORD Certificate of Insurance shall not satisfy this requirement.
3. Any other amendatory endorsements to show the coverage required herein.
4. Certificates of Insurance shall show the Certificate Holder as Kitsap County and include c/o of the Office or Department issuing the Contract. The address of the Certificate Holder shall be shown as the current address of the Office or Department.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Providing coverage in these stated minimum limits shall not be construed to relieve the Contractor from liability in excess of such limits. 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 shall be the responsibility of the Contractor.

1-07.18(5)A Commercial General Liability

Contractor shall maintain a policy of Commercial General Liability Insurance, including:

1. Per project aggregate
2. Premises/Operations Liability
3. Products/Completed Operations – for a period of one year following final acceptance of the work.
4. Personal/Bodily/Advertising Injury
5. Property damage
6. Contractual Liability
7. Independent Contractors Liability
8. Stop Gap / Employers' Liability

Such policy must provide the following minimum limits:

\$2,000,000	Each Occurrence
\$5,000,000	General Aggregate
\$4,000,000	Products & Completed Operations Aggregate
\$2,000,000	Personal, Bodily, & Advertising Injury, each offence

Stop Gap / Employers' Liability

\$1,000,000	Each Accident
\$1,000,000	Disease - Policy Limit
\$1,000,000	Disease - Each Employee

The Commercial General Liability coverage shall not exclude any activity to be performed in fulfillment of this Contract and shall contain no special limitations on the scope of protection afforded any additional insured(s). Specialized forms specific to the industry of the Contractor will be deemed equivalent provided coverage is no more restrictive than would be provided under a standard Commercial General Liability policy, including contractual liability coverage. Coverage shall include liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor; or premises owned, leased, or used by the Contractor.

1-07.18(5)B Automobile Liability

Automobile Liability for owned, non-owned, hired, and leased vehicles, with an MCS 90 endorsement and a CA 9948 endorsement attached if "pollutants" are to be transported. Such policy(ies) must provide the following minimum limit:

\$1,000,000	combined single limit per occurrence for Bodily Injury and Property Damage
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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. Contractor shall also maintain Employees Liability Coverage with a limit of not less than \$1 million. Contractor shall provide evidence of all coverage to the Contracting Agency.

Contractor shall request that their Washington State Department of Labor and Industries, Workers Compensation Representative send written verification to Kitsap County, within ten (10) calendar days after the effective date of the Contract, that the Contractor is currently paying Workers Compensation.

If work is to be performed on or near any navigable waterway, the Contractor shall be responsible for determining if United States Longshore and Harbor Workers Insurance is applicable for this project and

shall be responsible for procuring such if the insurance is determined to be applicable. At no time shall the Contracting Agency or the Engineer be responsible for making this determination.

1-07.18(5)D Builder's Risk

Contractor shall purchase and maintain Builder's Risk insurance covering interests of the Contracting Agency, the Contractor, and Subcontractors of every tier, as Named Insureds, in the Work. An Installation Floater instead of Builders Risk is acceptable for renovation projects. Builder's Risk insurance shall be on a special form policy, and shall insure against the perils of fire and extended coverage and physical loss or damage, theft, vandalism, malicious mischief and collapse; and flood and earthquake when shown below. The Builder's Risk insurance shall include coverage for temporary buildings, debris removal, and damage to materials in transit or stored off-site. Such insurance shall cover resulting "soft costs" including but not limited to design costs, licensing fees, architect's and engineer's fees, and costs due to delay in completion.

Builder's Risk insurance shall be written in the amount of the completed value of the project, with no coinsurance provisions. Such policy must provide coverage and deductibles that comply with the following:

Coverage:

Total Cost of Project to be Insured: Contractor Bid Price
Soft Costs: \$2,000,000
Flood: \$2,000,000
Earthquake: \$3,000,000

Deductibles not to exceed:

Earthquake and Flood: 5% of the Value at Time of Loss, subject to a \$250,000 Minimum
Earth Movement: 5% of the Value at Time of Loss, subject to a \$250,000 Minimum
All Other Perils: \$50,000
Soft Costs: \$50,000, with no more than 7-day waiting period

The Builders Risk insurance covering the work shall have maximum deductibles as listed above for each occurrence. The deductible(s) shall be the responsibility of the Contractor.

The Contractor shall provide the Contracting Agency with a full and certified copy of the insurance policy 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.

The Builders Risk insurance shall be maintained until final acceptance of the Work by the Contracting Agency.

The Contractor and the Contracting Agency waive all rights against each other and any of their Subcontractors of every tier, agents, and employees, officers, and officials, for damages caused by fire or other perils to the extent covered by Builder's Risk insurance or other property insurance applicable to the work. The policies shall provide such waivers by endorsement.

1-07.18(5)E Excess or Umbrella Liability

The Contractor shall provide Excess or Umbrella Liability insurance with limits of not less than 1 million 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)F Pollution Liability

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:

1. Contractor's operations related to this project; and/or
2. Remediation, abatement, repair, maintenance or other work with lead-based paint or materials containing asbestos; and/or
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 coverage:

\$2,000,000 each loss and annual aggregate

This policy shall be endorsed so that "pollutants" definition includes sewage and/or reclaimed water as well as any sewage and/or reclaimed water byproducts. The policy shall also include property damage coverall for natural resource damages (NRD).

1-07.18(5)G Professional Liability

The Contractor and/or its Subcontractors 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 must 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 this 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 Final Completion 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.

1-07.18(5)H LHWCA Insurance

If this Contract involves work on or adjacent to Navigable Waters of the United States, the Contractor shall procure and maintain insurance coverage in compliance with the statutory requirements of the U.S. Longshore and Harbor Workers' Compensation Act (LHWCA).

Such policy must provide the following minimum limits:

\$1,000,000 Bodily Injury by Accident – each accident

\$1,000,000 Bodily Injury by Disease – each employee

\$1,000,000 Bodily Injury by Disease – policy limits

1-07.18(5)I Protection & Indemnity Insurance Including Jones Act

If this Contract involves marine activities, or work from a boat, vessel, or floating platform, the Contractor shall procure and maintain Protection and Indemnity (P&I) coverage including collision liability, injury to crew (Merchant Marine Act of 1920 - Jones Act) and passengers, removal of wreck and liability for seepage, pollution, containment and cleanup using form SP-23 or SP 38 or a form as least as broad.

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

Such policy must provide the following minimum limits:

\$1,000,000 Bodily Injury by Accident – each accident or occurrence

\$1,000,000 Bodily Injury by Disease – each employee

\$1,000,000 Bodily Injury by Disease – policy limits

1-07.18(5)J Hull and Machinery

If this Contract involves use of a boat, vessel, or floating platform, the Contractor shall procure and maintain coverage at Market Value of vessel on American Institute Hull Clauses, 6/2/77 form.

1-07.18(5)K Marine Pollution

The Contractor shall procure and maintain Pollution Liability (OPA, CERCLA) insurance to satisfy U.S. Coast Guard requirements as respects the Federal Oil Pollution Act of 1990 and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended.

Such policy must provide the following minimum limits, or statutory limits of liability as applicable, whichever is higher:

\$1,000,000 per Occurrence

1-07.23 Public Convenience and Safety

*Section 1-07.23 is supplemented with the following:
(Local Agency SP)*

The Contractor shall be responsible to notify, in writing, local fire, school (North Kitsap School District), law enforcement authorities, Kitsap Transit, Paratransit Services, or other affected persons, not less than ten (10) working days prior to construction operations that will deviate and/or delay traffic from the existing traffic pattern, so that these agencies may reroute emergency or other vehicles and may revise bus stops as necessary.

The Contractor shall at all times conduct the work as to insure the least possible obstruction to traffic and inconvenience to the general public and the residents in the vicinity of the work, and to insure the protection of persons and property. No road or street shall be closed to the public except with the permission of the Engineer and proper governmental authority. Contractor shall be aware that any road closures that last more than 12 hours will require approval by the County Commissioners prior to the closure. Obtaining that approval can take up to 8 weeks.

Fire hydrants on or adjacent to the work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the Contractor to insure the use of sidewalks and private and public driveways, and the proper functioning of all gutters, sewer inlets, drainage ditches and culverts, irrigation ditches and natural water courses. Access must be maintained for foot and bus traffic to nearby schools.

The Contracting Agency and controlling public authorities shall be notified at least 24 hours in advance of any actions by the Contractor which may affect the functions of the police or fire departments, school system, or water and sewer districts.

The Contractor shall conduct the work and take preventative measures such that dust in the project area shall not become objectionable to the adjacent property owners. Should the Contracting Agency determine the Contractor is not fulfilling this obligation; the Contracting Agency reserves the right to take

such action as may be necessary and to charge the Contractor for any costs that may be incurred in such remedial action.

All work shall be conducted with due regard for the safety of the public. Open trenches shall be completely backfilled or covered prior to the stop of work each day and provided with barricades of a type that can be seen at a reasonable distance, and at night they shall be distinctly indicated by adequately placed lights. Safety instructions received from the Engineer, Controlling Agency, or the Contracting Agency shall be observed, but the following of such instructions shall in no way relieve the Contractor of his responsibility or liability should any accident or loss occur as the result of the construction operations. Flaggers shall be provided by the Contractor as required to direct traffic.

It shall be the Contractor's responsibility to see that all requirements of the Federal William-Stieger Occupational Safety and Health Act as well as the State of Washington Industrial Safety and Health Act, are observed and enforced to protect all the workmen on the project as well as the general public.

Complaints received by the Contracting Agency concerning public inconvenience or safety hazards will be referred to the Contractor for immediate corrective action. In addition to normal work hours, corrective actions may need to be taken on Saturdays, Sundays, holidays, and at times other than normal work hours.

1-07.23(1) Construction under Traffic

*The second paragraph of Section 1-07.23(1) is revised to read as follows:
(Local Agency SP)*

To disrupt public traffic as little as possible, the Contractor shall permit traffic to pass through the work with the least possible inconvenience or delay. The Contractor shall maintain existing roads, streets, sidewalks, and paths within the project limits, keeping them open, and in good, clean, safe condition at all times. If there is need to temporarily block access, such blockages shall be coordinated with the Contracting Agency, the affected property owners, and the Engineer. Deficiencies caused by the Contractor's operations shall be repaired at the Contractor's expense. Deficiencies not caused by the Contractor's operations shall be repaired by the Contractor when directed by the Engineer, at the Contracting Agency's expense. The Contractor shall also maintain roads, streets, sidewalks, and paths adjacent to the project limits when affected by the Contractor's operations. Snow and ice control will be performed by the Contracting Agency on all projects. Cleanup of snow and ice control debris will be at the Contracting Agency's expense. The Contractor shall perform the following:

1. Remove or repair any condition resulting from the work that might impede traffic or create a hazard.
2. Keep existing traffic signal and highway lighting systems in operation as the work proceeds. The Contracting Agency will remain responsible for the routine maintenance on such systems.
3. Maintain the striping on the roadway. The Contractor shall be responsible for scheduling when to renew striping, subject to the approval of the Engineer. When the scope of the project does not require work on the roadway, the Contracting Agency will be responsible for maintaining the striping.
4. Maintain existing permanent signing. Repair of signs will be at the Contracting Agency's expense, except those damaged due to the Contractor's operations.
5. Keep drainage structures clean to allow for free flow of water. Cleaning of existing drainage structures will be at the Contracting Agency's expense except when flow is impaired due to the Contractor's operations. Contractor shall be responsible for cleaning existing drainage structures that have been impaired by the Contractor's work.
6. All trenches within the right of way shall be backfilled completely and the surface restored to a good, clean, safe and drivable condition before leaving the site after each day's work. The Contractor may leave the trench open if steel sheets coated with asphalt are installed and properly wedged with cold mix to provide a smooth transition.

Contractor shall maintain pedestrian and vehicular traffic around the work areas at all times. The Contractor shall also maintain ingress and egress to local businesses at all times. The Contractor shall submit a traffic control plan for review and acceptance prior to construction. The traffic control plan shall clearly show the type, location and spacing of all traffic control devices. The Contractor shall maintain detour signing and changeable message signs (CMS) for the approved detour throughout the duration of the work. The traffic control plan shall be updated as needed as work progresses. The Contractor shall be held liable for all claims resulting from the improper installation and/or maintenance of the detour and traffic control plans.

1-07.24 Rights of Way

*Section 1-07.24 is supplemented with the following:
(Local Agency SP)*

Street right of way lines, limits of easements, and limits of construction permits are indicated on the Plans. The Contractor's construction activities shall be confined within these limits, unless arrangements for use of private property are made by Contractor.

Generally, the Contracting Agency has 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 herein or will be brought to the Contractor's attention by a duly issued Addendum.

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, treatment/disposal of dewatering water, 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 Final Completion Date will be established.

1-07.28 Haul Route Restrictions

*Section 1-07.28 is added as the following:
(Local Agency SP)*

The Contractor shall contact all governing control agencies who have jurisdiction over proposed routes that will be used for the delivery and removal of materials for the project prior to bid. The Contractor shall follow the requirement(s) of the controlling agency and shall include the cost of complying with any such requirements in the applicable unit price per or lump sum bid item. No separate or additional payment will be made for regulatory agencies request for vehicle routing.

The Contractor shall submit a traffic control plan to all appropriate controlling agencies for hauling of import materials and excavation materials. The Contractor shall amend and abide by comments on the approved traffic control plan.

All roads shall be open to vehicular traffic after the completion of each day's construction activity. Steel plates, temporary fill, barricades and other measures shall be used to make disturbed roads safe and passable. Road closures (if allowed) shall be posted at least one week prior to the start of construction.

END OF SECTION 1-07

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1-08 Prosecution and Progress**1-08.0 Preliminary Matters**

*Section 1-08.0 and its subsections are added as the following:
(Local Agency SP)*

1-08.0(1) Preconstruction Public Meeting

Prior to the Contractor beginning work, the Contracting Agency will hold a public meeting for property owners that will or may be affected by the project. Contracting Agency representatives, the Engineer, and the Contractor (project manager and superintendent) will attend this preconstruction public meeting. The purpose of this meeting is to introduce the project team; discuss the project; listen to, and address the public's concerns; and obtain input and answer the public's questions,

1-08.0(2) Preconstruction Conference

Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, Contracting Agency, 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 conference the following:

1. A breakdown/schedule of values for all lump sum items;
2. A preliminary schedule of shop drawings and submittals;
3. A preliminary construction schedule. See Section 1-08.3.
4. A preliminary dewatering plan. See 31 23 43.
5. A list of material sources for acceptance if applicable.

1-08.0(2) Hours of Work

Except in the case of emergency or unless otherwise approved by the Contracting Agency, or shown on the Drawings the normal straight time working hours for the contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. of a working day with a maximum 1-hour lunch break and a 5-day work week. The normal straight time 8-hour working period for the contract shall be established at the preconstruction conference or prior to the Contractor commencing the work.

Written permission from the Engineer is required, if a Contractor desires to perform work on holidays, Saturdays, or Sundays; before 7:00 a.m. or after 6:00 p.m. on any day; or longer than an 8-hour period on any day. The Contractor shall apply in writing to the Engineer for such permission, no later than 72 hours prior to the day for which the Contractor is requesting permission to work.

Permission to work between the hours of 10:00 p.m. and 7:00 a.m. during weekdays and between the hours of 10:00 p.m. and 9:00 a.m. on weekends or holidays may also be subject to additional noise control requirements. Approval to continue work during these hours may be revoked at any time the Contractor exceeds the Contracting Agency's noise control regulations or complaints are received from the public or adjoining property owners regarding the noise from the Contractor's operations.

During the Bald Eagle nesting season (January 1 through August 15), construction hours are constrained to no earlier than one hour after dawn and no later than one hour before dusk.

The Contractor shall have no claim for damages or delays should such permission be revoked for these reasons.

Permission to work Saturdays, Sundays, holidays or other than the agreed upon normal straight time working hours Monday through Friday may be given subject to certain other conditions set forth by the Contracting Agency or Engineer. These conditions may include but are not limited to:

1. 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 when in the opinion of the Engineer, such work necessitates their presence.
2. Requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency during such times.
3. Considering the work performed on Saturdays, Sundays, and holidays as working days with regards to the contract time.*
4. 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.*

1-08.0(3) Reimbursement for Overtime Work of Contracting Agency Employees

Where the Contractor elects to work on a Saturday, Sunday, or holiday, or longer than an 8-hour work shift on a regular working day, as defined in the Standard Specifications, such work shall be considered as overtime work. On all such overtime work, a construction observer may be present, and possibly others may be required at the discretion of the Contracting Agency and Engineer. In such case, the Contracting Agency may deduct the costs in excess of the straight-time costs incurred by the Contracting Agency for the overtime hours. The Contractor authorizes the Engineer to deduct such costs from the amount due or to become due to the Contractor.

1-08.3 Progress Schedule

1-08.3(1) General Requirements

*Section 1-08.3(1) is supplemented with the following:
(Local Agency SP)*

Contractor shall solicit input on manufacturing and delivery times from critical, long-lead and/or significant equipment and material suppliers and subcontractors. Critical and long-lead equipment or materials shall be identified and scheduled, and will include, but not be limited to, the following:

1. Custom vaults and manhole structures
2. PVC Pipe and Fittings
3. Ductile Iron Pipe and Fittings

Once the preliminary schedule is accepted by the Engineer, all subcontractors shall be made aware and sign off on the schedule. This will be done and documented early on at a weekly construction meeting.

To accommodate the desired information and the required schedule updates, Contractor shall use the latest revision of Primavera systems (Primavera P6) to perform scheduling functions. The Contractor's attention is directed to the format/content of the schedule of values. Given appropriate consolidation and expansion, this list shall serve as a starting point. The project schedule shall be in sufficient detail that progress of the Work can be evaluated accurately at any time during the performance of the contract.

The Contractor shall employ a person or firm with at least ten years of construction and scheduling experience who is qualified to prepare detailed construction schedules. Evidence of construction experience and successful scheduling (i.e., work completed on schedule) on at least three (3) projects in

the last five years shall be provided. Provide schedules and contact information for each of the projects. Contractor shall provide Engineer with resume and other pertinent information on the proposed scheduler. If the Engineer determines that the qualifications are not met, the Engineer can direct the Contractor to provide a different scheduler that meets the qualifications at no additional cost to the Contracting Agency.

The schedule shall begin with the date of issuance of the Notice to Proceed and conclude with the date of the final completion. The total float belongs to the project and shall not be for the exclusive use or benefit of any party.

The project schedule shall be updated monthly and the Contractor shall submit one (1) PDF copy and one (1) backup copy of the schedule using the backup routine provided in the scheduling software. Processing of pay requests will be contingent upon receipt of updated schedules. In addition to the project schedule, the Contractor shall submit a written two week outlook activity schedule to the Engineer at the weekly progress meetings. The activity schedule shall indicate the Contractor's proposed activities for the forthcoming two weeks. Submittal of the weekly schedule does not relieve the Contractor of the requirement to submit and update the project schedule as required herein.

Time is of the essence on this project. Therefore, should schedule slippage occur, the Contractor is required to take appropriate measures to get the project back onto the approved schedule. The Contractor will not be allowed to continually let the schedule slip. Contractor shall adjust his forces, equipment and work schedules as may be necessary to get the project back on schedule to ensure completion of the work within the prescribed contract time. Contractor shall provide a plan of action and execute it accordingly to the satisfaction of the Engineer. Failure to do so will result in delay of progress payment(s) and/or a reduction in progress payment(s).

1-08.3(2)A Type A Progress Schedule

*Section 1-08.3(2)A is revised to read as follows:
(Local Agency SP)*

A Type A progress schedule will not be accepted by the Engineer.

1-08.3(2)B Type B Progress Schedule

*The first paragraph and the first sentence of the second paragraph of Section 1-08.3(2)B are revised to read as follows:
(Local Agency SP)*

The Contractor shall submit a preliminary Type B Progress Schedule depicting the entire project prior to the preconstruction conference. The preliminary Type B Progress Schedule shall comply with all of these requirements and the requirements of Section 1-08.3(1).

The Contractor shall submit four (4) hard copies, one (1) PDF copy and one (1) backup copy using the backup routine provided in the scheduling software of the revised Type B Progress Schedule depicting the entire project no later than 21-calendar days after the preconstruction conference. Contractor shall address all of the Engineer's comments on the preliminary Type B Progress Schedule.

*The last paragraph of Section 1-08.3(2)B is revised to read as follows:
(Local Agency SP)*

The Engineer will evaluate the Type B Progress Schedule and accept or return the schedule for corrections within 15 calendar days of receiving the submittal. The accepted Type B Progress Schedule shall establish the baseline schedule. The preliminary construction schedule shall remain in effect until the baseline schedule is accepted by the Engineer. Acceptance of the Type B Progress Schedule is for general compliance of the contract requirements and does not impose upon the Contracting Agency any warranty that all contract requirements have been addressed, met, or modified in the schedule. If it is determined that the schedule did not include modified contract requirements, the Contractor will modify its schedule without affecting the Contract Time at no additional cost to the Contracting Agency.

1-08.3(2)C Construction Sequencing and Constraints

*Section 1-08.3(2)C is added as the following:
(Local Agency SP)*

Continuous operation of the Contracting Agency's facilities is of critical importance. The Contractor shall schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified. The Contractor shall not proceed with work affecting a facility's operation without obtaining Contracting Agency's and Engineer's advance written approval of the need for, and duration of, such work.

Where existing facilities are to be modified during the course of work, the Contractor shall obtain Engineer's review of submittals for temporary shutdown, demolition, modification, connections between new and existing work, and other related work and shall conform to other Contract conditions as applicable.

The Contractor shall be responsible for developing the sequence of the work and for ensuring that current operations are not interrupted or compromised.

At least two weeks prior to starting the work, Contractor shall coordinate with the Engineer and Contracting Agency's representative to develop a work schedule which will permit facilities to function as normally as practical. A portion of the construction work will be required outside normal working hours to avoid undesirable conditions. The Contractor shall do this work at such times and at no additional cost to the Contracting Agency. Connections between existing facilities and new work shall not be made until all necessary inspection and tests have been completed on the new work and the new work is found to conform in all respects to the requirements of the Contract Documents.

Connection to existing services or utilities, or other work that requires temporary shutdown of any existing operations or utilities, shall be planned in detail with appropriate scheduling of the work and coordinated with the Contracting Agency or Engineer. The approved schedule for shutdown or restart shall be indicated on the Contractor's Progress Schedule, and at least seven (7) calendar days of advance written notice shall be given to the Contracting Agency and Engineer so that they may witness the shutdown, tie-in, and startup.

The Contracting Agency and Engineer consider the Contractor's schedule and construction sequencing to be paramount to ensure that the work is properly planned, coordinated, and executed. A number of pump stations feed or are fed by the facilities that will be replaced by the work under this contract. Those pump stations are currently and continuously receiving and pumping sewage and their functions shall not be interrupted except as specified herein or as specifically allowed by Contracting Agency. The Contractor shall properly coordinate and execute the work to avoid interference with normal operations. Work during low flow periods (between the hours of 12 am and 5 am) and sewer bypassing will be required to complete portions of the work. Such work shall be minimized to the extent possible through proper sequencing and execution of the work.

1-08.3(2)E Weekly Progress Meetings

*Section 1-08.3(2)E is added as the following:
(Local Agency SP)*

To enable orderly review during progress of the work, and to provide for systematic discussion of problems, the Engineer will conduct weekly progress meetings with the Contractor throughout the construction period. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling and resolve other problems that may develop.

Agenda Items

The Contractor shall, to the maximum extent practicable, advise the Engineer at least 24 hours in advance of project meetings regarding items to be added to the agenda.

Minutes

The Engineer will compile a summary of the discussion of each project meeting and will furnish copies to the Contracting Agency and Contractor. Recipients of copies may make and distribute copies as they deem necessary.

Attendance

These meetings shall be conducted by the Engineer and shall be attended by the Contractor's superintendent and representatives of electrical subcontractors, utilities and/or others that are active or critical in the planning or execution of the pending work. The Contractor may invite subcontractors, materials or equipment suppliers, and others to attend project meetings in which their aspect of the work is involved.

Meeting Schedule and Location

Progress meetings will be held weekly. Engineer and Contractor will establish a mutually acceptable day and time for meetings. Meetings will be held at the **Central Kitsap Treatment Plant** unless mutually agreed upon otherwise.

Agenda

A minimum agenda for these meetings is as follows:

1. Review, and revise as necessary, minutes of previous meetings and status of previously identified action items.
2. Review progress of the work since last meeting, including status of submittals for review.
3. Discuss any issues or deficiencies with the work and necessary corrective action.
4. Discuss scheduling of any required Special Inspections or tests associated with work to be completed.
5. Review status of equipment and materials fabrication/shipments.
6. Identify issues that impede planned progress, or which impact operations of existing facilities.
7. Compare status of completion to detailed schedule and identify any activities that are behind schedule. Discuss corrective measures and procedures to regain schedule.
8. Review temporary water pollution/erosion control.
9. Review outstanding contract change issues and claims.
10. Review design modifications and documentation for change orders. Discuss any cost or schedule impacts.
11. Verify Contractor's record drawings are current.
12. Review progress payment requests.

Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the discussions and decisions of the meeting.

Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.

Challenges to minutes shall be settled as a priority portion of "old business" at the next regularly scheduled meeting.

1-08.3(3) Schedule Updates

*The first paragraph of Section 1-08.3(3) is revised to read as follows:
(Local Agency SP)*

Contractor shall submit updated schedules on a monthly basis. In addition, the Engineer may request a schedule update when any of the following events occur:

1. The project has experienced a change that affects the critical path.
2. The sequence of work is changed from that in the approved schedule.
3. The project is significantly delayed.
4. Upon receiving an extension of Contract time.

1-08.4 Prosecution of Work

*Delete this section and replace it with the following:
(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.

1-08.5 Time for Completion

*The first paragraph of Section 1-08.5 is supplemented with the following:
(Local Agency SP)*

The Poulsbo Viking Fest Road Race on Saturday, May 18th, 2024, or equivalent day in other years shall also be considered a non-working day. If the Contractor performs work on a day that is classified as a non-working day, then that day shall be reclassified as a working day and counted towards the Contract time.

*The third and fourth paragraphs of Section 1-08.5 are deleted and replaced with the following:
(Local Agency SP)*

Contract time for the Preconstruction Phase Work shall begin on the working day identified in the Limited Notice to Proceed. Each working day shall be charged to the contract as it occurs, until the Preconstruction Phase work is physically complete. Each week the Engineer will provide the Contractor a statement that shows the number of calendar days: (1) charged to the contract the week before; and (2) specified for the completion of the Preconstruction Phase work. The statement will also show the nonworking days and any partial or whole day the Engineer declares as unworkable.

Contract time for the Construction Phase Work shall begin on the working day identified in the Notice to Proceed with Construction. Each working day shall be charged to the contract as it occurs, until the Construction Phase contract work is physically complete. 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 statements shall be deemed accepted and correct unless the Contractor files a written protest of any alleged discrepancies in the statement within 10 calendar days after the date of each statement. To be considered by the Engineer, the protest shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of time disputed. If the Contractor elects 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.

*The sixth paragraph and the subparagraphs of Section 1-08.5 are deleted and replaced with the following:
(Local Agency SP)*

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 prior to establishing the Completion Date:

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. Final Contract Voucher Certification
 - b. Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and all Subcontractors.
 - c. Property owner releases per Section 1-07.24

*Section 1-08.5 is supplemented with the following:
(Local Agency SP)*

The project has the following critical completion date milestones:

1. Completion of Preconstruction Phase Work. All work under the Preconstruction Phase of this Contract shall be completed within **30** working days after the Limited Notice to Proceed Date.
2. Substantial Completion. All work under this Contract shall be substantially complete within **100 working*** days after the Notice to Proceed Date.
3. Physical Completion. All work under this Contract shall be physically complete within **120 working*** days after the Notice to Proceed Date.

1-08.8(1) Abnormal Weather Conditions

*Section 1-08.8(1) is added as follows:
(Local Agency SP)*

Precipitation as rain, hail or snow, low temperature, a windstorm, ice, snow and other weather conditions which could reasonably have been anticipated from the National Weather Service historical records of the general locality of the work shall not be construed as abnormal. It is hereby agreed that precipitation greater than the following, temperatures less than the following, and wind velocities greater than the following, cannot be reasonably anticipated. For each day determined to be abnormal as determined by the Construction Manager and approved by the Owner, one day shall be added to the contract duration at no additional cost to the Owner by written change order.

1. Daily rainfall equal to or greater than 0.50 inches during a month when the monthly rainfall exceeds the normal monthly average by 15 to 100 percent.
2. Daily rainfall equal to or greater than 0.20 inches during a month when the monthly rainfall exceeds the normal monthly average by more than 100 percent.

3. Daily rainfall equal to or greater than 1.0 inch at any time.
4. Daily maximum temperature equal to or less than 20 degrees F during a week when the maximum daily temperature never exceeds 35 degrees F.
5. Daily maximum temperature equal to or less than 25 degrees F during a week when the maximum daily temperature never exceeds 30 degrees F.
6. Daily maximum temperature equal to or less than 15 degrees F at any time.
7. Daily maximum wind velocity equal to or greater than 50 mph at any time.

Ice, snow and other weather conditions may be considered as abnormal in the sole discretion of the Construction Manager upon written request by the Contractor. Such written request shall describe in detail the weather condition, identify the specific impacts resulting from the weather condition, and be submitted to the Construction Manager within five days of the onset of the weather condition.

To preclude the difficulties of actual measurement, the parties hereto agree that weather data at the site of the work shall be expressly deemed to be the same as that measured at the Seattle-Tacoma International Airport by the Environmental Data and Information Service of the National Oceanic and Atmospheric Administration ("NOAA") of the U.S. Department of Commerce.

For the purposes of this section, a "month" shall mean a calendar month and a "week" shall mean a calendar week of Sunday through Saturday.

1-08.9 Liquidated Damages

*The third paragraph of Section 1-08.9 is revised as follows:
(Local Agency SP)*

Replace all references to "Physical Completion" with the words "Substantial Completion."

*The fourth paragraph of Section 1-08.9 is deleted and replaced with the following:
(Local Agency SP)*

When the Contract Work has progressed to the extent that the Engineer has determined 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 substantial completion date, the formula for liquidated damages shown above will not apply. Liquidated damages shall be assessed at two thousand five hundred (\$2,500) dollars per day until substantial completion is achieved. When the Contract Work is physically complete, the Engineer will notify the Contractor in writing of the Physical Completion Date. For overruns in contract time occurring after the physical completion date, actual damages will be assessed based on the direct engineering, Contracting Agency, and other related costs assignable to the project that are incurred by the Contracting Agency until the Contractor has fulfilled all the obligations under the Contract and submitted all documentation required by the Contract and the law and the Engineer establishes the Final Completion Date. The Contracting Agency may offset these costs against any payment due Contractor. Contractor shall complete the remaining work that is subject to liquidated damages as promptly as possible. Upon request by the Engineer, the Contractor shall furnish a written schedule for completing the remaining physical work on the Contract.

1-08.10 Termination of Contract

*Section 1-08.10 is supplemented with the following:
(Local Agency SP)*

In the event that funding for this project is withdrawn, reduced or limited in any way after the effective date of this Contract, the Contracting Agency may summarily terminate this Contract notwithstanding any other termination provision of this Contract. Termination under this paragraph shall be effective upon the date specified in the written notice of termination sent by the Contracting Agency to the Contractor. After the effective date, no charges incurred under this Contract are allowable.

END OF SECTION 1-08

1-09 Measurement and Payment**1-09.1 Measurement of Quantities**

*Section 1-09.1 is revised with the following:
(Local Agency SP)*

Delete the tenth paragraph beginning with the words "Linear Foot..." and replace with the following:

Linear Foot - Linear feet shall be measured along the pipe alignment and shall include the length through the elbows, tees, and fittings for the pay limits as shown on the Drawings. No adjustments will be made in the length for the slope, uneven contours, overlap of materials, repairs or wasted material.

1-09.2(1) General Requirements for Weighing Equipment

*Section 1-09.2(1) is supplemented with the following:
(Local Agency SP)*

The Contractor shall notify the Engineer not less than one working day prior to delivering materials which are measured and paid for by weight on the project. Certified weights must be issued at the source.

The Contractor shall provide a licensed public weigh master. The licensed weigh master shall issue weight tickets to the truck driver for acceptance of the material on the project by the Engineer. No materials measured and paid for by weight will be accepted without certified weight tickets from a platform scale in accordance with Section 1-09.2(3). The certified weight tickets shall be given to the Project Inspector on the day of delivery for each truckload delivered. Pay quantities will be prepared on the basis of these weight tickets, and tickets not received by the Inspector will not be honored for payment.

Truck loads must conform to legal load limits. In case of overload, the difference between overload and maximum legal load will not be paid for. If there are repeated instances of overloading, the proper enforcement authorities will be notified.

1-09.2(7) Bid Item Descriptions for Measurement and Payment

*Section 1-09.2(7) is added as follows:
(Local Agency SP)*

The unit or lump sum Contract Prices shall constitute full payment for furnishing all labor, equipment, materials, permits and agreements, overhead and profit, and performing all operations required to complete the Work as defined in the Contract Documents. Notwithstanding the omission or mention of any incidental Work, the Contract Price and payment shall also constitute full compensation for all Work incidental to completion of item, unless such Work is otherwise specifically mentioned for separate payment under another Bid Item. Payment shall only be made for those items included in the Proposal and all Work required by the Contract shall be included in those Bid Items.

All measurements and computations shall be made by the Engineer or the Owner's Representative. The Contractor may perform quantity surveys for comparison at the Contractor's sole expense. If there is a discrepancy where the measured quantity cannot be agreed upon, the Engineer or Owner's Representative measurements shall be used.

Measurement and Payment shall be made in accordance with Section 1-04.6 for the following bid items:

Bid Items	Bid Item Name	Measurement/Payment Description
1	Preconstruction Work Phase	The lump sum shall include work required during the Preconstruction Work Phase as described in Section 1-04.3(1) of the Special Provisions.
2	Final Cleanup and Restoration	The lump sum shall include the daily and final cleanup and restoration of all paved and unpaved surfaces and areas disturbed by construction to conditions equal to, or better than existing.

Bid Items	Bid Item Name	Measurement/Payment Description
3	Surveying	The lump sum shall include all survey efforts required to locate and construct the improvements, perform settlement monitoring during excavation and dewatering activities, as well as as-built the completed work.
4	Project Record Drawings	The lump sum shall include work associated with maintaining, updating, and modifying the Contract Drawings to reflect modifications in the completed work that differ from the design information shown on the Contract Drawings. Incremental payments, determined by dividing the calendar days in each pay period by the total calendar days under the contract and then multiplying by 60% of the lump sum amount, will be paid for each monthly update. No more than 60% of the total lump sum amount will be paid for monthly updates. The balance of the lump sum will be paid upon delivery and approval of acceptable record drawings by the Engineer near the end of physical construction. The lump sum for this bid item shall be at least 0.5% of the total bid amount.
5	Type B Schedules	The unit price per month shall include all work associated with furnishing progress schedules, weekly look-ahead schedules, and schedule updates. Payment shall be made on a monthly basis for approved schedules. Progress payments will be contingent upon receipt and approval of the monthly schedule updates. Engineer has entered a minimum amount in the bid schedules for this bid item. Contractor's bid amount shall not be less than this amount. No payment shall be made for the draft or baseline construction schedules as these shall be considered incidental to the contract.
6	Minor Change (Allowance)*	This item is reserved as a construction contingency for "Minor Changes" which may occur during the course of the work. This budget allowance will facilitate minor additional work without the need for a Contract amendment. The Engineer will still prepare a work change directive and the Contractor will still prepare cost proposals for work that is agreed to be out of scope. The Contracting Agency's approval will be obtained prior to authorization of such work. See Section 1-09 for additional information.
7	Mobilization and Demobilization	The lump sum shall include preconstruction expenses and the cost of preparatory work and operations performed by the Contractor, excluding work included in Bid Item 1, Preconstruction Work Phase. This work shall include, but not be limited to, the work identified in Section 1-09.7 of the Special Provisions. Mobilization and demobilization shall not exceed 10% of the total contract amount. Payment for mobilization and demobilization will be limited to 70% and 30%, respectively, of the total bid amount.

Bid Items	Bid Item Name	Measurement/Payment Description
8	Dewatering (Allowance)*	This item is an allowance for dewatering for control of surface and groundwater, outside of trench dewatering. The actual cost of dewatering will be paid for in accordance with Section 1-09 and Section 31 23 19.
9	Pothole Existing Services	The unit price per each shall include all work, materials, tool, labor, and equipment necessary to excavate, locate utility, measure depth, document location and depth, backfill, and patch or restore pothole in accordance with the Contract Documents. It includes existing individual sewer services and other services. This item will only be performed paid for when directed by the Owner.
10	Excavation Support Systems	The lump sum shall include all work required to comply with requirements of the Washington State Safety Code relating to excavation, trenching, and shoring: "Safety Standards for Construction Work", Chapter 296-155 WAC Part N. Incremental payments, determined by lineal foot of 24-inch pipe installed per month divided by total project 24-inch pipe length multiplied by lump sum amount, will be paid for each monthly update. The unit price shall also include temporary sheeting, shoring and bracing or equivalent methods, including design and engineering fees associated thereof, as well as furnishing, constructing, removing, and disposing of temporary sheeting, shoring, and bracing. The unit price shall be full compensation for excavation, backfilling, compaction, and other work required when extra excavation is used in lieu of shoring. If select or imported backfill material is required for backfilling within the neat line trench limits excavation, it shall also be required as backfill material for the extra excavation and overbreak at the Contractor's expense.
11	Temporary Erosion and Sediment Control	The lump sum shall include preparing the temporary erosion and sediment control (TESC) plan and updating it when necessary as well as furnishing, installing, maintaining, and removing TESC measures, as shown on the Plans and specified in the Contract Documents. Incremental payments, determined by dividing the calendar days in each pay period by the total calendar days under the contract and then multiplying by 60% of the lump sum amount, will be paid for each monthly update. No more than 60% of the total lump sum amount will be paid for monthly updates. The balance shall be paid upon project physical completion.

Bid Items	Bid Item Name	Measurement/Payment Description
12	Traffic Control	The lump sum shall include the provision of temporary traffic control for the project as required for traffic safety and to minimize traffic disruptions and public inconvenience. Incremental payments, determined by dividing the calendar days in each pay period by the total calendar days under the contract and then multiplying by 60% of the lump sum amount, will be paid for each monthly update. No more than 60% of the total lump sum amount will be paid for monthly updates. The balance shall be paid upon project physical completion. This shall include but not be limited to labor, Uniformed Police Office (UPO), Portable Changeable Message Sign (PCMS), and the preparation and submittal of all Contractor traffic control plans as shown on the Plans and specified in the Contract Documents.
13	Hold Power Pole	The unit price per each shall include all work, materials, tool, labor, and equipment necessary to protect the power poles within the project area during construction, including coordination with PSE and reimbursement to PSE to perform work of holding the power poles.
14	24-inch Diameter PVC C900 DR25 Pipe	Measurement for payment for pipe for sanitary sewer shall be per lineal foot of pipe installed and tested, except piping included at connection details. Measurement shall be to the nearest foot along the pipe through fittings, maintenance holes, and couplings. The unit Contract price per linear foot of 24-inch PVC Sanitary Sewer shall be full payment for Work to complete the installation of the 24-inch Sanitary Sewer excluding work performed under other bid items, including but not limited to, pipe, fittings not included in other items, couplings, excavating the trench, preparing the trench foundation, laying and joining pipe and fittings, supporting existing pipe crossings from above, where pipe installation occurs below existing utilities, furnishing pipe bedding, foundation material (where required), placing and compacting the bedding material and trench backfill, placing and finishing CSBC where trenching outside paved areas, pigging, cleaning, and testing the pipeline. The unit price shall also include the cost of installing tracer wire and detectable marking tape, maintaining and restoring existing utilities impacted by construction, installing and removing temporary fencing required to isolate the construction zone from public access, and performing daily cleanup around the worksite.

Bid Items	Bid Item Name	Measurement/Payment Description
15	24-inch Diameter DI 45 Degree Bend	The unit price per each shall include all work, materials, tool, labor, and equipment necessary to furnish and install bend including, but not limited to, required thrust blocks as shown on the Plans and specified in the Contract Documents. The unit price per each 24-inch Diameter DI 45 Degree Bend shall include all work, materials, tool, labor, and equipment necessary to install fittings. Each unit price should account for the fittings and thrust blocks necessary for a 24-inch DI 45 Degree Bend. The amount of 24-inch DI 45 Degree Bends is determined by the amount of 24-inch DI 45 Degree Bends on the drawings. Excludes bends included in bid items 22 and 25
16	24-inch Diameter DI 11.25 Degree Bend	The unit price per each shall include all work, materials, tool, labor, and equipment necessary to furnish and install bend including, but not limited to, required thrust blocks as shown on the Plans and specified in the Contract Documents. The unit price per each 24-inch Diameter DI 11.25 Degree Bend shall include all work, materials, tool, labor, and equipment necessary to install fittings. Each unit price should account for the fittings and thrust blocks necessary for a 24-inch DI 11.25 Degree Bend. The amount of 24-inch DI 11.25 Degree Bends is determined by the amount of 24-inch DI 11.25 Degree Bends on the drawings. Excludes bends included in bid items 22 and 25.
17	2-inch Diameter Air Release Valve Assembly	The unit price per each shall include all work to furnish and install the air release valves and vaults, including, but not limited to, required excavation and backfilling, supplying and placing foundation aggregate, connection to sewer main, piping, fittings, valves, valve boxes, supports, hoses, vault interior and exterior coatings, odorous air canisters, detectable marking tape, and tracer wire.
18	4-inch Diameter Blowoff Valve Assembly	The unit price per each shall include all work to furnish and install the blowoff assembly, including, but not limited to, required excavation and backfilling, supplying and placing foundation aggregate, connection to sewer main, piping, fittings, valves, valve boxes, precast concrete structures, manhole lid and frame, detectable marking tape, and tracer wire.
19	Connect IPS to New 24-inch Diameter PVC Pipe	The unit price per each shall include all work, materials, tools, labor, and equipment necessary to install a new IPS side sewer force main from the new 24-inch sewer main to the existing IPS force main within the right-of-way. Each unit price includes, but is not limited to, excavation, bedding and backfill, pipe, fittings, valves, valve boxes and appurtenances, detectable marking tape, tracer wire, and cap or plug and abandon existing IPS at existing main.

Bid Items	Bid Item Name	Measurement/Payment Description
20	Connect IPS Manifold to New 24-Inch Diameter PVC Pipe	The unit price per each shall include all work, materials, tools, labor, and equipment necessary to connect the existing IPS manifold to the new 24-inch sewer main. Each unit price includes, but is not limited to, excavation, bedding and backfill, pipe, fittings, valves, valve boxes and appurtenances, detectable marking tape, tracer wire, and cap or plug and abandon existing IPS manifold at existing main.
21	Connect Gravity Lateral to New 24-Inch Diameter PVC Pipe	The unit price per each shall include all work, materials, tools, labor, and equipment necessary to furnish and install the gravity lateral and connect to the new 24-inch sewer main. Each unit price includes, but is not limited to, excavation, bedding and backfill, pipe, fittings, valves, valve boxes and appurtenances, detectable marking tape, and tracer wire.
22	Pig Launch	The unit price per each shall include all work, materials, tools, labor, and equipment necessary to furnish and install the pig launch per the Contract Documents. Beginning at the and including the wye, each unit price includes, but is not limited to, excavation, removal and disposal of existing pipe, bedding and backfill, connection to existing pipe, pipe, fittings, valves, thrust blocks, vault, vault lid or hatch, and appurtenances.
23	Temporary Sewer Bypass	The lump sum shall include all work associated with temporary sewer bypass systems including all related labor, materials, design, engineering, submittals, pumps, hoses, fuel, piping, power, fittings, appurtenances and other equipment required to furnish install, monitor, protect, maintain, remove, etc. temporary sewer bypass systems necessary to complete the work. All work associated with maintaining and/or providing temporary bypass service to during construction shall be included in this bid item.
24	Manhole 72-inch Diameter Type 2	The lump sum shall include full compensation for work, materials, tools, labor and equipment necessary to furnish and install manhole. Work shall include excavation, foundation preparation, installation of manhole, backfill, connection to existing pipes, and concrete for channeling the base.
25	Connect to Existing Lemolo Siphon and Pig Receiver	The lump sum shall include full compensation for work, materials, tools, labor and equipment necessary to connect to the existing Lemolo siphon and pig receiver. Beginning after the end of the last PVC pipe, work shall include excavation, removal and disposal of existing pipes, fittings, valves, and appurtenances, followed by bedding, backfill, pipe, fittings, valves, appurtenances, connections to and modifications of existing vaults, detectable marking tape, and tracer wire.

Bid Items	Bid Item Name	Measurement/Payment Description
26	Grout and Abandon Existing Pipe	The lump sum shall include all work associated with abandoning the existing sewer main including preparation of an abandonment plan, capping, and filling the existing pipe. It includes removing existing valves, air valves, vaults, and other items as required by plans. Removed items may be hazardous waste material and require special handling and disposal techniques.
27	Asphalt Removal	The unit price per square yard shall include work, materials, tools, labor, and equipment necessary for sawcutting, removal, and disposal of AC pavement as shown on the Plans and specified in the Contract Documents.
28	Backfill	The unit price per ton for Backfill, shall include hauling and furnishing the imported material and hauling and disposing of the unsuitable native material replaced by this trench backfill as shown on the Plans and specified in the Contract Documents. Installation and compaction of the backfill shall be included in the cost of the pipe and shall include all costs associated furnishing the material and all costs associated with the over-excavation and disposal of the surplus and unsuitable trench excavation replaced by this backfilling. The unit price per ton shall include all work, materials, tools, labor, and equipment necessary for backfilling. The amount of Backfill is determined by the amount of pipe shown on the drawings.
29	Crushed Surfacing Top Course (CSTC)	The unit price per ton shall include hauling, furnishing, placing, and compacting crushed surfacing top course as shown on the Plans and specified in the Contract Documents. The unit price shall also include the removal and proper disposal of material being replaced by the crushed surfacing top course. No additional or separate payment shall be made for sub-grade preparation.
30	Crushed Surfacing Base Course (CSBC)	The unit price per ton shall include hauling, furnishing, placing, and compacting crushed surfacing base course as shown on the Plans and specified in the Contract Documents. The unit price shall also include the removal and proper disposal of material being replaced by the crushed surfacing top course. No additional or separate payment shall be made for sub-grade preparation.

Bid Items	Bid Item Name	Measurement/Payment Description
31	HMA Cl. ½-inch PG 58H-22 for Trench Patch	The unit price per ton shall include all work, materials, tools, labor, and equipment required for installation of temporary and permanent HMA as shown on the Plans and specified in the Contract Documents. The unit price shall also include removal and proper disposal of subgrade, preparing the subgrade for paving; cleaning of existing asphalt; joint sealing; grinding at transitions; placing tack coat; furnishing, hauling, placing, and compacting the temporary and permanent HMA pavement; adjusting all utility covers and monument case covers to the new grade as necessary; replacing all disturbed pavement striping and markings; and all other incidental work to complete the HMA pavement. No pay factors will be used for temporary or permanent HMA pavement. The Contractor is hereby advised that existing asphalt pavement varies by depth and material and no additional compensation shall be made for these variances. The amount of HMA Cl. ½ PG 58H-22 is determined by the amount of pipe shown on the drawings.
32	HMA Cl. ½-inch PG 58H-22 Extended	The unit price per ton shall include all work, materials, tools, labor, and equipment required for installation of permanent HMA as shown on the Plans and specified in the Contract Documents. The unit price shall also include cleaning of existing asphalt; joint sealing; grinding at transitions; placing tack coat; furnishing, hauling, placing, and compacting the permanent HMA pavement; adjusting all utility covers and monument case covers to the new grade as necessary; replacing all disturbed pavement striping and markings; and all other incidental work to complete the HMA pavement. No pay factors will be used for temporary or permanent HMA pavement. The Contractor is hereby advised that existing asphalt pavement varies by depth and material and no additional compensation shall be made for these variances.

* Allowance - For the purpose of establishing a common basis for evaluating bids, an arbitrary quantity and/or bid amount for this item has been shown on the bid form and does not necessarily represent the quantity and/or cost that may be necessary for the work. The Variation in Estimated Quantities provisions of Section 1-04.6 of the Standard Specifications shall not apply to this item. Quantities and/or payments will be determined in the field as work progresses.

1-09.6 Force Account

*Section 1-09.6 is supplemented with the following:
(Local Agency SP)*

The Contracting Agency has estimated and included in the Proposal, a dollar amount for Bid Items “Minor Changes (Allowance)”, “Dewatering (Allowance) (also referenced as Force Account), only to provide a common proposal for Bidders. This dollar amount shall 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 the estimate. Payment will be made on the basis of the amount of work actually authorized by Engineer through Work Directives.

A complete list including name, labor classification and weighted wage rate of all personnel to be performing "Force Account" work shall be given to the Engineer before "Force Account" work starts. A list including all pertinent information, such as equipment name and model, year, engine size, bucket size, capacity, etc., for all equipment to be used for performance of "Force Account" work shall also be furnished to the Engineer prior to beginning "Force Account" work.

1-09.7 Mobilization

The second and third paragraphs and the associated subparagraphs of Section 1-09.7 are deleted and replaced with the following:

(Local Agency SP)

"Mobilization and Demobilization" shall include but not be limited to the following items:

1. Movement of Contractor's personnel, equipment, supplies, and incidentals to the project site;
2. The establishment of onsite trailer, including procurement of all utilities to serve the offices such as power, telephone, fax, high speed internet, etc.;
3. Securing suitable storage area(s), staging area(s), parking area(s) and other facilities necessary for work on the project;
4. Providing sanitary facilities for Contractor and Contracting Agency personnel;
5. Securing private agreements for temporary land use on adjacent properties as needed and providing a copy of all such agreements to the Engineer as required by Section 1-07.24;
6. All other pre-construction expenses and costs for preparatory work and operations performed by the Contractor; and
7. All demobilization costs, including removal of equipment, excess materials, trailer and general cleanup.

1-09.9 Payments

Delete the first four paragraphs of Section 1-09.9 and replace them with the following:
(March 13, 2012 APWA GSP)

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);
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.

1-09.9(2) Contracting Agency's Right to Withhold and Disburse Monies Due

*Section 1-09.9(2) is added as the following:
(Local Agency SP)*

In addition to monies retained pursuant to RCW 60.28 and subject to RCW 39.04.250, RCW 39.12, and RCW 39.76, the Contractor authorizes the Engineer to withhold progress payments due or deduct an amount from any payment or payments due the Contractor which, in the Engineer's opinion, may be necessary to cover the Contracting Agency's costs for or to remedy the following situations:

1. Work not in accordance with the Contract Documents;
2. Defective work or equipment cost or liability that may occur to Contracting Agency as a result of Contractor's, Subcontractors or Suppliers failure to perform;
3. Damage to another contractor when there is evidence thereof and a claim has been filed;
4. Where the Contractor has not paid fees or charges to public authorities or municipalities which the Contractor is obligated to pay;
5. Utilizing material, tested and inspected by the Engineer, for purposes not connected with the Work (See Section 1-05.6);
6. Landscape damage assessments (See Section 1-07.16);
7. For overtime work performed by the Engineer or Contracting Agency personnel (See Section 1-08.0(3)).
8. Liquidated damages associated with exceeding the Contract Time (See Section 1-08.9 Liquidated Damage); or
9. Failure of the Contractor to perform any of the Contractor's other obligations under the contract, including but not limited to:
 - a. Failure of the Contractor to protect survey stakes, markers, etc., or to provide adequate survey work as required by Section 1-05.4.
 - b. Failure of the Contractor to correct defective or unauthorized equipment or work (Section 1-05.7).

- c. Failure of the Contractor to furnish a Manufacturer's Certificate of Compliance in lieu of material testing and inspection as required by Section 1-06.3.
- d. Failure to submit Intent to Pay Prevailing Wage forms, or correct underpayment to employees of the Contractor or subcontractor of any tier as required by Section 1-07.9.
- e. Failure of the Contractor to pay worker's benefits (Title 50 and Title 51 RCW) as required by Section 1-07.10.
- f. Failure of the Contractor to submit and obtain acceptance of a progress schedule per Section 1-08.3.

Lack of construction progress based upon the Engineer's review of the Contractor's approved progress schedule which indicates the Work will not be completed within the Contract Time may also be a basis for withholding progress payments due or to deduct an amount from any payment or payments due the Contractor. The amount withheld under this subparagraph will be based upon the liquidated damages amount per day set forth in Contract Documents multiplied by the number of calendar days the Contractor's approved progress schedule, in the opinion of the Engineer, indicates the Contract may exceed the Contract Time.

The Contractor authorizes the Contracting Agency to act as agent for the Contractor disbursing such funds as have been withheld pursuant to this section to a party or parties who are entitled to payment. Disbursement of such funds, if the Contracting Agency elects to do so, will be made only after giving the Contractor fifteen (15) calendar days prior written notice of the Contracting Agency's intent to do so, and if prior to the expiration of the 15-calendar day period, no legal action has commenced to resolve the validity of the claims, and the Contractor has not protested such disbursement.

A proper accounting of all funds disbursed on behalf of the Contractor in accordance with this section will be made. A payment made pursuant to this section shall be considered as payment under the terms and conditions of the Contract. The Contracting Agency shall not be liable to the Contractor for such payment made in good faith.

If legal action is instituted to determine the validity of the claims prior to expiration of the 15-day period mentioned above, the Engineer will hold the funds until determination of the action or written settlement agreement of the parties.

1-09.11(1) Disputes Review Board

*Delete Sections 1-09.11(1,) 1-09.11(1)A, and 1-09.11(1)B and replace with the following:
(Local Agency SP)*

The formation and use of a dispute resolution board is not included in this Contract.

1-09.13(3)A Administration of Arbitration

*Revise the third paragraph to read:
(November 30, 2018 APWA GSP)*

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.

END OF SECTION 1-09

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1-10 Temporary Traffic Control**1-10.2(1) General**

*Section 1-10.2(1) is supplemented with the following:
(Local Agency SP)*

The primary and alternate TCS shall be certified by one of the following:

1. The Northwest Laborers-Employers Training Trust
27055 Ohio Avenue
Kingston, WA 98346
(360) 297-3035
2. Evergreen Safety Council
401 Pontius Avenue North
Seattle, WA 98109
(206) 382-4090 or
1-800-521-0778

1-10.2(1)A Traffic Control Management

*The fifth item of the first paragraph of Section 1-10.2(1)A is revised to read as follows:
(Local Agency SP)*

1. Coordinating the project's activities (such as ramp closures, road closures and lane closures) with appropriate police, fire control agencies, city or county engineering, medical emergency agencies, school districts, and transit companies at least ten (10) working days prior to beginning the work.

1-10.2(2) Traffic Control Plans

*Supplement Section 1-10.2(2) with the following:
(Local Agency SP)*

As a minimum, the Contractor's traffic control plan(s) shall include:

1. Drawings showing vehicular, bicycle, and pedestrian routing during each phase of the work, including permanent and temporary routing of traffic on all roadways.
2. Drawings showing the location of barricades, lighting, signing, and any other vehicular, bicycle, and pedestrian traffic control devices anticipated to be used during each phase of the work.
3. Anticipated traffic blockages resulting from construction activities.
4. Anticipated locations where temporary pipes, cables, or hoses will be placed across or parallel to roadways. Drawing details of ramps over utilities or shallow burial placement and protection cover shall be included.
5. Projected volumes of truck traffic over designated truck haul routes.

1-10.3(2)F Public Convenience and Safety

*Section 1-10.3(2)F is added as the following:
(Local Agency SP)*

The Contractor shall conduct all operations with the least possible obstruction and inconvenience to the local public. The Contractor shall have under construction no greater amount of work than can be prosecuted properly with due regards to the rights of the public. To the extent possible, the Contractor shall finish each section before beginning work on the next.

To disrupt local access traffic as little as possible, the Contractor shall:

1. Permit local access traffic to pass by the work zone with the least possible inconvenience or delay.
2. Maintain existing roads and streets that lie next to or inside the project limits, keeping them open and in good, safe condition at all times.
3. Remove or repair any condition resulting from the work that might impede traffic or create a hazard, and
4. Keep existing traffic signal and highway lighting systems in operation as the work proceeds. (The Contracting Agency will continue the routine maintenance on such systems).
5. Provide provisions for access by buses and emergency vehicles to streets adjacent to the work zone.

To protect the rights of abutting property owners, the Contractor shall:

1. Conduct the construction so that the least inconvenience as possible is caused to abutting property owners.
2. Maintain ready access to driveways, houses, buildings, and mailboxes along the line of work. Should it be necessary to close an individual driveway for purposes of construction, the Contractor shall present an access plan to limit the driveway closure to less than 24-hours, unless otherwise indicated on the Drawings. Within 48-hours of the construction impeding the driveway, a drivable gravel surface shall be placed and compacted.
3. Provide ready access to pump stations and treatment facilities for operation and maintenance by Kitsap County.
4. Provide temporary approaches to crossing or intersecting roads and keep these approaches in good condition, and
5. Provide another access before closing an existing one whenever the Contract calls for removing and replacing an abutting owner's access.

The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment, and any other needed actions to protect property in connection with the performance of the work covered by the Contract. The Contractor shall perform any measures or actions the Engineer may deem necessary to protect the public and property. The responsibility and expense to provide this protection shall be the Contractor's except that which is to be furnished by the Contracting Agency as specified in other sections of the Specifications.

Emergency traffic such as police, fire, and disaster units shall be provided access through the work site and to public and private properties at all times. The Contractor shall coordinate and perform all work in accordance with the requirements of police, fire, and other emergency services agencies.

The Contractor shall coordinate and perform all work in accordance with the requirements of all public transit and school bus service which may be operating in the project area. Safe and convenient access to the bus zones shall be provided and maintained at all times by the Contractor. The Contractor shall be liable for any damages which may result from failure to provide reasonable access or coordination.

The Contractor shall perform the work and provide access to enable solid waste pickup by solid waste collection firms at their regularly scheduled times. Contractor shall also provide access to mailboxes to enable Postal Service pickup and delivery at their regularly scheduled times.

1-10.3(2)G Construction and Maintenance of Detours

*Section 1-10.3(2)G is added as the following:
(Local Agency SP)*

Streets shall be closed to traffic only upon specific approval of the jurisdictional agency. Prior to the closure of any streets or roads, the Contractor shall prepare a written plan for detouring of traffic and shall

submit such plan to the jurisdictional agency for acceptance. Details shall be in accordance with the requirements of the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways and such additional requirements as may be imposed by the Contracting Agency or other jurisdictional agency. Contractor is hereby informed that proposed road closures greater than 12 hours require approval by the County Commissioner, which may take 8 weeks to process and will require specific time frames for the proposed closures. Contractor shall submit his/her traffic control plan as an early submittal at the Preconstruction Conference.

All detours, both inside and outside of the work area as required by the Contractor's operations, shall be the sole responsibility of the contractor. The design, construction and maintenance of detours and all temporary facilities required for detours shall be the sole responsibility of the Contractor.

END SECTION 1-10

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1-11 Operations and Maintenance Data

Section 1-11 and its subsections are added as the following:
(Local Agency SP)

1-11.1 Schedule of O&M Data Required

The Contractor shall arrange for, and pay all costs associated with the services of the manufacturer's representative and/or others to provide and prepare operation and maintenance data for the system and/or equipment listed below:

1. Valves.
2. Air-Vacuum Assembly Systems

1-11.2 Initial Submittal

The Contractor shall submit a draft bookmarked and searchable PDF copy of the Operations and Maintenance Manual to the Engineer for review. The PDF shall comply with Section 1-06.1(3). The initial submittal shall be received by the Engineer at least twenty (20) Working Days prior to placement of the system and/or equipment in operation. The initial submittal may be delivered in multiple parts to the Engineer.

All information shall be specifically for the installed components. Data sheets which cover multiple equipment or list options shall be marked to indicate the installed equipment, including provided options. All other equipment or options shall be crossed out. Each item in the submittal shall include, but not be limited to the following information:

1. Fly sheet indicating: Contracting Agency's name; description of equipment; manufacturer's name, address, and telephone number; and local supplier/representative's name, address, and telephone number.
2. Detailed index indicating submittal contents, with major headings related to tabbed dividers.
3. Assembly drawings.
4. Parts list and/or bill of materials.
5. Lubrication instructions, including type and frequency.
6. Preventative and periodic maintenance summary.
7. Operating instructions.
8. Overhaul and parts replacement instructions.
9. Source for parts.
10. Testing and troubleshooting procedures.
11. Performance curves.
12. Factory and field test data.
13. List of recommended spare parts.
14. List of expendable parts (i.e., air or oil filters).
15. Warranty.

The Engineer will review the initial submittal and return it to the Contractor for incorporation of review comments.

1-11.3 Final Submittal

After the Contractor has addressed the Engineer's comments on the initial submittals, the Contractor shall assemble all components into an integrated document. The final submittal shall include two final tab

divided hard copies and one bookmarked and searchable PDF copy that reflects the corrections. Each hard copy shall be bound in vinyl covered, three-ring binders. The integrated document shall consist of as many volumes as necessary to contain the data. Individual binders for each component of the submittal are not required. The binder shall be organized in a consistent format with tabbed dividers for each item. Each volume shall include, but not be limited to, the following:

1. The front cover and binding edge shall have typed labels identifying the project, Contracting Agency, and volume number;
2. Detailed index indicating the contents of the volume by major headings; and
3. Oversize (larger than 11"x17") prints shall be inserted in bound-in Kraft or Kevlar envelopes, placed at the end of the applicable area or subarea.

The integrated document shall be submitted to the Engineer within ten (10) Working Days after Substantial Completion of the work. If the integrated document does not meet the requirements of this Section, the Engineer may return the copy to the Contractor for corrections. The submittal process shall be repeated until the integrated document is acceptable. The Contractor shall anticipate that Final Acceptance may be delayed by the Contracting Agency if the integrated document is not acceptable to the Engineer.

END OF SECTION 1-11

1-12 Internet-Based Project Management Requirements

Section 1-12 and its subsections are added as the following:
(Local Agency SP)

1-12.1 Summary

This Section specifies an Internet-based project management system, SYNCHRO, required for use by the Contractor and the Owner for collaboration and communications of all Contract related work.

1.12.2 Submittals

Submit the following for each proposed authorized SYNCHRO user within ten days of the effective date of the Notice to Proceed:

1. Name, title and company affiliation.
2. Address, phone number, email address and fax number.
3. Specific job related functions.
4. Level of authority within the Contractor's organization.
5. Level of permissions access requested for each user for accessing each SYNCHRO module.

Submit an updated list of authorized users on a quarterly basis or more frequently as needed, to indicate users to be added or removed.

1.12.3 Project Communications

All official Project Communication and collaboration will take place in SYNCHRO by creating and distributing documents directly within the system, or by scanning and/or uploading project documents into the system for distribution. Unless otherwise indicated, no other form of written Project Communication will be recognized.

Create submittals in SYNCHRO's submittal module. Distribute reports, documents, samples, etc. that cannot be processed through SYNCHRO per Section 1-06. Use SYNCHRO to track and expedite processing submittals. Scan and/or upload support documentation into SYNCHRO and attach to the main submittal document.

The Construction Manager or Engineer will respond to all documents using the appropriate SYNCHRO module. All documents requiring formal signatures will be printed out in SYNCHRO and hard copies signed and distributed. Otherwise, documents distributed electronically via SYNCHRO will be considered official documentation. Documents requiring formal signature include:

1. Change Orders.
2. Construction Change Directives.
3. Pay applications.
4. All correspondence from the Contractor constituting any notification, which shall be submitted in accordance Section 1-05.15.
5. Others as determined by Owner

All documents will be electronically submitted to the Owner as an attachment to a transmittal created in SYNCHRO transmittal module.

This Section shall not relieve the Contractor of its obligations to provide the Owner with Record Drawings in the physical form specified in Section 1-05.5.

1.12.4 Access Requirements

Contractor shall maintain the list of authorized users to reflect current authorized users of SYNCHRO.

Contractor shall protect the security of the SYNCHRO system by limiting access to authorized users only. Do not allow 'sharing' of usernames. Take appropriate precautions to maintain the security of the system. Ensure that Owner is notified immediately of any user who is no longer authorized to use the system so that their user account can be de-activated by the SYNCHRO Administrator.

Access will only be permitted to certain modules, in accordance with permission levels configured by the SYNCHRO Administrator. Requests to change permission levels must be submitted to the Construction Manager.

1.12.5 Use Requirements

SYNCHRO shall be used as the Project file storage system with a file folder structure created by the Owner to organize the Project documents.

The use of SYNCHRO is intended to expedite and improve collaboration and written contract communication and to accurately record the flow of Contract documentation.

Contractor shall encourage its major subcontractors to utilize the Internet-based project management system, as appropriate, to improve communications and coordination within the Contractor's team.

Contractor shall abide by all policies, procedures, and standards established by the Owner for the use and application of SYNCHRO.

Contractor shall comply with applicable laws and regulations regarding electronic transmission of documents requiring professional engineering stamps or signatures, including provision of hard copies of such documents as appropriate.

Project Communications that require the signature of authorized persons will use either:

1. An approved "image" of the official signature affixed to the document. Also provide Owner with the original signed hard copy/paper document.
2. An electronic copy or electronic image of a fully executed document containing the required signatures. Also provide Owner with the original signed hard copy/paper document.

1.12.6 Downtime

In the event that the SYNCHRO system is temporarily unavailable, continue with Project Communications utilizing other electronic means (email) or hard copies to transmit and receive Project Communications.

Maintain records of all Project Communication during the SYNCHRO downtime and upload the records to SYNCHRO when it is operational.

Notify the Owner's SYNCHRO Administrator by telephone or email when SYNCHRO is not functional.

1.12.7 SYNCHRO Training

Submit a proposed schedule of attendance for the SYNCHRO training sessions including a list of back up personnel. SYNCHRO training is mandatory for listed users of SYNCHRO prior to use, including any training sessions scheduled by the Owner. Contractor shall provide for up to 12 hours of SYNCHRO training for up to 3 staff. The Contractor is not required to pay SYNCHRO for the training sessions, but shall pay for the required Contractor staff to attend the training.

1.12.8 Project Management System Requirements

Provide computer hardware and software that meet the requirements of the SYNCHRO project management software at both field office and home office location(s) where Project Communications on this Contract are generated or processed.

1.12.8(1) Modifications

SYNCHRO is continually modified and improved in order to enhance the product and provide additional functionality. SYNCHRO has many methods of alerting clients to changes and providing support to the end users.

1-12.8(2) Software, Hardware, and Internet Access

Minimum software requirements are as follows:

1. An Operating system such as Windows 2000 or later.
2. An Internet browser Explorer Version 6.1 or later.

Minimum hardware requirements are as follows:

1. Pentium-based (or equivalent) workstation or laptop with a minimum of 64 MB of RAM.
2. A scanning device capable of scanning a minimum of 11-inch x 17-inch color document into electronic Portable Document Format (PDF) with a minimum density of 300 dpi.
3. A full-size plan scanner.

Minimum access requirements are as follows:

1. Broadband connection using integrated Services Digital Network (ISDN), Digital Subscriber Line (DSL), or better.

Contractor shall be responsible for his costs associated with the provisions, maintenance, and upgrade of the hardware, software, and Internet access needed for using SYNCHRO for the duration of the Contract.

Contractor shall be responsible for all software necessary to create documents in format compatible with SYNCHRO or to convert non-electronic documents to such formats. Compatible formats include: Word, Excel, AutoCAD, and PDF.

1.12.9 Restrictions and Limitations

All Project Communications submitted to the Owner through SYNCHRO after 3:00 PM, Monday through Friday, will be acknowledged no earlier than the following business day. For Project Communication purposes, business days and hours are defined in Section 1-01.3.

User access rights to the SYNCHRO site will restrict access to this Contract only. Access permission levels will be established by the Owner and Construction Manager.

1.12.10 Owner Responsibility

Owner shall:

1. Provide the Contractor with SYNCHRO Use Guidelines within seven days of the effective date of Notice to Proceed.
2. Provide user access to the SYNCHRO system for the duration of the Contract.
3. Manage the permissions level for all users of the system.
4. Provide SYNCHRO training for personnel using the system for each SYNCHRO user identified by the Contractor.
5. Provide technical support (administration) for SYNCHRO, acting solely through and at the request of the Owner.
6. Provide guidelines regarding the organization and format of the SYNCHRO modules and the access permission requirements for each module or element thereof.
7. Allow users to upload, download, view, and markup files, based on permissions.
8. Track history of revisions and activities with respect to each document submitted or managed within SYNCHRO.
9. Adjust and revise the folder structure as necessary to facilitate management of Project Communications.

1-12***Internet-Based Project Management Requirements***

With the prior approval of Owner, exceptions may be made to allow specific items to be transmitted, submitted, responded to, or distributed in hard copy only. In these instances, SYNCHRO shall be used to track and expedite processing of these items. Refer to Section 1-12.5 above.

END OF SECTION 1-12

SECTION 01 12 16 WORK SEQUENCE

PART 1 : GENERAL

1.01 SUMMARY

- A. This Section includes general sequencing, project phasing and coordination requirements for the Work.
- B. Contract Requirements:
 - 1. The existing Johnson to Norum Sewer Main continuously receives raw sewage. The functions of this facility shall not be compromised during the course of the Work, except as specified herein. Plan and prosecute the Work such that the operation of the sewer main is not interrupted, except as specified herein.
 - 2. The Contractor is responsible to plan, schedule, and sequence all construction activities in conformance with the Contract Documents.
 - 3. The Contractor is responsible for maintaining reliable sewer service, complying with permit and regulatory requirements and conditions, working within the project constraints defined herein, and sequencing the work as necessary. The Contractor shall develop a Work Sequencing Plan to demonstrate the ability to complete the Work within the requirements of the Contract Documents.

1.02 DEFINITIONS

- A. Bypass: Secondary routing of flows to facilitate the isolation of portions of wastewater system.
- B. Temporary Shutdown: Suspension of sewer main function.

1.03 RELATED SECTIONS

- A. Section 01 59 00, Temporary Sewer Bypass Systems.

1.04 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials.
- B. Work Sequencing Plan: At a minimum, to include the following:
 - 1. Complete sequence of construction for all activities contained herein.
 - 2. Major work activities to occur.
 - 3. Schedule of bypass operations and estimated duration of bypasses. Submit detailed bypass plans in accordance with Section 01 59 00, Temporary Sewer Bypass Systems.

4. Schedule of temporary shutdowns of sewer main and estimated duration of shutdowns. Submit a detailed plan for conveying sewage to the downstream collection system during temporary shutdowns.
5. Listing of equipment to be present on site, including but not limited to temporary pumping and/or hauling equipment to be used to convey sewage during temporary shutdowns.
6. Assistance to be required of Owner's operating personnel during temporary shutdowns.
7. Contingency plan identifying what action will be taken if activities during a shutdown cannot be completed within the allotted times, or if there is a failure of pumping equipment to be used during temporary pumping operations.
8. Name and contact information of primary and secondary individuals in charge of activity during shutdown.

1.05 PROJECT SPECIFIC WORK CONSTRAINTS

- A. Construct sewer main bypass assemblies prior to any demolition of existing structures.
- B. With the sewer main out of service, Contractor shall be responsible for collecting and transporting raw sewage to the Owner's downstream collection system as required to prevent overflows and sewage spills until the sewer main bypass assembly is installed and visually inspected and approved by the Engineer.
- C. Utilize the sewer main bypass assembly and existing sewer main for all bypass pumping once it is constructed and operational.
- D. Scheduled temporary shutdowns of a sewer main shall not be approved to occur between 12:00 PM Friday and 9:00 AM Monday, holidays, and/or during rain events. All scheduled temporary shutdowns must be approved by both the City and County and Contractor will provide at least 2 weeks' notice of any planned shutdowns. County and City officials must be present for each shutdown and Contractor will coordinate with County and City officials to ensure planned shutdowns work with the County and City schedule. Contractor should anticipate that the City and County will severely limit the maximum shutdown duration.
- E. Any planned shutdowns must take place during low peak flow unless otherwise approved by County and City.

1.06 GENERAL WORK CONSTRAINTS

- A. Constraints primarily relate to interfacing with and tying into existing pipelines.
- B. Make every effort to give proper attention to each of general work constraint to minimize interruptions of the existing facilities and avoid delays that may result if the constraints are not observed.
- C. Constraints listed below involve limits on activities during construction. These limits relate to the critical nature of the existing sewer main and associated

facilities.

1. Coordinate construction schedule and operation with Owner.
 2. Coordinate proposed work with Owner, Engineer, and facility operations personnel before implementing shutdowns. Under no circumstances cease Work at the end of a normal working day if such actions may inadvertently cause a cessation of any facility operating process; in which case, remain on site until necessary Work and/or repairs are complete.
 3. Owner recognizes portions of the facility and facility operations will have to be interrupted or shut down or interfered with in order to accommodate construction activities. Owner will, through its personnel, attempt to accommodate Work, provided that proper notification is given. Owner reserves the right to deny permission for interruption or shutdown on any day.
 4. Do not operate any of the existing equipment without written permission from Owner naming the specific piece of equipment, operator(s) and dates equipment may be used. Contractor is liable for any loss or damage caused to property or equipment or any personal injury resulting from or related to this usage.
- D. Extended Working Hours: If it is desired to perform any Work outside the specified working hours, obtain written permission from Owner and all necessary permitting agencies, and make all necessary arrangements prior to commencing.

1.07 TEMPORARY SHUTDOWNS

- A. Provide minimum 21 calendar days advance written notice to request approval of a temporary shutdown of a facility.
- B. Each Notice of Request for Approval of a Temporary Shutdown submitted to Owner shall include the following:
 1. Dates, times, and duration of proposed shutdown.
 2. Work activities to be performed during the shutdown.
 3. Assistance required of Owner's personnel before, during, and after shutdown.
 4. Personnel to be on Site during shutdown.
 5. Proposed plan for conveying sewage from facilities to downstream conveyance system.
 6. Contingency plan if work during shutdown is not completed during allotted time or critical equipment fails.
- C. Upon receipt of such request, Owner will decide what action(s) is required by Owner and if the requested shutdown is acceptable. The request from Contractor will be returned to Contractor with the Owner's written decision noted. If Owner

deems that the requested shutdown is unacceptable, Owner will state such reasons, and Contractor shall reschedule the shutdown as required.

- D. It is hereby agreed between the Contractor and Owner that disapproval by Owner of the Contractor's shutdown request does not entitle Contractor to any time extension unless Contractor can demonstrate to the satisfaction of Owner, through an updated CPM schedule, that the overall Project completion date will not be met as a result of this disapproval.
- E. Owner may postpone a planned and approved shutdown at any time for pumping capacity, safety or operational reasons.
- F. Contractor shall provide temporary bypass pumping system during temporary shutdowns as required and as specified in Section 01 59 00, Temporary Sewer Bypass Systems, unless otherwise approved by the Engineer.

1.08 INTERRUPTION OF UTILITY SERVICE

- A. Indicate required shutdowns of existing utilities or interruptions of existing operations on Progress Schedule. Interruptions to utility service will be allowed to the extent that customer service will not be adversely compromised.
- B. Submit written requests for interruptions to utility service not less than 14 calendar days in advance of the date scheduled for the interruption.
- C. Following receipt of the request, Engineer will notify Contractor if the requested date will be permitted. Evaluation of the request will be based upon the availability of the utility Owner's personnel to assist and monitor utilities during the shutdown period and impact to customer service.
- D. Minimize the period of interruption by thorough advance planning. Procure and provide all required materials, equipment, and labor on site during the shutdown.
- E. Do not begin interruption until written authorization is received from Engineer.
- F. Customer Sewer Service Interruption:
 - 1. The project will require interruption in sewer service for customers during construction. The Contractor shall notify the County Construction Manager not less than fourteen calendar days in advance of service interruption and shall indicate the estimated length of time the service will be interrupted. Temporary sewer bypass systems for an individual customer or customers are not required provided that interruption in service is minimized and is limited to a maximum 6-hour period, to occur during the hours of 9 AM to 3 PM
 - 2. The Contractor shall provide and bear all costs for temporary sewer bypass systems in accordance with the Contract if the above conditions cannot be met, unless otherwise approved by the County Construction Manager.

1.09 CONSTRUCTION SEQUENCING PLANS

An example of Construction Sequencing Notes, included on Sheet G-3, have been developed to assist the Contractor in understanding the anticipated sequence of work and project constraints. The example Construction Sequencing Notes lists one potential construction sequence for consideration by the Contractor and is in no way meant to dictate Contractor means and methods. Contractor shall comply with all requirements of these Contract Documents in developing a detailed sequence of construction.

The Contractor retains discretion to exercise its judgment in following the example Construction Sequencing Notes when preparing its Work Sequencing Plans as defined herein.

PART 2 : PRODUCTS

NOT USED

PART 3 : EXECUTION

NOT USED

END OF SECTION

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SECTION 01 59 00
TEMPORARY SEWER BYPASS SYSTEMS

PART 1 : GENERAL

1.01 SUMMARY

Work covered in this section includes the requirements for temporary sewer bypass systems. The means and methods of accomplishing and maintaining the bypassing is the sole responsibility of the Contractor.

Continuous operation of the Owner's facilities is of critical importance. Contractor shall schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified. Contractor shall not proceed with work affecting a facility's operation without obtaining Owner's and Engineer's advance written approval of the need for, and duration of, such work. Where existing facilities are to be modified during the course of work, the Contractor shall obtain Engineer's review of submittals for temporary bypass, temporary shutdown, demolition, modification, connections between new and existing work, and other related work and shall conform to other Contract conditions as applicable.

The Owner and Engineer consider the Contractor's schedule and construction sequencing to be paramount to ensure the work is properly planned, coordinated, and executed. The Contractor shall properly coordinate and execute the work to avoid interference with normal operations.

The Contractor shall anticipate that multiple temporary sewer bypass systems will be required over the duration of construction to construct the proposed improvements given the specified work constraints and separated project site locations.

Connection to existing services or utilities, or other work that requires temporary shutdown of any existing operations or utilities shall be planned in detail with appropriate scheduling of the work and coordinated with the Contracting Agency or Engineer.

Contractor shall be solely responsible for developing the sequence of the work and for ensuring that current sewer service is not interrupted or compromised. At least three weeks prior to starting the work, Contractor shall confer with the Engineer and Owner to develop a work schedule that will permit facilities to function as normally as practical. Certain parts of the construction work may be required outside normal working hours in order to avoid undesirable conditions, including work during low flow periods (between the hours of 12 am and 5 am). Temporary sewer bypassing will be required to complete portions of the work. Such work shall be minimized to the extent possible through proper sequencing and execution of the work. Contractor shall do this work at such times and at no additional cost to the Contracting Agency. Connections between existing facilities and new work shall not be made until all necessary inspection and tests have been completed on the new work and the new work is found to conform in all respects to the requirements of the Contract Documents.

Contractor shall provide all equipment necessary for sewer bypass systems and is responsible for hauling and properly disposing of sewage. The Contractor shall schedule and conduct work in a manner that will minimize the number of times and length of time that temporary bypass pumping is required.

1.02 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials.
- B. Submit details of proposed temporary sewer bypass system(s).
 - 1. Bypass Plan: detailed explanation of the proposed sewer bypass system(s), including project specific plans, details, sequencing, duration, and assistance required of the Owner. Bypass Plan shall be stamped and signed by a professional engineer registered in the State of Washington. The Bypass Plan shall contain, at a minimum, a plan view of each proposed sewage diversion on a site map and the individual components of the diversion including but not limited to:
 - a. Pumps: type, size, and placement.
 - b. Diversion pipe: size, type, and placement
 - c. Power supply to pumps.
 - d. Method of damming the flow.
 - e. Facilities for redundancy.
 - f. Anticipated peak daily flow.

Example Temporary Bypass Plans, Sheet SS-10 have been developed to assist the Contractor in understanding the anticipated bypass operations and project constraints. Example Temporary Bypass Plans are for reference only and are not intended in any way to dictate Contractor means and methods; they are to inform the development of the Contractor's Bypass Plans as defined herein. The Contractor retains discretion to exercise its judgment in following the Example Temporary Bypass Plans provided in on Sheet SS-10 when preparing its Bypass Plans as defined herein.
 - 2. Proposed pumping equipment including pump performance data.
 - 3. Engineering analysis and calculations for each sewer bypass system including system head vs flowrate curves.
 - 4. Spillage cleanup plan.
 - 5. Description of control equipment and temporary control panel(s) and method to be used to operate the pumps.
 - 6. Pump maintenance plan describing regular maintenance to be performed while the pumps are in service and the length of the maintenance period when a pump will be out of service.
 - 7. Contingency plan describing steps to be taken if a pump fails and emergency contact phone numbers.
 - 8. Noise levels at minimum and maximum operating speed.
 - 9. Alarms sent to OWNER's central control facility.
- C. Temporary Bypass Qualifications.

1.03 CONTRACTOR RESPONSIBILITY**A. BYPASS SYSTEM REQUIREMENTS**

1. Spills or bypassing of untreated or partially treated wastewater to surface waters or drainage courses is prohibited during construction. In the event accidental bypassing is caused by the Contractor, the Owner shall immediately be entitled to employ others to stop the bypassing in accordance with the Contract Documents with cost borne by the Contractor. Contractor shall be fully responsible for any damage that may result from inadequate or improper installation, maintenance or operation, or failure of any kind of the temporary sewer bypass system.
2. Costs incurred by the Contractor or Owner, including penalties imposed on the Owner as a result of any sewage spill or bypassing of untreated or partially treated wastewater to surface waters or drainage courses caused by the actions of the Contractor, its employees, or subcontractors, shall be borne in full by the Contractor, including legal fees and other expenses to the Owner resulting directly or indirectly from the spill and/or bypass.
3. Precautions and Protective Measures:
 - a. Review existing sewer system plans with the Engineer and Owner.
 - b. Verify the size and location of connecting laterals and side sewers.
 - c. Provide pumps with sufficient capacity and head.
 - d. Provide pumping equipment redundancy and/or standby equipment that can be readily deployed.
 - e. Investigate upstream manholes.
 - f. Check and test pumping equipment and bypass system(s).
 - g. Provide suitably experienced person(s) and training personnel (more than one individual) for operation and maintenance of the system(s), including dealing with emergencies.
 - h. Check upstream manhole surcharging after bypassing operations have commenced.
 - i. Properly monitor and maintain system during operation.
4. Quality Assurance:
 - a. Temporary sewer bypass systems shall be designed, stamped, and signed by a registered professional engineer in the State of Washington. Engineer shall have demonstrated experience in the design of pumping systems of comparable size and complexity.
 - b. Before commencement of any bypassing operation, the Contractor shall obtain the Engineer's acceptance of the Bypass Plan including design, equipment and materials, installation, operation, and maintenance.
 - c. Temporary Bypass Qualifications: Contractor shall have a minimum of five years' experience in performing substantially similar temporary bypass operations and shall submit evidence of

satisfactory operation of temporary bypass facilities similar to those specified for at least five projects in accordance with the Specifications.

5. Sewer Bypass System Description:
 - a. Contractor will be responsible for properly operating, protecting, maintaining, and servicing the bypass equipment for the duration of the temporary bypass. Contractor shall be responsible for bypass pumping equipment, electrical service, fuel, and all other appurtenances and consumables required for operation of the temporary sewer bypass system.
 - b. Noise levels of equipment shall meet the requirements of Kitsap County and Washington State noise level requirements. Depending on the pumping equipment that is used, meeting this requirement may require the use of sound attenuating enclosures as well as other provisions and measures. If possible, electric bypass pumping equipment should be used so as to avoid engine-driven pumping units or engine generators. If engine-driven pumps or engine generators are used, equipment shall be located as far from residences as possible. Depending on the situation and subject to the approval of the Owner, the only possible exception or relaxation of this requirement will be in cases where the bypassing equipment will only be operated: 1) during the work week; 2) during normal working hours and; 3) period of bypass operation will be less than one week.
 - c. Each sewage diversion pump shall operate as a single pumping unit. A minimum of two primary sewage diversion pumping units shall be operated in parallel to by-pass pump the total anticipated peak sewage flow. For system redundancy, the Contractor shall have on site a minimum of two back-up sewage pumping units for system redundancy. The back-up sewage pumping units shall be of the same capacity as the two largest primary pumping units. Pumps shall be non-clog sewage pumps capable of pumping spherical 3-inch solids and fibrous material. Bypass pressure pipe shall be in good condition with watertight joints. Provide H-20 rated ramps over pipe for vehicle access if needed. Higher rated ramps may be required where exposed to commercial traffic.
 - d. The temporary sewer bypass system shall be designed to handle a minimum capacity for the sources connected to the temporary bypassing. The pump capacity shall be able to maintain adequate cleaning velocities (>3.5 fps) within the temporary piping as required.
 - e. Maintain on-site sufficient equipment, parts, materials, and fuel to ensure continuous and uninterrupted operation of the bypass system(s). Electric pumps are required unless otherwise approved by the County. If engine driven pumping equipment is used, a minimum of 24-hours of fuel shall be maintained on-site. Standby pumps and generators shall be fueled and operational at all times. Contractor's personnel shall be knowledgeable and trained on how to operate and maintain the bypass equipment.

- f. All monitoring shall be fully functional during bypassing.
 - g. If the bypass system is to be operated when the Contractor is not on-site, the system shall be provided with a monitoring and alarm system that notifies the Contractor and Owner 24 hours a day of a system failure. In the event of a failure, Contractor shall respond immediately and fix the cause of the problem. Contractor shall be on-call 24 hours a day and be able to respond within 30 minutes at all times during sewer bypassing. The Contractor will be required to demonstrate to the satisfaction of the Owner that this requirement can be met, and that responsible and appropriately trained personnel will be able to deal with emergencies that could arise. The Contractor is encouraged to consider retaining a company or individual(s) that specialize in the operation and maintenance of bypass sewer systems that require unattended operation.
 - h. Sewer bypassing shall not cause backup of sewage into residences or conveyance systems. Depth of surcharge upstream shall be kept to the minimum necessary. The Contractor will be responsible for repairing any damage to upstream property due to surcharging of the system.
 - i. All sewer pipes and manholes that were surcharged shall be properly flushed to remove accumulated sewage material.
 - j. If damaged, restore bypass areas to pre-existing conditions in accordance with the requirements of the Contract Documents.
6. Spills:
- a. Contractor is fully responsible for any damage that may result from an inadequate or improper installation, maintenance or operation, or failure of any kind of the bypass system. That responsibility includes but is not limited to the costs associated with cleanup and repair of property damage.
 - b. Spills or bypasses of sewage to surface waters or drainage courses is prohibited. In the event of sewage spills, the Contractor shall immediately take whatever actions are deemed necessary to stop a spill. Should the Contractor not take immediate action, the Owner will be entitled to take whatever actions are deemed necessary to stop a spill.
 - c. Costs incurred by the Contractor or Owner, including penalties imposed on the Owner as a result of any sewage spill caused by the Contractor, its employees, or subcontractors, shall be borne in full by the Contractor, including legal fees and other expenses to the Contractor or Owner resulting directly or indirectly from the spill.
 - d. The Contractor shall be responsible for providing the following information to the Construction Manager and/or Owner in case of a spill or release:
 - 1) Release location
 - 2) Date and time release found or started, and time stopped

- 3) Release flow rate and estimated total volume
 - 4) Receiving waters, if any
 - 5) Action taken to stop release
 - 6) Cause of release
 - 7) Clean-up actions taken
 - 8) Any other information as requested by relevant authorities
- e. In case of sewage release during bypass operations, the Contractor shall immediately contact the Kitsap County Sewer Utility Construction Manager.

A representative of Kitsap County shall report the sewage spill within 24 hours to the Washington State Department of Ecology and any other appropriate entities. Even if a sewage spill or release is contained within an excavation, the spill or release must be reported.

7. Work and Assistance by Owner:
 - a. Operation of the existing pump station facilities, including those operations which may be necessary to facilitate the Contractor's work will be provided by the Owner.
 - b. For minor assistance and operations, the Contractor shall provide a minimum of 3 days advance notice to the Construction Manager. When major assistance or the Contractor's work needs to be done during the low flow period, which will require coordination of more than one individual, or more than a few hours of one individual of the owner's personnel, Contractor shall provide a minimum of 14 days advance notice to the Construction Manager.
 - c. The Contractor shall not at any time undertake to close off any lines or open valves or take any other action which would or might affect the operation of any part of the Owner's existing systems without first discussing it with the Construction Manager and/or Owner. Unless permission is specifically granted, the Owner or responsible utility will open and close valves.
8. Temporary Construction Easement and Right of Entry Acquisition
 - a. Where required to facilitate temporary bypass system, Contractor shall coordinate with Kitsap County to acquire temporary construction easements and right-of-entry agreements with affected property owners.

PART 2 : PRODUCTS

2.01 PUMPS

- A. Number of Pumps: The temporary bypass pumping system shall include a minimum of two primary pumps and two backup pumps (see Section 1.03.A.5.c above) and shall provide full pumping capacity with the largest pump offline, as described above. The offline pump is referred to herein as the standby pump. All pumps shall be set up for automatic operation based on water level or pressure.

- B. Acceptable manufacturers:
 - 1. Godwin Pumps
 - 2. Rain for Rent
 - 3. Sunbelt
 - 4. Screwsucker
 - 5. Xylem
 - 6. Approved equal

2.02 TEMPORARY PIPING

- A. Provide temporary piping, valves, and fittings for temporary bypass system.
- B. Provide pipe or hose and couplings rated for 200% of operating pressure. Temporary bypass discharge piping shall be ductile iron (DI), HDPE or high-pressure discharge hose.
- C. Use of Bauer style (Ball & Socket) connections or joints is not allowed. All joints and fittings shall be fully restrained. This includes all temporary piping uses, including use in suction piping.
- D. Temporary piping provided by the Owner may be used for bypassing operations if said piping meets the requirements specified herein.

PART 3 : EXECUTION

3.01 TEMPORARY PIPING

- A. Temporary piping shall be installed to facilitate both suction and discharge from the temporary bypass pumping system. All piping shall be leak-tight, allowing no raw sewage spills of any amount.
- B. Route temporary piping to avoid blocking construction equipment and vehicular traffic including residential property access. Provide protection for piping, valves and fittings where crossing access points is unavoidable. At traffic crossings bypass piping shall be buried or arranged such that the piping is protected from traffic loads.

3.02 TEMPORARY PUMPING

- A. Do not disrupt normal path of raw sewage flow except as allowed to make temporary connections, as approved by the Owner.
- B. Contractor shall be responsible for operation and maintenance of temporary pumps.
- C. The location and layout of the temporary pumping system, and associated noise control, shall be designed and provided by the Contractor.

3.03 ALARMS AND TELEMETRY

- A. The temporary pumping system shall provide the following alarms for remote monitoring:
 - 1. High water alarm – at depth of 2 feet in suction location unless otherwise limited or approved by Owner.
 - 2. Standby pump called to operate.
 - 3. Pump failure.
- B. Contractor shall provide a monitoring system and staff to monitor the alarms on a 24-hour basis, 7 days a week during temporary pumping and bypass operation.

3.04 FIELD TESTING

- A. Contractor shall conduct field testing of all components of the temporary pumping system to demonstrate adequate capacity, operation, and monitoring requirements. A field test report, listing the completed tests, shall be submitted to the Construction Manager for approval. The testing program shall include a witnessed operational test of the completed system. A one-week notice shall be provided to the Construction Manager to witness the test.
- B. Bypass piping, valves and fittings shall be successfully leak tested prior to being placed into service. Leak testing shall be witnessed by the Construction Manager. Allowable leaking is zero.

3.05 OPERATION

- A. Contractor shall respond to and resolve all alarms from temporary pumping and bypassing operations. Contractor's point of contact shall be located within 30 minutes of the project site to ensure rapid response to alarms.
- B. Contractor shall be responsible for ensuring that the temporary bypass system is maintained and remains operational 24 hours per day 7 days per week for the duration of any Contractor planned bypass.
- C. Contractor shall notify the Owner immediately in the event of a high water or pump failure alarm. Owner will provide Contractor with names and telephone numbers of personnel to be contacted in the case of an alarm or other emergency.
- D. Contractor shall maintain existing alarm signals to the Owner's alarm system, including high water, at all times during construction.
- E. No sewage bypass operations may proceed unless the Contractor has, at the work site, the following items:
 - 1. Equipment to secure the area of sewage release and isolate the public from accessing the release site. As a minimum, this shall include barricades and caution tape.
 - 2. The equipment and materials, on hand, to stop the release and repair the failed item.

3. Equipment and materials to clean the site, rake up solid debris and to dispose of material properly.
- F. Contractor shall maintain a daily inspection and maintenance log of the bypass system. Log shall be submitted daily to the Construction Manager.

END OF SECTION

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**SECTION 02 41 00
DEMOLITION, CUTTING, AND PATCHING**

PART 1 : GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Demolition, cutting, and patching of existing facilities where shown on Drawings, or as required to accommodate new work shown or specified.
 - 2. Abandoning existing pipes, utilities, vaults, and structures.
 - 3. Removing and disposing of demolished equipment, asphalt concrete, and other materials. The removed equipment and materials shall be properly disposed of at the Contractor's expense.

1.02 SUBMITTALS

- A. See Section 1-06 – Control of Materials for requirements for the mechanics and administration of the submittal process.
- B. Demolition Schedule: Indicate overall schedule and interruptions impacting utility and facility services.
- C. Indicate manufacturer and type of proposed materials and methods to be used for matching and repairing existing construction.
- D. Indicate demolition and removal sequence, and location and construction of temporary work.

1.03 QUALITY ASSURANCE

Conform to applicable codes and Operational Safety and Health Administration (OSHA) requirements for demolition work, dust control, products requiring electrical disconnection and reconnection, and mechanical system decommissioning.

1.04 DELIVERY, STORAGE, AND HANDLING

NOT USED

1.05 PROJECT CONDITIONS

- A. Perform preliminary investigations as required to ascertain extent of work.
- B. Conduct demolition to minimize interference with adjacent areas.

1.06 SEQUENCING AND SCHEDULING

- A. Coordinate and reschedule work as required to preclude interference with other operations.
- B. Do not remove or abandon existing sanitary sewer facilities until the new sanitary sewer systems or temporary pumping systems are fully operational, unless noted otherwise on the Drawings.

PART 2 : PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following products and manufacturers are acceptable:
- B. Non-shrink grout:
 - 1. Masterflow 713 Plus by BASF Building Systems.
 - 2. Sika Grout 212 by Sika.
 - 3. Five Star Grout by Five Star Products, Inc.
- C. Epoxy bonding adhesive:
 - 1. Euco No.452 MV by Euclid Chemical Co.
 - 2. Sikadur 32, Hi-Mod by Sika Corporation.
- D. Epoxy patch:
 - 1. Depth of patch:
 - a. Greater than 3/4 IN: Five Star MP Epoxy Patch.
 - b. Between 1/8 IN and 3/4 IN: Five Star Fluid Epoxy.
- E. Submit request for substitution in accordance with Section 1-06 – Control of Materials.

2.02 MATERIALS

- A. Non-shrink grout:
 - 1. Nonmetallic, noncorrosive, and non-staining.
 - 2. Premixed with only water to be added in accordance with manufacturer's instructions at jobsite.
 - 3. Grout to produce a positive but controlled expansion:
 - a. Mass expansion not to be created by gas liberation or by other means.
 - 4. Minimum compressive strength at 28 days to be 6500 psi.
 - 5. Coat exposed edges of grout with a cure/seal compound recommended by grout manufacturer.
- B. Epoxy bonding adhesive:
 - 1. Two component, moisture insensitive adhesive manufactured for the purpose of bonding fresh concrete to hardened concrete.

- C. Controlled density fill (CDF):
 - 1. See Specification Section 31 23 33 – Trenching, Backfilling, and Compacting for Utilities for requirements for CDF.

PART 3 : EXECUTION

3.01 PREPARATION

- A. Notify affected utility companies before starting work and comply with their requirements.
- B. Mark location and termination of utilities.
- C. Provide covered passageways where necessary to ensure safe passage of persons in or near areas of work.
- D. Provide substantial barricades and safety lights as required.
- E. Provide temporary dustproof partitions, where indicated or necessary.
- F. Prevent infiltration of dust into occupied areas.
- G. Provide temporary weather protection as necessary.

3.02 INSTALLATION

- A. Cutting and removal:
 - 1. Remove existing work indicated to be removed, or as necessary for installation of new work.
 - 2. Neatly cut and remove materials, and prepare all openings to receive new work.
- B. Abandon structures, manholes, and vaults:
 - 1. Remove equipment to be disposed of.
 - 2. Demolish structures, manholes, and vaults as shown on the Drawings.
 - 3. Fill remaining structures with CDF, sand, or other material approved by the Engineer unless otherwise shown on the Drawings.
 - 4. Backfill and compact excavated areas as shown on the Drawings.
- C. Abandon pipe:
 - 1. Abandon pipe in accordance with Section 33 11 50.
- D. Remove pipe:
 - 1. Where shown on the Drawings or at other locations as determined by the Construction Manager, cut and remove pipe in its entirety regardless of the size or type.

2. Backfill and compact voids left by pipe removal with suitable backfill material.
3. All removed materials shall become property of the Contractor and shall be properly disposed of outside the project limits.

E. Clean up: transport debris and legally dispose of off-site.

3.03 ASPHALT AND CONCRETE REMOVAL AND REPLACEMENT

- A. All concrete and asphalt requiring removal and replacement shall be neatly saw cut full depth prior to removal.
- B. Debris resulting from the above operations shall be removed, hauled off-site, and disposed of at the Contractor's expense.

3.04 GRAVEL SURFACED DRIVES AND ROADWAYS

The Contractor shall restore all damaged gravel surfaced drives and roadways to a condition equal to or better than the original condition.

3.05 TREES

Do not remove trees without written instructions from the Engineer unless tree removal is shown on the Drawings.

3.06 FENCES, SIGNS, MAILBOXES, ETC.

Restore all damaged fences, signs, mailboxes, etc., to their original conditions.

END OF SECTION

SECTION 03 60 00 GROUT

PART 1 : GENERAL

1.01 DESCRIPTION OF WORK

- A. This Section covers the supply of materials, mixing of materials, and the installation of various grades of grouts utilized in the project, for general purposes.

1.02 STANDARDS AND CODES

- A. Referenced Standards and Publications: This Section incorporates by reference the revision of the following documents in effect 30 days prior to bid.

- 1. ASTM STANDARDS

- a. C404 Standard Specification for Aggregates for Masonry Grout
- b. C939 Standard Test Method for Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method)
- c. C1107 Standard Specification for Packaged, Dry, Hydraulic Cement Grout (Nonshrink)

1.03 SUBMITTALS

- A. Submit under provisions of Division 1 as follows:
 - 1. Manufacturer's data on all products.

PART 2 : PRODUCTS

2.01 EPOXY-RESIN-BASE BONDING SYSTEM

For all grouted pipe penetrations, where called for on the drawings and in all cases where less than a 13-inch thickness of grout or mortar overlays existing concrete or green concrete, a bonding system complying with ASTM C881 shall be used.

2.02 PRECISION GROUT

- A. Filling of anchor bolt pockets, handrail pockets, and under equipment and column base plates shall be classified as precision grouting.
- B. Grout used for precision grouting shall be a pre-packaged, non-shrink grout using a mixture of metallic and natural aggregates, and shall conform to the most current version of ASTM C1107 Grade B or C when tested at a fluid consistency of 25-30 seconds per ASTM C939 at temperature extremes of 45 and 90°F and an extended working time of 30 minutes.
 - 1. BASF Masterflow 713 Plus or Masterflow 885 are acceptable brand and grout types conforming to this specification.
 - 2. All material used, including water, mixer and pre-packaged grout must be initially within the 45 and 90° limits when testing is initiated.

3. Manufacturer shall provide independent certification of ASTM C1107, compliance without modification of standard methods, and certify that the grout's post-hardening, non-shrink property is not based on gas expansion.
- C. Grout shall have strengths of 3000 psi at 3 days, 5000 psi at 7 days, and 7000 psi at 28 days when cured at 72°F, as well as meet the 3-, 7-, and 28-day strengths when tested and cured at the 45 and 90°F limits, and shall not bleed when placed at a fluid consistency.

2.03 PORTLAND CEMENT GROUT

- A. Portland Cement Grout shall be used to provide flow concentration in channels, at the bottom of high walls, and in other locations where a general-purpose grout is required.
- B. Portland cement grout shall be mixed with sand on a ratio of one part cement to two parts sand with an expansive agent included to limit drying shrinkage.
- C. Sufficient water shall be added for placement while maintaining a minimum 4,500 psi 28-day compressive strength.

2.04 TOPPING COURSE GROUT

- A. This grout shall be used for leveling the bottom of structures.
- B. This mix shall contain 6½ sacks of cement per cubic yard of concrete, use sand and 3/8-inch course aggregate, size No. 89 in ASTM C404, and use water-reducing and expansive additives.
- C. The minimum compressive strength shall be 4,500 psi in 28 days.
- D. Topping grout over floor slabs shall be reinforced with WWR 6x6 W1.4xW1.4.

2.05 RAPID CURE GROUT

- A. Rapid cure grout shall be mixed with aggregate as recommended by the manufacturer.
- B. The grout shall be BASF MasterEmaco T545 or equal.
- C. The minimum compressive strength shall be 4,500 psi in 28 days.

2.06 SELF-LEVELING UNDERLAYMENT

- A. Self-leveling cement underlayment shall be Ardex K-15.
- B. The compressive strength shall be 4,500 psi per ASTM C109 and shall be capable of feather-edge thickness application.
- C. Self-leveling cement underlayment shall be used to level floors where noted on the drawings.

PART 3 : EXECUTION**3.01 MIXING**

- A. All parts of the respective grouts shall be proportioned by volume measurement.
- B. Mixing shall be accomplished using a mechanical mixer suitable to the required quantities.
- C. Each batch shall be mixed for not less than 5 minutes.
- D. The respective grouts and mortars shall be mixed with sufficient water to maintain the fluidity required while attaining the minimum compressive strength indicated.

3.02 RETEMPERING AND TIME LIMIT

- A. Do not retemper or use mortar which has become harsh and nonplastic.
- B. When mortar has been maintained plastic and grout fluid, they may be used up to, but not more than, one hour after original mixing.

3.03 TEMPERATURE

Grouting operations shall not commence when the ambient temperature has dropped below 45°F or when the surface to which it is being applied is less than 40°F.

3.04 PROTECTION

All grouting operations shall be protected against moisture intrusion and a sealer, linseed oil or Thoroclear 777, shall be applied at the completion of the work.

3.05 SURFACE PREPARATION

- A. The existing concrete surface that the respective grout or mortar shall be placed against shall be cleaned as follows:
 - 1. If the existing surface has been exposed to sludge, chlorine, or other solutions, or was previously painted or treated, the surface shall be sandblasted and steam-cleaned, then treated with a diluted solution of muriatic acid neutralized with an alkaline solution and flushed with clean water.
 - 2. If the existing surface was not exposed to solution other than water, then the surface shall be washed with a diluted (2 parts water to 1 part acid) solution of muriatic acid, neutralized with an alkaline solution, and flushed with clean water.

3.06 PRECISION GROUTING

- A. This Section describes additional special provisions for the grouting of anchor bolts, handrail pockets, and column and equipment baseplates, defined herein as precision grouting.

- B. All grout used for precision grouting shall be placed in a fluid consistency, with an efflux time of 25 to 30 seconds through a standard flow cone as defined by ASTM C939. The Contractor shall have a standard flow cone on-site to verify grout consistency prior to placement.
- C. Contractor shall not mix more grout than can be placed in approximately 10 minutes. Contractor shall not attempt to retemper grout by adding water or remixing after it stiffens.
- D. All grout used for filling under column and machinery base plates shall be placed from one side using a form around the grouted area. A beveled form edge shall be provided on one side to help direct the grout flow under the base plate. Do not vibrate grout. Immediately after placement, trim the surfaces with a trowel and cover the exposed grout with clean, wet rags and maintain this moisture for 4 to 6 hours.
- E. Forms and excess grout shall be removed after the grout has achieved initial set. The grout should offer stiff resistance to penetration with a pointed mason's trowel prior to removing the grout forms. Exposed shoulders shall be finished and wet cured immediately after form removal, and until grout has reached final set, but not less than 48 hours, followed by two coats of curing compound.

END OF SECTION

**SECTION 09 96 00
PAINTING AND PROTECTIVE COATINGS**

PART 1 : GENERAL

1.01 SUMMARY

- A. This Section specifies high performance industrial coatings and their surface preparation for non-building applications.
- B. Definitions: Coating systems include surface description, surface preparation, required dry film thickness (DFT), and the number and application procedure of the prime and finish coatings as specified in the Coating System Specifications Sheets, located in Paragraph 2.02.

Field coating is the application or the completion of application of the coating system after installation of the surface at the site of the work.
Installer or applicator is the person installing or applying the product in the field at the Project site. Installer and applicator are synonymous.

1.02 REFERENCES

- A. REFERENCES:
 - 1. ASTM International (ASTM).
 - 2. International Concrete Repair Institute (ICRI).
 - 3. National Association of Corrosion Engineers International (NACE).
 - 4. National Association of Pipe Fabricators (NAPF).
 - 5. NSF International (NSF).
 - 6. The Society for Protective Coatings (SSPC).
- B. STANDARDIZATION: Materials, supplies, and articles provided shall be the standard products of manufacturers. Paints in a particular coating system shall be the products of a single manufacturer.

Requests for substitutions, in accordance with Section 1-06 – Control of Materials, will be considered, provided the following minimum conditions are met:

- 1. The proposed coating system shall use an equal or greater number of separate coats to achieve the required dry film thickness.
- 2. The proposed coating system shall use coatings of the same generic type.
- 3. Requests for substitution shall have directions for application and descriptive literature that includes generic type, nonvolatile content by volume, and information confirming that the substitution is equal to the specified coating system.

1.03 QUALIFICATIONS

- A. Coating manufacturer's authorized representative shall provide written statement attesting that applicator has been instructed on proper preparation, mixing, and application procedures for coatings specified.
- B. Applicators shall have a minimum of ten (10) years' experience in application of similar products on similar project:
 - 1. Provide references for minimum of three (3) different projects completed in the last five (5) years with similar scope of work.
 - 2. Include name and address of project, size of project in value (painting), and contact person.

1.04 SUBMITTALS

- A. In accordance with the requirements of Section 1-06 – Control of Materials, submit the following:
 - 1. Applicator experience qualifications:
 - a. No submittal information will be reviewed until the Engineer has received and approved applicator qualifications.
 - 2. Manufacturer's specifications for each coating system including:
 - a. Acknowledgement that products submitted meet requirements of standards referenced.
 - b. Manufacturer's application instructions.
 - c. Manufacturer's surface preparation instructions.
 - d. If products being used are manufactured by a Company other than listed in Paragraph 2.02 of this Section, provide complete individual data sheet comparison of proposed products with specified products including application procedure, coverage rates, and verification that product is designed for intended use.
 - e. Contractor's written plan of action for containing airborne particles created by blasting operation and location of disposal of spent contaminated blasting media.
 - f. Coating manufacturer's recommendation on abrasive blasting.
 - g. Manufacturer's recommendation for universal barrier coat.
 - h. Manufacturer's recommendation for providing temporary or supplemental heat or dehumidification or other environmental control measures.
 - i. A list of materials proposed to be used.
 - 3. Manufacturer's color charts. Basic colors are indicated in Paragraph 3.05. Final color selection shall be made by the Owner from the submitted color charts.
 - 4. Manufacturer's statement regarding applicator instruction on product use.

5. Informational Submittals:
 - a. Approval of application equipment.
 - b. Applicator's daily records:
 - 1) Submit daily records at the end of each week in which painting work is performed unless requested otherwise by the Engineer's on-site representative.

1.05 DELIVERY AND STORAGE

- A. Materials shall be delivered to the job site in their original, unopened containers, labeled as follows:
 1. Name or type number of material.
 2. Manufacturer's name and item stock number.
 3. Date of manufacture.
 4. Contents, by volume, of major constituents.
 5. Warning labels.
 6. Volatile organic compound (VOC) content.
 7. Storage life.
 8. Any special instructions or directions.
- B. Paints shall be stored in enclosed structures and shall be protected from weather and excessive heat or cold and maintained within the storage temperature range recommended by the paint manufacturer, but in no case stored where the temperature is lower than 40°F or greater than 100°F.
 1. Paint material storage facility shall be monitored with a high-low recording thermometer device.
 2. Flammable materials shall be stored in accordance with State and local codes.
- C. Materials exceeding storage life recommended by the manufacturer shall be removed from the site.

1.06 SPARE PAINT SUPPLIES

The Contractor shall provide one unbroken gallon container of each color and type of coating, solvent, and thinner required in the Specification. These spare paint supplies shall be stored as directed by the County Construction Manager.

PART 2 : PRODUCTS

2.01 MATERIALS

- A. GENERAL: Coating system shall not be applied until the Engineer has inspected the surface to be coated.

- B. COATING SYSTEMS: Unless otherwise specified, prime coatings may be shop- or field-applied. Shop-applied primer shall be compatible with the specified system. Field coating signifies that coating is applied in place, after installation of the surface. If the shop coating meets the requirements of this Section, the field coating may consist of touching up the shop prime coat to achieve the film thickness, continuity, and coating specified in the Coating System Specification sheets. Damaged and poorly applied shop coatings that do not meet the requirements of this Section shall be removed and the surfaces recoated in accordance with the Coating System Specification Sheets.

Surface preparation shall be as specified for each paint system and in accordance with Paragraph 3.01. Number of coats specified in each system shall be the minimum number of coats applied to provide the required dry film thickness.

For unspecified materials such as thinner, provide manufacturer's recommended products.

- C. MANUFACTURERS: As specified for each Coating System or accepted equal.

2.02 COATING SYSTEM SPECIFICATIONS

Coating System	A
Coating Material:	Modified Polyamine Epoxy
Surfaces:	Exterior Concrete Surface
Surface Preparation:	Per manufacturer requirements
Application:	Factory – Exterior Surfaces Field – Interior Surfaces
Coating System:	
Primer/Finish:	Tnemec Series 141 Epoxoline One coat, 16 mils DFT

Coating System	B
Coating Material:	100% Solids High Build Epoxy
Surfaces:	Concrete Manhole
Surface Preparation:	Surfaces must be sound and contaminant-free with a surface profile equivalent to a minimum CSP3 to CSP5 in accordance with ICRI Technical Guideline No. 310.2R-2013. Dry abrasive sand with water blast to surface profile as recommended by the manufacturer.
Application:	Field

Coating System:

Primer: As recommended by coating system manufacturer

Finish: Raven 405
 Spray apply two coats, 125 mils DFT total
 Allowed tolerances of plus 40 mils DFT to minus 0 mils DFT
 Color: Light Blue

Coating System C

Coating Material: Ceramic Epoxy

Surfaces: Ductile Iron Pipe and Fittings

Surface Preparation: As recommended by coating system manufacturer.

Application: Factory – Interior Surfaces

Coating System:

Primer: As recommended by coating system manufacturer

Finish: Protecto 401
 40 mils nominal DFT
 Color: See Paragraph 3.05

PART 3 : EXECUTION**3.01 PREPARATION**

- A. GENERAL: Surfaces to be coated shall be clean. Before applying coating or surface treatments, oil, grease, dirt, rust, loose millscale, old, weathered coatings, and other foreign substances shall be removed except as specified. Oil and grease shall be removed before mechanical cleaning is started. Where mechanical cleaning is accomplished by blast cleaning, the abrasive used shall be washed, graded, and free of contaminants that might interfere with the adhesion of the coatings.

Clean cloths and clean fluids shall be used in solvent cleaning. Cleaning and painting shall be scheduled so that dust and spray from the cleaning process will not fall on wet, newly painted surfaces.

The Contractor shall demonstrate that field coating is compatible with factory coating by applying small test patches of specified coating over shop coating. The Contractor shall pay special attention to painting of existing surfaces adjacent to the new piping and structures. Care shall be taken in surface preparation and finish work to provide a smooth transition from one surface to the other. If necessary, compatible primer shall be used when painting over existing surface.

- B. METALLIC SURFACES: Metallic surfaces shall be prepared in accordance with applicable portions of surface preparation specifications of the SSPC. Specific applicable standards are specified in each coating system. The solvent in solvent cleaning operations shall be as recommended by the manufacturer.

Preparation of metallic surfaces shall be based upon comparison with SSPC-Vis-1-67T (ASTM D220), and as described herein. To facilitate inspection, the Contractor shall, on the first day of sandblasting operations, sandblast metal panels to the standards specified. Plates shall measure a minimum of 82 inches by 11 inches. Panels meeting the requirements of the specifications shall be initialed by the Contractor and the Engineer and coated with a clear non-yellowing finish. One of these panels shall be prepared for each type of sandblasting and shall be used as the comparison standard throughout the project.

Ductile iron pipe and fittings to be painted shall be purchased from the manufacturer without the petroleum asphalt coating normally furnished pursuant to AWWA Standards C110, C115, C151 or C153. Prepare ductile iron pipe in accordance with pipe manufacturer's recommendations and NAPF. Surface preparation for galvanized metal, aluminum, copper, and brass shall be in accordance with SSPC SP-1 (solvent cleaning) and passivated in accordance with the coating manufacturer's written instructions.

- C. PREPARATION OF CONCRETE, MASONRY, AND PLASTER SURFACES: Unless otherwise specified, surfaces which are to be coated shall be allowed to age for at least 28 days and allowed to dry to the moisture content recommended by the coating manufacturer. Moisture content may be tested by the Engineer with a Delmhorst Instrument Company moisture detector or accepted equal. In addition, the surfaces shall be brush treated with a 10 percent muriatic acid solution and thoroughly flushed with water after 10 minutes. (Ten percent acid solution is commercial solution; 30 percent is diluted 2 water to 1 acid.) Loose concrete and laitance shall be removed by sandblasting and chipping, and voids and cracks shall be repaired as approved by the coating manufacturer.

Plaster surfaces shall be dry and clean and free from grit, loose plaster, and surface irregularities. Cracks and holes shall be repaired with acceptable patching materials, keyed to existing surfaces, and sandpapered smooth. Surfaces to be coated with oil or varnish base paints shall be tested for the presence of alkali. If present, the alkali shall be neutralized with acid solution as above.

Surfaces shall be cleaned with clear water by washing and scrubbing to remove foreign and deleterious substances.

- D. PREPARATION OF PLASTIC SURFACES: Plastic surface shall be roughened with sandpaper or steel wool and shall be cleaned with solvent compatible with specified primer.

3.02 APPLICATION

- A. WORKMANSHIP: Coated surfaces shall be free from runs, drops, ridges, waves, laps, and brush marks. Coats shall be applied so as to produce an even film of

uniform thickness completely coating corners and crevices. Painting shall be performed in accordance with the requirements of SSPC Paint Application Guide.

Each coat of paint shall be applied evenly and sharply cut to line. Care shall be exercised to avoid overspraying or spattering paint on surfaces not to be coated. Glass, hardware, floors, roofs, and other adjacent areas and installations shall be protected by taping, drop cloths, or other suitable measures.

- B. PAINT PROPERTIES, MIXING, AND THINNING: Paint, when applied, shall provide a satisfactory film and smooth even surface, and glossy undercoats shall be lightly sanded to provide a surface suitable for the proper application and adhesion of subsequent coats. Paints shall be thoroughly stirred, strained, and kept at a uniform consistency during application. Coatings consisting of two or more components shall be mixed in accordance with the manufacturer's instructions. Where necessary to suit the conditions of the surface, temperature, weather and method of application, the paint may be thinned immediately prior to use by the addition of not more than one pint of the proper thinner per gallon. Unless otherwise specified, paint shall not be reduced more than necessary to obtain the proper application characteristics. Thinner shall be as recommended by the coating manufacturer.
- C. ATMOSPHERIC CONDITIONS: Unless otherwise specified or required for certain water-thinned paints, paints shall be applied only to surfaces that are dry, and only under such combination of humidity and temperatures of the atmosphere and surfaces to be painted as well cause evaporation rather than condensation. Paint shall not be applied during rainy, misty weather, or to surfaces upon which there is frost or moisture condensation. During damp weather, when the temperature of the surface to be coated is within 10°F of the dew point, the surfaces shall be heated to prevent moisture condensation thereon. Bare metal surfaces, except those which may be warped by heat, may be dehydrated by flame-heating devices immediately prior to paint application. During painting, and for a period of at least 8 hours after the paint has been applied, the temperature of the surfaces to be painted, the painted surfaces, and the atmosphere in contact shall be maintained at or above 40°F and 10°F above the dew point. Paint, when applied, shall be approximately the same temperature as that of the surface on which it is applied. Fans or heaters shall be used inside enclosed areas where conditions causing condensation are severe.
- D. METHOD OF PAINT APPLICATION: Where two or more coats are required, alternate coats shall contain sufficient compatible color additive to act as indicator of coverage, or the alternate coats shall be of contrasting colors. Color additives shall not contain lead or any lead compound which may be destroyed or affected by hydrogen sulfide or any gas likely to be found in wastewater facilities.

Electrical and mechanical equipment, on which the manufacturer's coating is acceptable, shall be touch-up primed and painted with two coats of the specified coating system to match the color schedule. This does not apply to electrical and instrumentation equipment specified in Division 26 – Electrical.

Paint shall not be applied to a surface until it has been prepared as specified. Unless otherwise specified, the primer or first coat shall be applied by brush to

ferrous surfaces, except subsequent coats for blast-cleaned ferrous surfaces, that may be either brush- or spray-applied. Unless otherwise specified, prime and finish coats shall be applied at the rate recommended by the manufacturer for the service involved. After the prime coat is dry, suction spots shall be touched up before succeeding coats are applied. Unless otherwise specified, coats for concrete and masonry shall be brushed or rolled.

Unless otherwise specified, finish coats shall not be applied until other work in the area is complete, and until the prime and intermediate coats have been inspected.

- E. **FILM THICKNESS AND CONTINUITY:** Coating system thickness is the total thickness of primer and finish coats and does not include passivators or sealers.

The surface area covered per gallon of paint for various types of surfaces shall not exceed those recommended by the manufacturer. The first coat on metal surfaces refers to the first full paint coat and not to conditioning or other pretreatment applications. Unless otherwise specified, the average total thickness (dry) of any completed protective coating system on exposed metal surfaces shall be not less than 1.25 mils per coat. The minimum thickness at any point shall not deviate more than 25 percent from the required average. Unless otherwise specified, no less than two coats shall be applied.

- F. **SPECIAL REQUIREMENTS:** Hangers and supports shall be coated, except for the final coat, prior to installation. Except for those to be filled with grout, the underside of ungalvanized equipment bases and supports shall be coated with at least two coats of rust inhibiting primer prior to setting the equipment in place. Bolt and bolt holes in flanges (such as those used with couplings or wafer-type valves where holes and bolts as finally installed will be exposed to weather or moisture) shall be painted prior to assembly to prevent rusting of the unprotected metal.

3.03 CLEANUP

Upon completion of painting, the Contractor shall remove surplus materials, protective coverings, and accumulated rubbish, and thoroughly clean all surfaces and repair any overspray or other paint-related damage.

3.04 COATING SYSTEMS SCHEDULE

- A. In the following schedule, coating system letters shall conform to those listed in the Coating System Specification sheets.
- B. Unless shown otherwise, surface coatings shall be semigloss, except that ceilings shall be coated with flat coatings to match wall areas.
- C. Surfaces to be coated and coating systems to be used are described below. The final coat shall be applied only after all other work, including punch list items, has been completed.

Surface	Coating System
1. <u>Metal Work</u> : Equipment, including metal base and guards; conduits, piping; appurtenances, including grilles and louvers; doors; electrical, pneumatic, and instrumentation control panels and stations, including supports. Refer to equipment specifications for exceptions.	
b. Iron piping and appurtenances	C
2. <u>Concrete, Grout, and Masonry</u> :	
a. Exterior concrete exposed slabs and surfaces	Unpainted
b. Exterior concrete buried surfaces of manholes and valve vaults	A
c. Interior concrete/grouted surfaces of manholes	B
d. Interior concrete surfaces of valve and Air/Vac vault	B
3. <u>Materials Not Requiring Paint</u>	
a. Rubber, stainless steel, copper pipe, PVC pipe, HDPE pipe, and fiberglass fabrications.	—
b. Labels and Nameplates: Do not paint over Underwriters Laboratories Factory Mutual, or other code-required labels or equipment name, identification, performance rating, nomenclature plates.	—
c. Pre-Finished Items, except as damaged, including: (1) acoustic materials (2) finished mechanical and electrical equipment (3) light fixtures (4) switchgear (5) distribution cabinets (6) operating louvers	—
d. Metal Surfaces, including: (1) aluminum railing, ladders, hatlines, light poles (2) stainless steel (3) chromium plate (4) copper (5) bronze (6) brass (7) aluminized and galvanized (and vinylized) chainlink fabric fences, gates, and closures (8) Duct silencers and motor-operated dampers	—
e. Moving Parts of Operating Equipment such as the following: (1) valve and damper operators (2) linkages (3) sensing devices (4) motor and fan shafts (5) gears	—

3.05 COLOR SCHEDULE

The following table is a listing of colors for coatings covered in this Section and factory-applied finishes. It is intended to provide a general indication of the required color. The final color selection will be made by the Owner from the manufacturer’s standard color chart provided by the Contractor. Where an exact match to other surfaces is specified, a custom-mixed color may be required.

Surface	Color
Interior Concrete Manhole and Vaults	Light Blue
Piping, Valves, and Accessories	Light Gray

For surfaces that require coating, but no color is listed, the color shall be selected by the Owner. The Contractor shall anticipate that additional colors (standard or custom-mixed) may be required.

END OF SECTION

SECTION 22 13 00 PIPE

PART 1 : GENERAL

1.01 SUMMARY

This Section specifies pipe materials and methods and shall be used in conjunction with Section 33 34 00 – Sanitary Utility Sewerage Force Mains, Section 22 13 11 – Piping Systems, and other sections of Division 22 which specify piping components.

1.02 REFERENCES

All pipe materials and methods shall conform to applicable requirements of documents of latest edition listed hereafter. In case of conflict between this Section and the listed documents, the requirements of this Section shall prevail.

ANSI A13.1	Piping and Piping Systems
ANSI B16.5	Pipe Flanges and Flanged Fittings, Class 150 (Flat Face Flange)
ANSI B16.9	Factory-Made Wrought Steel Butt-Welding Fittings
ASTM A47	Malleable Iron Castings
ASTM A120	Pipe, Steel, Pipe, Black and Hot-Dip Zinc-Coated (Galvanized), Welded and Seamless for Ordinary Uses
ASTM A234	Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperature
ASTM A283	Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A312	Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
ASTM A351	Standard Specification for Castings, Austenitic, for Pressure-Containing Parts
ASTM A536	Ductile Iron Castings
ASTM B32	Solder Metal
ASTM D638	Standard Test Method for Tensile Properties of Plastics
ASTM D695	Standard Test Method for Compressive Properties of Rigid Plastics
ASTM D1248	Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
ASTM D1784	Rigid Polyvinyl Chloride (PVC) Compounds and Chlorinated Polyvinyl Chloride (CPVC) Compounds
ASTM D1785	Polyvinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120

ASTM D2467	Socket-type Polyvinyl Chloride (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2564	Solvent Cements for Polyvinyl Chlorine (PVC) Plastic Pipe and Fittings
ASTM D2837	Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
ASTM D3034	Polyvinyl Chloride (PVC) Sewer Pipe and Fittings
ASTM D3261	Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
ASTM D3350	Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
ASTM F1055	Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
ASTM F2164	Standard Practice for Field Leak Testing of Polyethylene (PE) and Crosslinked Polyethylene (PEX) Pressure Piping Systems Using Hydrostatic Pressure
ANSI/AWWA C110/A21.10	Standard for Ductile Iron and Gray Iron Fittings, 3-inch through 48-inch, for Water and Other Liquids
ANSI/AWWA C111/A21.11	Standard for Rubber Gasket Joints for Ductile Iron and Gray Iron Pressure Pipe and Fittings
ANSI/AWWA C115/A21.15	Standard for Flanged Ductile Iron Pipe with Threaded Flanges
ANSI/AWWA C150/A21.50	Standard for Thickness Design of Ductile Pipe
ANSI/AWWA C151/A21.51	Standard for Ductile Iron Pipe, Centrifugally cast, in Metal Molds or Sand Lined Molds for Water and Other Liquids
UPC	Uniform Plumbing Code (latest edition)
Standard Specifications - 2024 WSDOT Standard Specifications for Road, Bridge, and Municipal Construction.	

1.03 SUBMITTALS

- A. In accordance with the requirements of Section 1-06 – Control of Materials, submit the following:
1. Manufacturer's technical data for all piping, and documentation of conformance with appropriate standards and these specifications.
 2. Detailed drawings of all interior piping requirements, prepared in conformance with the following:
 - a. Plan drawings shall be prepared for all areas involving piping and equipment at a scale not less than 1-inch equals 1 foot. Plan drawings shall be prepared for all work areas that contain new piping. Sections shall be cut as required to clearly show piping in each of the plan drawings.
 - b. Drawings shall be dimensioned to show the location of all new piping, pipe joints, pipe supports, pipe penetrations, valve end connections, and all other piping appurtenances.
 - c. Drawings shall clearly show the methods of pipe joint connections, pipe support, pipe penetrations, valve end connections, and all other piping appurtenances.
 - d. Piping support structural requirements, calculations, manufacturers, spacing, and detailed drawings as required to establish that the proposed piping support and restraints meet the requirements of the specifications, drawings, and piping manufacturer.
 - e. Drawings shall show structural and mechanical components of the piping systems separately if required for clarity.
 - f. Drawings shall indicate field verified elevations/dimensions for existing facilities and connections, in addition to any dimensions identified on the Drawings.
 3. Pressure Testing Plan.
 4. Test Results.

1.04 QUALITY CONTROL

- A. The Contractor shall utilize quality control procedures acceptable to the Engineer and the Owner for the following:
1. Inspection of pipe before installation.
 2. Pipe unloading, storage, installation, and jointing.
- B. Tests performed by the Contractor shall include, but not be limited to, the following:
1. Hydrostatic Pressure Test.
 2. Air Pressure Test.

PART 2 : PRODUCTS**2.01 GENERAL**

- A. Materials required for all piping and connections shall be as specified herein and in Section 33 34 00 – Sanitary Utility Sewerage Force Mains and Section 22 13 11 – Piping Systems. All pipe sizes shall be as shown on the Drawings.
- B. All pipe sizes as shown on the Drawings and as specified herein are in reference to “nominal” diameter, unless otherwise indicated.
- C. The piping systems shown on the Drawings indicate the appropriate horizontal and vertical configuration required. The Contractor shall determine the exact layout of piping, fittings, and joints necessary to fit actual field conditions.
- D. Gasket type or material used shall be appropriate for each pipe system and service intended, and shall be as specified in Section 22 13 12 – Ductile Iron Pipe, Fittings and Special Items, Section 22 13 11 – Piping Systems, and Section 33 34 00 Sanitary Utility Sewerage Force Mains.

PART 3 : EXECUTION**3.01 GENERAL**

- A. **LOCATION:** The Contractor shall be responsible for checking and verification of all existing piping and appurtenances whether or not they are shown on the Drawings. The Contractor shall excavate and locate all existing pipes, appurtenances, and points of connection. The Contractor shall check and verify or modify horizontal and vertical locations of each and every exposed piping run, with Engineer approval. The Contractor shall be responsible for the protection of all existing piping, appurtenances, and structures during construction and shall take care not to damage them or impair the operation in any way.
- B. **PIPING SIZES:** Where the size of piping is not specified, the Contractor shall provide piping of the sizes required by UPC. Unless specified otherwise, small piping (less than 1 inch in diameter) required for service not described by UPC shall be ½ inch.
- C. **PIPE SUPPORTS:** Piping hangers and structural attachments shall be as specified in Section 22 13 13 – Pipe Support Systems and shall be designed in conjunction with pipe to be supported and shall be installed in accordance with the approved submittal design and drawings. The Contractor shall install piping support such that line and grade requirements are satisfied.
- D. **RESTRAINT:** Piping under pressure shall be restrained at all bends, wyes, tees, pipe joints and couplings, unless otherwise indicated.
- E. **LINE AND GRADE DEVIATIONS**
 - 1. **Buried, Bedded, and Encased Pipe.** Variance from required line shall not exceed ½ inch. Variance from grade shall be in accordance with Section 7-08.3(2)B of the Standard Specifications.

2. Exposed Pipe. Variance from required line and grade shall not be greater than ¼ inch. All pipe shall be laid in straight runs with fittings as required for bends. Gravity flow pipe shall be laid at constant slope.
- F. BURIED PIPE LAYING: Preparation of bedding and backfill shall be as specified in Section 31 23 33 – Trenching, Backfilling, and Compacting for Utilities and as indicated on the Drawings. Pipe shall be laid with uniform bearing under the full length of the barrel of the pipe.
- G. PIPE PENETRATIONS: Pipe penetrations into structures shall be as shown on the Drawings.
- H. ELECTRICAL ISOLATION: All connections between dissimilar metal pipe, such as copper or bronze to steel, coated to uncoated metallic piping, or piping with different types of coatings, shall be electrically isolated with an electrically insulating fitting. Fittings shall be unions, couplings, or flange sets for the service intended unless specified otherwise.
- I. INSULATING FITTINGS: All metallic piping shall be isolated from all structures with appropriate insulating flanges, insulating flexible couplings, or insulating unions. New pipe shall be isolated from existing piping. Pipe at transitions from concrete encasement to soil shall be provided with insulating fittings.

Insulating fittings shall be placed at transitions between pipelines with dissimilar coatings.

3.02 TESTING

- A. PIPE PRESSURE TESTING: Pipe shall be pressure tested to the test pressure indicated in Section 22 13 11 – Piping Systems. Hydrostatic pressure testing shall be in accordance with ASTM F2164 and as specified herein. Low pressure air testing shall be in accordance with Section 7-17.3(2)F of the Standard Specifications and as specified herein. Pressure testing shall be in accordance with the Uniform Plumbing Code and NFPA where indicated in Section 22 13 11 – Piping Systems.
 1. The Contractor shall submit a Pressure Testing Plan to the Engineer for review and approval prior to testing for all pipe to be tested. The Plan shall include a narrative description of the test identifying all equipment used, temporary piping arrangements, test pressure and duration, testing schedule, testing water source location and backflow device, water disposal location and techniques, and what sections of pipe will be tested in what order.
 2. TEST RESULTS: Submit Test Results for all pressure testing.
 3. The Contractor is responsible for supplying and conveying the water used for testing. Water for testing will not be supplied by the Owner. Raw sewage shall not be used as the testing media.
 4. Contractor shall perform all tests specified. Provide all test equipment including test pumps, gauges, volumetric measuring equipment, and other equipment required. Pressure gauges used shall be graduated in increments not greater than 5 psi and shall have a range of approximately twice test pressure. Use only gauges and instruments recently calibrated.

5. Completed installation shall comply with designated requirements. Provide replacement materials as may be required to accomplish this compliance.
 6. Remove from systems, during testing, all equipment which would be damaged by test pressure. Replace removed equipment after testing. Systems may be tested in sections as work progresses; however, any previously tested portion shall become a part of any later test of composite system. Where new pipe connects to existing piping, the joint between the two pipes shall be tested. Correct leaks by remaking joints with new material; makeshift remedies will not be permitted. Test time will be accrued only while full test pressure is applied to system.
 7. The Contractor shall be responsible for providing all temporary fittings, plugs, and thrust blocking for all testing at the specified pressure.
 8. Pressure testing may be performed after backfill, however the contractor assumes all risk to locate and repair the defective work and associated work if the test fails.
 9. CORRECTION: Each section of pipeline which fails the pressure test and connection pipe and fittings that are observed to leak shall be removed and either properly reinstalled, or replaced with new materials. Reinstalled and replaced pipeline sections shall be pressure tested after completion of backfilling.
 10. VALVES: Test valve bonnets for tightness. Test operate valves from closed-to-open-to-closed positions while valve is under piping pressure. Test automatic valves by actuating from fully open to fully closed position.
- B. OTHER MATERIALS AND EQUIPMENT: Test other materials and equipment as specified, as recommended by equipment manufacturer, or directed to assure they are complete, operable, and ready for use.

3.03 CLEANING

- A. Clean equipment and materials. Remove foreign materials including dirt, grease, and other matter.
- B. Clean by flushing interior of wastewater piping with water after pressure testing.

END OF SECTION

SECTION 22 13 11 PIPING SYSTEMS

PART 1 : GENERAL

1.01 SUMMARY

This Section describes the requirements for each of the non-conveyance piping systems included in the work. Each of the forms at the end of the Section describes a separate piping system, including the following: service; piping color; pipe identification legend; piping system abbreviation; gaskets; testing requirements; service pressure; service temperature; and pipe, fitting, and valve specifications for each pipe size required.

1.02 REFERENCES

- A. As indicated in Section 22 13 00 – Pipe.
- B. Standard Specifications - 2024 WSDOT Standard Specifications for Road, Bridge, and Municipal Construction.

1.03 GENERAL REQUIREMENTS

All pipe and fittings shall be in accordance with the requirements of Section 22 13 00 – Pipe, and as specified herein. All piping appurtenances shall be in accordance with the requirements of Section 22 13 19 – Pipe Appurtenances. All valves shall be in accordance with the requirements of Section 22 13 15 – Valves Basic Requirements and individual valve sections.

PART 2 : PRODUCTS

2.01 PIPING SYSTEMS

Each piping system shall be composed of the pipe, piping appurtenances, and/or valves specified by the forms included hereinafter. The forms are included by the abbreviations shown on the Drawings and as follows:

System Abbreviation	System
V	Vent
* See Division 23 for requirements.	

PIPING SYSTEM SPECIFICATIONS				
System Vent		Background Color —		Legend —
Gasket: As specified		Test Medium: <input checked="" type="checkbox"/> Air <input type="checkbox"/> Water		Abbreviations V
Pressure — PSIG			Temperature — °F	
Work: <u>N/A</u> —		Max: <u>N/A</u> —	Test: <u> </u> *	Normal: <u>65</u>
Max: <u>85</u>				
Pipe Size	Exposure	Item	Description	
All	BURIED/ EXPOSED – as indicated on the drawings	Pipe	<u>Stainless Steel</u> : Schedule 40.	
		Lining	None.	
		Coating	None.	
		Fittings	<u>Stainless Steel</u> : Schedule 40.	
		Joints	<u>Stainless Steel</u> : Threaded, NPT	
		Couplings	<u>Stainless Steel</u> : As indicated on the Drawings and specified in Section 22 13 19 – Pipe Appurtenances.	
		Gaskets	<u>Stainless Steel</u> : EPDM or approved equal	
		Joint Lubricant	<u>Stainless Steel</u> : Teflon tape for threaded joints.	
Remarks: *in accordance with the Uniform Plumbing Code.				

END OF SECTION

SECTION 22 13 12
DUCTILE IRON PIPE, FITTINGS AND SPECIAL ITEMS

PART 1 : GENERAL

1.01 DESCRIPTION

Work under this Section applies to the furnishing and installation of ductile iron pipe, fittings and special items for wastewater service. The CONTRACTOR shall furnish and install ductile iron pipe, fittings, valves, special items and all appurtenant work, complete in place, all in accordance with the requirements of the Contract Documents.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

ASME/ANSI B16.1	Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800
ANSI/NSF Standard 61	Listed Drinking Water System Components - Health Effects
ASTM A 126	Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings
ANSI/AWWA C104/A21.4	Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water
AWWA C105	Polyethylene Encasement for Ductile- Iron Pipe Systems
ANSI/AWWA C110/21.10	Ductile-Iron and Gray-Iron Fittings, 3- Inch Through 48- inch for Water and Other Liquids
ANSI/AWWA C111/A21.11	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
ANSI/AWWA C115/A21.15	Flanged Ductile-Iron Pipe with Threaded Flanges
ANSI/AWWA C150/A21.50	Thickness Design of Ductile-Iron Pipe
ANSI/AWWA C151/A21.51	Ductile-Iron Pipe, Centrifugally Cast, for Water and Other Liquids
ANSI/AWWA C153/A21.53	Ductile-Iron Compact Fittings, 3-inch through 16-inch, for Water and Other Liquids
AWWA C600	Installation of Ductile-Iron Water Mains and Their Appurtenances

1.03 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials.

- B. Product technical data and material data; including all pipe, fitting, restrained joint system, lining and appurtenance information.
- C. Lining and coating data.
- D. Applicable material certifications and testing certificates.
- E. Manufacturer's handling delivery storage and installation requirements.

1.04 QUALITY ASSURANCE

- A. Unless otherwise noted, all materials provided for the project shall be of first class quality and shall be made by reputable manufacturers. All material of a like kind shall be provided from a single manufacturer unless otherwise approved by the PROJECT REPRESENTATIVE. All material shall be carefully handled and installed in good working order free from defect in manufacture, storage and handling. Where an item is to be used but does not have its quality specified herein, it shall be equal to that specified in the appropriate American Water Works Association (AWWA) Standard Specification.
- B. All references to standards of AWWA or other organizations shall be the latest version of those standards.

PART 2 : PRODUCTS

2.01 GENERAL

- A. Ductile iron piping materials and specials shall meet the specifications of this Section and of the appropriate AWWA Standard Specifications. In the case of conflict, the more stringent specifications shall apply.
- B. Unless otherwise specified herein or shown on the plans, the minimum working pressure rating of all water works material specified herein shall be 1.5 times the operating pressure, 150 psi minimum.
- C. All coatings and materials specified herein that come in contact with potable water shall be National Sanitation Foundation (NSF) approved.

2.02 DUCTILE IRON PIPE

- A. Ductile iron pipe shall conform to AWWA Standard C151 and shall be the standard push-on joint type or restrained joint type as identified on the drawings. Push-on joints shall be "TYTON" type or "Fas-Tite" type without exception. Unless otherwise specified herein or shown on the plans, ductile iron pipe shall be thickness Class 52. Steel encasement, where required on the drawings or specified elsewhere, shall conform to AWWA Standard C105.
- B. Ductile iron pipe for gravity sewer and sewer force mains shall be ceramic epoxy lined with Protecto 401 Ceramic Epoxy or approved equal lining. Thickness class shall be as follows:

1. Class 50 for 6"-16" up to 28 feet deep
 2. Class 51 for 18"-20" up to 28 feet deep
 3. Class 52 for 24" and larger, up to 28 feet deep
- C. Push-on or mechanical type pipe joints shall conform to AWWA Standard C111. Flanged ductile iron pipe shall conform to AWWA Standard C115.
- D. Restrained Joint Ductile Iron Pipe
1. Restrained joint ductile iron pipe and fittings shall be provided as identified on the drawings and required for the application. Joint restraint for pipe shall be accomplished with an integral lock mechanism except as may be otherwise specified. Any such system shall be a manufacturer's standard proprietary design, shall be as recommended by the manufacturer for the application, and shall be performance proven.
 2. Restraining components for pipe shall be ductile iron in accordance with applicable requirements of ANSI/AWWA C110/A21.10 and/or C153/A21.53 with the exception of the manufacturer's proprietary design dimensions. Push-on joints for such fittings shall be in accordance with ANSI/AWWA C111/A21.11.

The following is the approved list of restrained joint systems:

- a. "Thrust-Lock", McWane Ductile.
- b. "Flex-Ring", American Cast Iron Pipe Company.
- c. "TR Flex", McWane Ductile.
- d. "Snap-Lok", Griffin Pipe Products Company.
- e. "Megalug", EBAA Iron, Inc. (fittings)
- f. "Field-Lok", McWane Ductile (for field cuts only).
- g. "Restrained Joint", McWane Ductile
- h. "MJ-TJ" pipe with "Megalugs", Pacific States Cast Iron Pipe Company.
- i. "Flex-Ring", American Cast Iron Pipe Company

Where such a system may require "Mega-Lugs" for restraint, "Mega-Lugs" shall be provided in quantities as may be required and shall be considered incidental to the joint restraint system.

3. Restrained joint for pipe shall be capable of being deflected after assembly as follows:

<u>Size</u>	<u>Maximum Deflection</u>
4	3°
6	3°
8	3°
10	3°
12	3°
18	1.5°

2.03 FITTINGS AND SPECIALS

A. Fittings

1. Fittings used for joining ductile iron pipe shall be of the type, size and strength designated on the plans, elsewhere in the specifications, or in the proposal and, to the extent therein specified, shall conform to the appropriate specification in this section. Fittings shall have pressure ratings as specified above and as shown on the plans.
2. Fittings shall be lined and coated to match pipe.
3. Pipe fittings and specials used with ductile iron pipe shall be gray-iron or ductile iron and shall conform to AWWA Standard C110. Ductile iron (compact) fittings conforming to AWWA Standard C153 may be substituted in lieu of AWWA C110 fittings for fitting sizes 3 inches through 24 inches in diameter. Fittings shall be mechanical joint, push-on type, flanged or plain-end as required and shown on the plans. When fitting joints are to be restrained, pipe joint restraint systems as specified herein shall be used.

- B. Flanges – Cast-on and threaded flanges shall conform to ANSI/AWWA C110/A21.10 and ANSI/AWWA C115/A21.15, respectively. Flanges shall be faced and drilled per ASME/ANSI B16.1. Flanges shall have flat faces and shall be attached with bolt holes straddling the vertical axis of the pipe unless otherwise shown. CONTRACTOR shall coordinate with pipe, valve and fitting suppliers to make certain that pipe, valve, and fitting flanges match in bolt diameter and pattern.

All flanged pipe shall possess a minimum Class 53 wall thickness. All flanged fittings shall be provided with bolts and gaskets as specified herein.

C. Gaskets

Gaskets for flanged joints shall be full-faced, rated to a minimum pressure of 250 psi, and conform to the standards set in AWWA C110 and C111. Unless

indicated otherwise, gaskets for flanged pipe shall be Garlock 3000 with Nitrile binder or approved equal. Ring gaskets shall not be permitted.

D. Flexible Couplings

1. All flexible couplings shall be cast or ductile iron in accordance with ASTM Standard A536 and high strength alloy bolts and nuts conforming to ANSI/AWWA C111.
2. Insulating flexible couplings shall be of the gasketed sleeve type with insulating boot and shall be Romac Industries, Inc. Style IC501 or approved equal. All coupling materials shall be constructed to diameters that properly fit the pipe.
3. Insulating boot shall be fabricated from Nitrile Butadiene Rubber suitable for water service with electric insulating properties in accordance with ASTM D2000 3 BA 715.
4. CONTRACTOR is responsible for selecting sleeve lengths appropriate to application, recognizing longer sleeves allow larger deflections and may ease installation.

E. Insulating Flanged Joints

Each complete insulating flange kit shall include a full faced gasket, a full-length pyrox insulating sleeve for each flange bolt and two pyrox insulating washers and two steel washers for each bolt. Gaskets shall be Garlock Style 3000 or equal.

F. Flexible Expansion Joints

Flexible expansion joints shall be installed in the locations indicated on the drawings and shall be manufactured of ductile-iron conforming to the material properties of ANSI/AWWA C153/A21.53. Flexible joints shall be provided with end connections as shown on the plans. All flexible expansion joints shall consist of an expansion joint designed and cast as an integral part of a ball and socket type flexible joint, having a minimum of 15° deflection per ball and 4" expansion. Actual expansion and deflection requirements will be as shown on the drawings. Each flexible expansion joint shall be hydrostatically tested to the manufacturer's published pressure rating prior to shipment. All pressure containing parts shall be lined with a minimum of 15 mils of Fusion Bonded Epoxy conforming to the applicable requirements of ANSI/AWWA C213 and shall be holiday tested with a 1500-volt spark test conforming to said specification. All flexible-expansion joints shall be Flex-Tend as manufactured by EBAA Iron, Inc. or approved equal.

G. Mechanical Joint Restraining Devices

Mechanical joint restraining devices shall conform to Section 9-30.2(6) of the WSDOT Standard Specifications. Joint restraint shall be epoxy coated by the manufacturer and installed per the manufacturer's recommendations.

When mechanical joint restraining devices are used at bends, mechanical joint restraining devices shall also be used on all pipe fittings within 20-feet on either side of bends unless otherwise approved by the PROJECT REPRESENTATIVE.

PART 3 : EXECUTION

3.01 GENERAL

- A. All materials, workmanship and installation shall conform to referenced AWWA Standards and other requirements of these specifications. The methods employed by the CONTRACTOR in the storage, handling, and installation of pipe, fittings, valves, hydrants, equipment and appurtenances shall be such as to ensure that the material, after it is placed, tested and permanently covered by backfilling is in as good a condition as when it was shipped from the manufacturer's plant. Should any damage occur to the material, repairs or replacement shall be made to the satisfaction of the PROJECT REPRESENTATIVE.
- B. Ductile iron pipe shall be installed in accordance with AWWA Standard C600, except as modified elsewhere in these specifications. Trench excavation and backfill of ductile iron piping system shall conform to the requirements of Section 31 23 33 – Trenching, Backfilling and Compacting for Utilities .
- C. Sanitary Sewer Separation – CONTRACTOR shall furnish all labor, equipment and materials required to replace sections of existing sanitary sewers or encase existing sanitary sewers in CDF as required to comply with State Department of Health requirements for minimum separation of sanitary sewers. Where CDF is required, wrap all utilities in 8 mill of plastic sheeting prior to placing CDF.

3.02 THRUST RESTRAINT

- A. All tees, plugs, caps, bends, offsets, as well as other appurtenances which are subject to unbalanced thrust, shall be properly braced with concrete thrust blocks. Concrete thrust blocks shall have a minimum 28-day compressive strength of 3000 psi. The concrete blocking shall bear against solid undisturbed earth at the side and bottom of the trench excavation and shall be shaped so as not to obstruct access to the joints of the pipe or fittings.
- B. Where shown on the plans or specified elsewhere in the Technical Specifications, the CONTRACTOR shall provide internal or external joint restraint systems at the fittings and on all joints within the specified or shown distance on each side of the fitting or joint.

3.03 MECHANICAL JOINTS

- A. For connection of mechanical joints, the socket, plain end of each pipe and gasket shall be cleaned of dirt before joining, and shall be joined according to manufacturer's directions. Bolts shall be tightened alternately at top, bottom and sides, so pressure on gasket is even.

3.04 TESTING

- A. Test system according to AWWA C600.

END OF SECTION

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SECTION 22 13 15
VALVES: BASIC REQUIREMENTS

PART 1 : GENERAL

1.01 SUMMARY

- A. Section Includes:
1. General requirements for valves and valve appurtenances.

1.02 QUALITY ASSURANCE

- A. Referenced Standards:
1. American Society of Mechanical Engineers (ASME):
 - a. B16.1, Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.
 2. ASTM International (ASTM):
 - a. A126, Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 3. American Water Works Association (AWWA):
 - a. C507, Standard for Ball Valves, 6 IN through 48 IN.
 - b. C509, Standard for Resilient-Seated Gate Valves for Water Supply Service.
 - c. C550, Standard for Protective Coatings for Valves and Hydrants.
 4. American Water Works Association/American National Standards Institute (AWWA/ANSI):
 - a. C111/A21.11, Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

1.03 DEFINITIONS

- A. The following are definitions of abbreviations used in this Specification Section or one (1) of the individual valve sections:
1. CWP: Cold water working pressure.
 2. WOG: Water, oil, gas working pressure.
 3. WWP: Water working pressure.

1.04 SUBMITTALS

- A. In accordance with the provisions of Section 1-06 – Control of Materials, submit the following:
1. Product technical data including:
 - a. Acknowledgement that products submitted meet requirements of standards referenced.

- b. Manufacturer's installation instructions.
 - c. Valve pressure and temperature rating.
 - d. Valve material of construction.
 - e. Special linings.
 - f. Valve dimensions and weight.
 - g. Valve flow coefficient.
2. Test reports.
 3. Operation and Maintenance Manuals:

PART 2 : PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with the Contract Documents, refer to individual valve Specification Sections for acceptable manufacturers.
- B. Submit request for substitution in accordance with Division 1.

2.02 MATERIALS

Refer to individual valve Specification Sections.

2.03 FABRICATION

- A. End Connections:
 1. Provide the type of end connections for valves as required in the Piping System Specifications presented in Section 22 13 11 – Piping Systems or as shown on the Drawings.
 2. Comply with the following standards:
 - a. Threaded: ASME B1.20.1.
 - b. Flanged: ASME B16.1, Class 125 unless otherwise noted or AWWA C207.
 - c. Bell and spigot or mechanical (gland) type: AWWA/ANSI C111/A21.11.
 - d. Soldered: ASME B16.18.
 - e. Grooved: Rigid joints per Table 5 of AWWA C606.
 3. Refer to individual valve Specification Sections for specifications of each type of valve used on Project.
 4. Nuts, Bolts, and Washers:
 5. Wetted or internal to be bronze or stainless steel:
 - a. Exposed to be zinc or cadmium plated.
- B. Epoxy Interior Coating: Provide epoxy interior coating for all ferrous surfaces in accordance with AWWA C550.

PART 3 : EXECUTION

3.01 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Painting Requirements: Comply with Specification Section 09 96 00 – Painting and Protective Coatings.
- C. Setting Buried Valves:
 - 1. Locate valves installed in pipe trenches where buried pipe indicated on Drawings.
 - 2. Set valves and valve boxes plumb.
 - 3. Place valve boxes directly over valves with top of box being brought to surface of finished grade.
 - 4. Install in closed position.
 - 5. Place valve on concrete footing in trench to prevent settling and excessive strain on connection to pipe.
 - 6. After installation, backfill up to top of box for a minimum distance of 4 FT on each side of box.
- D. Support exposed valves and piping adjacent to valves independently to eliminate pipe loads being transferred to valve and valve loads being transferred to the piping.
- E. For grooved coupling valves, install rigid type couplings or provide separate support to prevent rotation of valve from installed position.
- F. For threaded valves, provide union on one (1) side within 2 FT of valve to allow valve removal.
- G. Install valves accessible for operation, inspection, and maintenance.

3.02 ADJUSTMENT

- A. Adjust valves, and appurtenant equipment to comply with Division 0/1:
 - 1. Operate valve, open and close at system pressures.

END OF SECTION

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SECTION 22 13 19 PIPE APPURTENANCES

PART 1 : GENERAL

1.01 SUMMARY

Piping appurtenances include, but are not limited to mechanical couplings, unions, sleeves, transition fittings, link type wall seals, flexible boot connections, and tracer wire.

1.02 REFERENCES

ASTM A 276 Standard Specification for Stainless Steel Bars and Shapes

ASTM A 536 Standard Specification for Ductile Iron Castings

ASTM F 593 Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs

AWWA C207 Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm)

Standard Specifications - 2023 WSDOT Standard Specifications for Road, Bridge, and Municipal Construction

1.03 SUBMITTALS

- A. In accordance with the requirements of Section 1-06 – Control of Materials, submit the following:
 - 1. Catalog information.
 - 2. Manufacturer's installation instructions.

PART 2 : PRODUCTS

2.01 RESTRAINED FLANGED COUPLING ADAPTER

- A. Manufacturers, one of the following or equivalent.
 - 1. Romac Industries, Inc. Style RFCA.
 - 2. Star Pipe Products, StarFlange Series 3200.
- B. Flange, Body, Follower Ring, Restraining Lug and Restraining Bolt Material: Ductile iron in accordance with ASTM A 536.
- C. Bolt heads shall be designed to twist off when proper torque has been applied.
- D. Bolts and Hex Nut Material: Type 316 stainless steel in accordance with ASTM F 593.
- E. Flange Design: Class D steel ring flange in accordance with AWWA C207 compatible with ANSI Class 125 and 150 bolt circles.
- F. Coating and Lining: Manufacturer's standard fusion bonded epoxy.

- G. Coupling shall allow angular deflection after assembly.

2.02 UNIONS

Unions 2 inches and smaller shall be threaded joint, malleable iron type. Unions 2½ inches and larger shall be flanged type, 150-pound flanges.

2.03 MECHANICAL JOINT RESTRAINT COUPLINGS

- A. For use on Ductile Iron Pipe:
 - 1. Manufacturer: Manufacturer: EBAA Iron, MEGALUG Series 1100 Mechanical Joint Restraint, or accepted equal.
- B. For use on C900 PVC Pipe:
 - 1. Manufacturer: EBBA Iron, Series 2000PV Megalug Mechanical Joint Restraint, or accepted equal.

2.04 FLEXIBLE BOOT CONNECTION

- A. Flexible rubber pipe to manhole connector in accordance with ASTM C923.
- B. Suitable for raw sewage application.
- C. Stainless steel band construction.
- D. Manufacturer: Trelleborg, Kor-N-Seal, or accepted equal.

2.10 TRACER WIRE

- A. Wire:
 - 1. 12 GA AWG.
 - 2. Solid.
 - 3. High density polyethylene insulation.
 - 4. Suitable for wet, buried applications.
 - 5. No buried splices.
- B. Wire nuts: Waterproof type.
- C. Split bolts: Brass.

PART 3 : EXECUTION

3.01 GENERAL

- A. Install in accordance with manufacturer's instructions.
- B. Install centered without angular deflection, unless shown otherwise on the Drawings.

3.02 SLEEVE-TYPE COUPLINGS

- A. Sleeve-type couplings shall be employed where shown on the Drawings or specified herein, as takedown couplings on large diameter pipelines, to provide flexibility in buried piping systems at connections to structures, and as a general pipe coupling where required or permitted by Section 22 13 00 – Pipe.
- B. Sleeve-type couplings shall be installed in accordance with the specifications and the manufacturer's instructions.

3.03 RESTRAINED FLANGE COUPLING ADAPTERS

Restrained flange coupling adapters shall be installed in accordance with manufacturer's recommendations.

3.04 UNIONS

Unions shall be used as shown on the Drawings and, if not shown, shall be provided to permit easy assembly/disassembly of equipment and removal of valves.

3.05 DIELECTRIC UNIONS

Dielectric unions shall be used whenever two dissimilar pipe materials are joined.

END OF SECTION

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SECTION 31 10 00 SITE CLEARING

PART 1 : GENERAL

1.01 SUMMARY

This Section includes site clearing, grubbing and stripping, and removal of all trash, shrubs and debris, and other unsuitable material within limits of clearing.

1.02 REFERENCES

Clearing, grubbing, and stripping shall be in accordance with the provisions of Sections 2-01 and 2-02 of the 2023 WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, and to requirements specified herein. In the event of conflicts, the more restrictive requirement shall apply.

PART 2 : PRODUCTS

NOT USED

PART 3 : EXECUTION

3.01 PREPARATION

- A. Protect existing trees and other vegetation to remain against damage:
 - 1. Do not smother trees by stockpiling construction materials or excavated materials within drip line.
 - 2. Avoid foot or vehicular traffic or parking of vehicles within drip line.
 - 3. Provide temporary protection as required.
 - 4. Protect and Maintain existing ditch lines.

- B. Repair or replace trees and vegetation not designated for removal that are damaged by construction operations:
 - 1. Repairs to be performed by a qualified tree surgeon.
 - 2. Remove trees that cannot be repaired and restored to full-growth status.
 - 3. Replace with new trees of minimum 4 IN caliper.
 - 4. Owner will obtain authority for removal and alteration work on adjoining property, if needed.

3.02 SITE CLEARING

- A. Topsoil removal:
 - 1. Strip topsoil to depths encountered.
 - a. Remove heavy growths of grass before stripping.
 - b. Stop topsoil stripping sufficient distance from trees not designated for removal to prevent damage to main root system.

- c. Separate from underlying subsoil or objectionable material.
 2. Stockpile topsoil for subsequent reuse.
 - a. Construct storage piles to freely drain surface water.
 - b. Seed or cover storage piles to prevent erosion.
- B. Clearing and grubbing:
 1. Clear from within limits of clearing all trees not marked to remain:
 - a. Include shrubs, brush, downed timber, rotten wood, heavy growth of grass and weeds, vines, rubbish, structures, and debris.
 2. Grub (remove) from within limits of clearing all stumps, roots, root mats, logs and debris encountered:
 - a. Totally grub under areas to be paved.
 - b. Grubbing in lawn areas:
 - 1) In cut areas, totally grub.
 - 2) In fill areas, where fill is less than 3 FT, totally grub ground.
 - 3) Where fill is 3 FT or more in depth, stumps may be left no higher than 6 IN above existing ground surface.
 3. Fill depressions caused by clearing and grubbing operations with satisfactory soil material, unless further excavation or earthwork is indicated. Place fill material in horizontal layers not to exceed six (6) inches loose depth, and thoroughly compact to a density equal to adjacent original ground.
- C. Disposal of waste materials:
 1. Do not burn combustible materials on site.
 2. Remove all waste materials from site and dispose of at an appropriate refuse facility.
 3. Remove all vegetative waste from the site and transport to an appropriate composting facility.
 4. Do not bury organic matter on site.

3.03 ACCEPTANCE

Upon completion of the site clearing, obtain the Engineer's acceptance of the extent of clearing, depth of stripping, and rough grade.

END OF SECTION

SECTION 31 23 18 ROCK REMOVAL

PART 1 : GENERAL

1.01 SUMMARY

- A This Section includes removal of subsurface rock during excavation by mechanical method. The use of explosives for rock removal is not permitting for this project.
- B Section Includes:
1. Removing identified and discovered rock during excavation.
 2. Expansive tools to assist rock removal.
- C Related Sections:
1. Section 31 23 33 - Trenching, Backfilling, and Compacting for Utilities
 2. Section 31 23 24 – Flowable Fill
 3. Section 31 41 00 – Excavation Support Systems
 4. Supplemental Information: Geotechnical Engineering Report, Johnson to Norum Pipeline Upgrade Phase 1 and 2 Design Kitsap County, Washington, April 26, 2023, Landau Associates.

1.02 NOT USED

1.03 DEFINITIONS

- A Common Excavation: All excavation required for Work, regardless of the type, character, composition, or condition of the material encountered. All excavation shall be classified as Common Excavation, unless provided for under Rock Removal below.
- B Common Material: All soils, aggregate, debris, junk, broken concrete, and miscellaneous material encountered in Common Excavation, excluding rock as defined below.
- C Rock: Solid mineral material, including boulders, solid bedrock, or ledge rock, with volume in excess of 1/2 cubic yard or solid material which, by actual demonstration, cannot be reasonably excavated with suitable machinery as defined herein. The Engineer may waive the requirements for actual demonstration if the material encountered is well-defined rock.
- D Rock Removal: Removal of rock as defined herein by systematic and continuous drilling, hammering, breaking, splitting, or other methods approved by the Engineer.

- E Suitable Machinery: A track-mounted hydraulic excavator of the 52,800- to 72,500-pound class equipped with a single shank ripper.

1.04 SUBMITTALS

- A Submit in accordance with the provisions of Section 1-06 – Control of Materials.
- B Shop Drawings: Indicate proposed method of rock removal.
- C Equipment: Manufacturer information regarding pound class of machinery proposed for rock removal.
- D Survey Report: Submit survey report mapping extent and locations of rock encountered, to be used in calculating total volume of rock removal.

1.05 NOT USED

1.06 PROJECT CONDITIONS

- A Conduct survey of rock uncovered in excavation for structures or trenching for utilities prior to removal of material.

PART 2 : PRODUCTS

NOT USED

PART 3 : EXECUTION

3.01 EXAMINATION

- A Verify site conditions and note subsurface irregularities affecting Work of this section.

3.02 PREPARATION

- A Identify required lines, levels, contours, and datum.
- B Engineer Approval for Rock Removal:
 1. Prior to commencement of rock removal, expose all material anticipated to be rock by removing the common material above it and then notify the Engineer.
 2. The Engineer, in association with the Contactor or the Contractor's representative, will measure the amount of material to be removed in an effort to reach a mutually agreeable volume for anticipated rock removal.
 3. Prior to commencing the proposed rock removal, the Contractor must receive written approval by the Engineer stating the approximate volume of excepted rock removal to receive payment.

4. During rock removal activities, should it become apparent the previously agreed upon volume of rock removal will be exceeded, notify the Engineer immediately. Should the Contractor proceed with rock removal in excess of the previously agreed upon volume, the Contractor will do so at their own risk and expense.

3.03 ROCK REMOVAL BY MECHANICAL METHOD

- A Excavate and remove rock by mechanical method.
 1. Use single shank ripper to fracture rock.
 2. Drill holes and use expansive tools and wedges to fracture rock.
- B Cut away rock at bottom of excavation to form level bearing.
- C Remove shaled layers to provide sound and unshattered base for footings and foundations.
- D In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter.
- E For vaults and other structures, excavate to the depth necessary to install the structure and to a maximum of 18 inches beyond the outside walls of the vault or structure.
- F Remove excavated materials from site.
- G Correct unauthorized rock removal associated with structural excavations in accordance with backfilling and compacting requirements of Section 31 23 33, Trenching, Backfilling and Compacting for Utilities and as directed by Engineer.
- H Correct unauthorized rock removal associated with utility work in accordance with backfilling and compacting requirements of Section 31 23 33, Trenching, Backfilling and Compacting for Utilities and as directed by Engineer.
- I If material which would be classified as rock as defined herein is mechanically removed with equipment of a larger size than specified as Suitable Machinery herein, it shall be understood that any added costs for the removal of rock by this method shall be included in the unit price for common excavation. If material which would be classified as rock as defined herein is mechanically removed without blasting, hammering, breaking, or splitting, it will be considered common excavation. If equipment larger than the suitable machinery as defined herein is brought on the project site for the sole purpose of rock removal without hammering, breaking, or splitting, then such excavation will be considered rock removal.

3.04 FIELD QUALITY CONTROL

- A Request visual inspection of foundation bearing surfaces by Engineer before installing subsequent work.

END OF SECTION

SECTION 31 23 24 FLOWABLE FILL

PART 1 : GENERAL

1.01 SUMMARY

- A. This Section includes flowable lean concrete mix used for structure backfill, utility bedding and backfill and other subgrade Site Work. Applications also include filling abandoned structures and utilities that remain in place.
- B. Section Includes:
 - 1. Filling abandoned utilities

1.02 RELATED SECTIONS

- A. Section 33 11 50 - Existing Pipe Abandonment

1.03 DEFINITIONS

- A. Flowable Fill: Also referred to as Controlled Low Strength Material (CLSM) elsewhere in the Specifications. Lean cement concrete fill.
- B. Utility: Any buried pipe, duct, conduit, manhole, tank, or cable.

1.04 REFERENCE STANDARDS

- A. ASTM International (ASTM):
 - 1. ASTM C33 - Standard Specification for Concrete Aggregates
 - 2. ASTM C94 - Standard Specification for Ready-Mixed Concrete
 - 3. ASTM C150 - Standard Specification for Portland Cement
 - 4. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete
 - 5. ASTM C403 - Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
 - 6. ASTM C494 - Standard Specification for Chemical Admixtures for Concrete
 - 7. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete
 - 8. ASTM C1017 - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
 - 9. ASTM C1040 - Standard Test Methods for Density of Unhardened and Hardened Concrete in Place by Nuclear Methods
 - 10. ASTM D4832 - Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders

1.05 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials

- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- C. Field Quality-Control Submittals:
 - 1. Mix Design:
 - a. Furnish flowable fill mix design for each specified strength.
 - b. Furnish separate mix designs when admixtures are required for the following:
 - 1) Flowable fill Work during hot and cold weather.
 - 2) Air entrained flowable fill Work.
 - c. Identify design mix ingredients, proportions, properties, admixtures, and tests.
 - 2. Furnish test results to certify flowable fill mix design properties meet or exceed specified requirements.
- D. Delivery Tickets:
 - 1. Furnish duplicate delivery tickets indicating actual materials delivered to Project Site.

1.06 QUALITY ASSURANCE

- A. In-place testing of Flowable Fill: In accordance with ASTM C403.

1.07 ENVIRONMENTAL REQUIREMENTS

- A. Minimum Conditions: The following minimum conditions shall be met at time of flowable fill placement.
 - 1. Do not install flowable fill during inclement weather.
 - 2. Ambient temperature must be at least 34 degrees Fahrenheit (F) (4 degrees Celsius (C)) and rising.
 - 3. Flowable fill shall be at 40 degrees F (4 degrees C).

1.08 FIELD MEASUREMENTS

- A. Verify field measurements before installing flowable fill to establish quantities required to complete the Work.

PART 2 : PRODUCTS

2.01 MATERIALS

- A. Flowable fill shall be in accordance with Standard Specification 2-09.3(1)E.

PART 3 : EXECUTION**3.01 EXAMINATION**

- A. Verify utility abandonment as specified elsewhere in the specifications is complete and tested before placing flowable fill.

3.02 PREPARATION

- A. Support and restrain utilities to prevent movement and flotation during installation of flowable fill.
- B. Protect structures and utilities from damage caused by hydraulic pressure of flowable fill before fill hardens.
- C. Protect utilities and foundation drains to prevent intrusion of flowable fill.

3.03 INSTALLATION - FILLING ABANDONED UTILITIES

- A. As specified in Section 33 11 50, Existing Pipe Abandonment.

3.04 FIELD QUALITY CONTROL

- A. Perform inspection and testing according to ASTM C94.
 - 1. Take samples for tests for every 100 cubic yards of flowable fill, or fraction thereof, installed each day.
 - 2. Sample, prepare, and test four compressive strength test cylinders according to ASTM D4832. Test one specimen at 3 days, one at 7 days, and two at 28 days.
 - 3. Measure temperature at point of delivery when samples are prepared.
- B. Further construction proceeding upon placed flowable fill will be permitted only after initial set is attained, as measured by ASTM C 403.
 - 1. Perform in place penetration (density) tests using handheld penetrometer to measure penetration resistance of hardened flowable fill.
 - 2. Perform tests at locations as directed by Engineer.
- C. Defective Flowable Fill: The Engineer reserves the right to reject all flowable fill failing to meet the following test requirements or flowable fill delivered without the following documentation.
 - 1. Test Requirements:
 - a. Minimum temperature at point of delivery.
 - b. Compressive strength requirements for each type of fill.
 - 2. Documentation: Duplicate delivery tickets.
- D. No traffic or construction equipment shall be allowed on flowable fill for a least 24 hours after placement.

3.05 CLEANING

- A. Remove spilled and excess flowable fill from Project Site.
- B. Restore facilities and Site areas damaged or contaminated by flowable fill installation to existing condition before installation.

END OF SECTION

SECTION 31 23 33
TRENCHING, BACKFILLING, AND COMPACTING FOR UTILITIES

PART 1 : GENERAL

1.01 SUMMARY

- A. Section includes:
1. Excavation, trenching, backfilling, and compacting for all underground utilities.
 2. Excavation of earthwork of whatever consistency encountered.
 3. Over-excavation of materials as directed by the Engineer.
 4. Handling of excavated materials and associated cleanup.
 5. Providing and placing various fill materials in accordance with the Contract Documents.
 6. Compacting existing and imported materials suitable for the contemplated loadings.

1.02 REFERENCES

- A. ASTM International (ASTM):
1. C33, Standard Specification for Concrete Aggregates.
 2. C131, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
 3. C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 4. D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
 5. D1241, Standard Specification for Materials for Soil-Aggregate Subbase, Base, and Surface Courses
 6. D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
 7. D2321, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
 8. D2922, Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 9. D4253, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
 10. D4254, Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.

- B. 2023 Standard Specifications for Road, Bridge, and Municipal Construction by the Washington State Department of Transportation.
- C. Reference Document: Geotechnical Engineering Report, Johnson to Norum Pipeline Upgrade Phase 1 and 2 Design Kitsap County, Washington , April 26, 2023, Landau Associates.

1.03 QUALITY ASSURANCE

Registered professional engineer licensed in the State of Washington for design of shoring systems or other excavation safety plans in accordance with Section 31 41 00 – Excavation Support Systems.

1.04 DEFINITIONS

Excavation: all excavation will be defined as unclassified.

1.05 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials.
- B. Product technical data including:
 - 1. Acknowledgement that products submitted meet requirements of standards referenced.
 - 2. Manufacturer's installation instructions.
- C. Submit respective pipe or conduit manufacturer's data regarding bedding methods of installation and general recommendations.
- D. Mix design for controlled density fill (CDF).
- E. Test reports:
 - 1. Submit sieve analysis reports on all granular materials in accordance with ASTM C136.
 - 2. Submit maximum laboratory density test data (maximum modified proctor) in accordance with ASTM D1557 on all materials subject to compaction testing.
 - 3. If the source or quality of any materials changes during construction, the Contractor shall furnish additional test reports to the Owner for review and acceptance prior to the use of the different material.
- F. Informational submittals for Excavation Support Systems: see Section 31 41 00 – Excavation Support Systems.
- G. See Section 31 23 43 – Earthwork

1.06 PROJECT CONDITIONS

- A. Avoid overloading or surcharging a sufficient distance back from edge of excavation to prevent slides or caving:
 - 1. Maintain and trim excavated materials in such manner to be as little inconvenience as possible to public and adjoining property owners.
- B. Provide full access to public and private premises and fire hydrants, at street crossings, sidewalks, and other points as designated by the Owner to prevent serious interruption of travel.
- C. Protect and maintain benchmarks, monuments, or other established points and reference points; and if disturbed or destroyed, replace items in accordance with WAC 332-120 to full satisfaction of the Owner and controlling agency.
- D. Verify location of existing underground utilities.

PART 2 : PRODUCTS**2.01 MATERIALS**

- A. Trench Backfill:
 - 1. Gravel Borrow for Trench Backfill: in accordance with Section 9-03.14(1) of the Standard Specifications. During wet weather construction, the amount of fines (material passing a U.S. No. 200 sieve) shall not exceed 5 percent by dry weight, based on a wet sieve analysis of that portion passing the ¾-inch sieve.
- B. Pipe Zone Bedding:
 - 1. Wastewater:
 - a. Gravel Backfill for Pipe Zone Bedding: in accordance with Section 9-03.12(3) of the Standard Specifications. During wet weather construction, the amount of fines (material passing a U.S. No. 200 sieve) shall not exceed 5 percent by dry weight, based on a wet sieve analysis of that portion passing the ¾-inch sieve.
- C. Foundation Material (Gravel Backfill for Foundation):
 - 1. If unsuitable materials are encountered:
 - a. Foundation Material, Class A: in accordance with Section 9-03.10 of the Standard Specifications.
- D. Controlled Density Fill (CDF) shall be in accordance with Section 2-09.3(1)E of the Standard Specifications.

PART 3 : EXECUTION**3.01 GENERAL**

Remove and dispose of unsuitable materials from the site.

3.02 EXCAVATION

- A. Remove rock excavation, clay, silt, gravel, hard pan, loose shale, and loose stone, as shown on the Drawings or as directed by the Engineer.
- B. Excavation for appurtenances:
 - 1. 12 IN (minimum) clear distance between outer surface and embankment.
 - 2. See Specification Section 31 23 43 – Earthwork for applicable requirements.
- C. Groundwater dewatering shall conform to Section 31 23 43 – Earthwork.
- D. Trench excavation:
 - 1. Excavate trenches to depth shown on the Drawings and as necessary to accommodate work.
 - 2. Support existing utility lines where proposed work crosses at a lower elevation.
 - 3. Protect power poles adjacent to excavation. Coordinate with PSE prior to excavation.
 - 4. Stabilize excavation to prevent undermining of existing utility.
 - 5. Open trench outside buildings, units, and structures:
 - a. No more than 300 LF at any one time.
 - b. Field adjust limitations as weather conditions dictate.
 - c. All trenches shall be backfilled or covered with sheeting prior to the end of each day's work.
 - 6. Trenching within units, or structures:
 - a. No more than 100 LF at any one time.
 - 7. Observe the following trenching criteria:
 - a. Excavate width to accommodate free working space.
 - b. Maximum trench width at top of pipe or conduit may not exceed outside diameter of utility service by more than the dimensions shown on the Drawings.
 - c. Cut trench walls vertically from bottom of trench to 1 FT above top of pipe, conduit, or utility service at a minimum.
 - d. Keep trenches free of surface water runoff.
- E. Flowable fill or CDF:
 - 1. CDF shall be:
 - a. Discharged from a mixer by any means acceptable to the Engineer into the area to be filled.

- b. Placed in 4 FT maximum lifts to the elevations indicated:
 - 1) Allow 12 HR set-up time before placing next lift or as approved by the Engineer.
 - 2) Contractor shall place CDF lifts in such a manner as to prevent flotation of the pipe.
2. CDF shall not be placed on frozen ground.
3. Subgrade on which CDF is placed shall be free of disturbed or softened material and water.
4. Conform to appropriate requirements of Section 31 23 43 – Earthwork.
5. CDF batching, mixing, and placing may be started if weather conditions are favorable, and the air temperature is 34 DegF and rising.
6. At the time of placement, CDF shall have a temperature of at least 40 DegF.
7. Mixing and placing shall stop when the air temperature is 38 DegF or less and falling.
8. Each filling stage shall be as continuous an operation as is practicable.
9. Contractor shall prevent traffic contact with CDF for at least 24 HRS after placement or until CDF is hard enough to prevent rutting by construction equipment.
10. CDF shall not be placed until water has been controlled or groundwater level has been lowered in accordance with the requirements of groundwater dewatering in Section 31 23 43 – Earthwork.

3.03 PREPARATION OF FOUNDATION FOR PIPE LAYING

- A. Over-excavation:
 1. If unsuitable foundation material is encountered as determined by the inspector, it shall be overexcavated, backfilled as specified and compacted to 90 percent of maximum dry density per ASTM D1557.
- B. Rock excavation:
 1. Excavate a minimum of 6 IN below bottom exterior surface of the pipe or conduit.
 2. Form bell holes in trench bottom.

3.04 BACKFILLING METHODS

- A. Carefully compacted Trench Backfill and Pipe Zone Bedding materials. Furnish where indicated on Drawings, specified for trench embedment conditions and for compacted backfill conditions up to 12 IN above top of pipe:
 1. Comply with the following:
 - a. Place backfill in lifts not exceeding 6 IN (compacted thickness).

- b. Hand place, shovel slice, and pneumatically tamp all carefully compacted backfill around the haunches of the pipe.
 - c. Observe specific manufacturer's recommendations regarding backfilling and compaction.
 - d. Compact each lift to specified requirements.
- B. Trench Backfill:
- 1. Perform in accordance with the following:
 - a. Place backfill in lift thicknesses capable of being compacted to densities specified. Maximum lift thickness shall be 6 IN (compacted thickness) provided Contractor sufficiently demonstrates his means and methods are capable of obtaining the required compaction. Otherwise, maximum lift thickness shall be 6 IN (compacted thickness) at the discretion of the Engineer.
 - b. Observe specific manufacturer's recommendations regarding backfilling and compaction.
 - c. Avoid displacing joints and appurtenances or causing any horizontal or vertical misalignment, separation, or distortion.
 - d. Legally dispose of all excavated material that is not reused as backfill.
- C. Backfill at utility crossings:
- 1. When a new utility crosses under an existing utility, backfill at least the final 12-inches of trench beneath the invert of the existing utility with CDF to provide a uniform bedding for the existing utility.
 - 2. Provide forms to control quantity of CDF that is used as backfill. Remove forms after CDF has set sufficiently to stand on its own without the forms.
 - 3. Allow CDF to set sufficiently to support the weight and compaction efforts of the remaining backfill placing and compacting the remaining backfill material.
- D. Water flushing for consolidation is not permitted.

3.05 COMPACTION

- A. General:
- 1. Place and assure bedding, backfill, and fill materials achieve an equal or higher degree of compaction than undisturbed materials adjacent to the work.
 - 2. In no case shall degree of compaction below minimum compactions specified be accepted.

B. Compaction requirements:

1. Unless noted otherwise on the Drawings or more stringently by other Specification sections, comply with following minimum trench compaction criteria:

a. Pipe Zone Bedding:

Location	Compaction Density
All locations	90 percent of maximum dry density by ASTM D1557

b. Trench Backfill:

Location	Compaction Density
Under pavements, roadways, surfaces, structures, sidewalks within highway rights-of-way	95 percent of maximum dry density by ASTM D1557
Under turfed, sodded, plant seeded, nontraffic areas	90 percent of maximum dry density by ASTM D1557

3.06 FIELD QUALITY CONTROL

A. Testing: The Owner has retained a testing laboratory to perform the soils testing. The Contractor shall:

1. Assure that the Owner has immediate access for testing of all soils-related work.
2. Ensure excavations are safe for testing personnel.
3. Pay for all costs associated with retesting associated with "Failing" tests.

END OF SECTION

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SECTION 31 23 43 EARTHWORK

PART 1 : GENERAL

1.01 SUMMARY

- A. Section includes:
1. Structure excavation and backfilling necessary for the construction of all structures associated with the project, except linear utility trenching, which is addressed in Section 31 23 33 – Trenching, Backfilling, and Compacting for Utilities.
 2. Excavation of earthwork of whatever consistency encountered.
 3. Over-excavation of materials, as directed by the Engineer.
 4. Handling of excavated materials and associated cleanup.
 5. Providing and placing various fill materials in accordance with the Contract Documents.
 6. Compacting existing and imported materials suitable for the anticipated loadings.
 7. Foundation requirements for roadways and other asphalt-surfaced areas are addressed in Section 32 12 16 – Hot Mix Asphalt (HMA) Paving.

1.02 REFERENCES

- A. ASTM International (ASTM):
1. C33, Standard Specification for Concrete Aggregates.
 2. C131, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
 3. C136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 4. D1241, Standard Specification for Materials for Soil-Aggregate Subbase, Base, and Surface Courses, with Gradation Requirements modified per this Specification.
 5. D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
 6. D3786, Standard Test Method for Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method.
 7. D4253, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.
 8. D4254, Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
 9. D4632, Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.

10. D6938, Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
- B. 2023 Standard Specifications for Road, Bridge, and Municipal Construction by the Washington State Department of Transportation.
- C. Reference Document: Geotechnical Engineering Report, Johnson to Norum Pipeline Upgrade Phase 1 and 2 Design, Kitsap County, Washington, April 26, 2023, Landau Associates.

1.03 QUALITY ASSURANCE

Registered professional engineer licensed in the State of Washington for design of shoring systems or other excavation safety plans in accordance with Section 31 41 00 – Excavation Support Systems.

1.04 DEFINITIONS

Excavation: All excavation will be defined as unclassified.

1.05 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Material.
- B. Product technical data including:
 1. Acknowledgement that products submitted meet requirements of standards referenced.
 2. Manufacturer's installation instructions.
- C. Certifications.
- D. Test reports:
 1. Sieve analysis for all borrow materials in accordance with ASTM C136.
 2. Laboratory density test data (maximum modified proctor) in accordance with ASTM D1557 on all materials subject to compaction testing.
 3. Material source data.
 4. If the source or quality of any materials changes during construction, the Contractor shall furnish additional test reports to the Owner for review and acceptance prior to the use of the different material.
- E. At least 20 Working Days before dewatering is started, the Contractor shall submit a Construction Dewatering Plan to the Engineer. The Dewatering Plan shall include:
 1. Details regarding method, installation, and construction of the dewatering system including:
 - a. Numbers and types of equipment.
 - b. Soil permeability.

- c. Anticipated and potential effects on adjacent structures and properties.
 - d. Depth, locations, and conveyance capacity of equipment.
 - e. Water discharge locations.
 - f. Necessary permits and requirements for water discharge.
 - g. An estimate of advance time to dewater the excavation prior to work in the excavation when necessary.
 - h. Such other information to verify acceptable control and performance.
2. The Construction Dewatering Plan shall be prepared by a registered professional hydrogeologist or engineer licensed in the State of Washington; and shall be reviewed by the Engineer before the Contractor begins excavation.

PART 2 : PRODUCTS

2.01 MATERIALS

- A. Trench Backfill:
 1. As indicated on the Drawings.
 - a. Gravel Borrow: in accordance with Section 9-03.14(1) of the Standard Specifications. During wet weather construction, the amount of fines (material passing a U.S. No. 200 sieve) shall not exceed 5 percent by dry weight, based on a wet sieve analysis of that portion passing the ¾-inch sieve.
- B. Foundation Material:
 1. As indicated on the Drawings.
 - a. Foundation Material Class A: in accordance with Section 9-03.10 of the Standard Specifications.
- C. Crushed Surfacing Base Course (CSBC): in accordance with Section 9-03.9(3) of the Standard Specifications.
- D. Crushed Surfacing Top Course (CSTC): in accordance with Section 9-03.9(3) of the Standard Specifications.
- E. Geotextile Filter Fabric:
 1. Nonwoven type.
 2. Equivalent opening size: 50-100 (U.S. Standard Sieve).
 3. Permeability coefficient (cm/second): 0.07 minimum, 0.30 maximum.
 4. Grab strength: 90 LBS minimum in either direction in accordance with ASTM D4632 requirements.

5. Mullen burst strength: 125 psi minimum in accordance with ASTM D3786 requirements.

PART 3 : EXECUTION

3.01 PROTECTION

- A. Protect existing surface and subsurface features on-site and adjacent to site as follows:
 1. Provide barricades, coverings, or other types of protection necessary to prevent damage to existing items indicated to remain in place.
 2. Protect and maintain bench marks, monuments, or other established reference points and property corners:
 - a. If disturbed or destroyed, replace in accordance with WAC 332-120: Survey Monuments-Removal or Destruction, at own expense to full satisfaction of Owner and controlling agency.
 3. Verify location of utilities:
 - a. Omission or inclusion of utility items does not constitute nonexistence or definite location.
 - b. Secure and examine local utility records for location data.
 - c. Take necessary precautions to protect existing utilities from damage due to any construction activity. Service lines from the main utility may not be shown on the Drawings. The Contractor shall anticipate the need to work around these service lines.
 - d. Repair damages to utility items at own expense.
 - e. In case of damage, notify the Engineer and affected utility company at once so that required protective measures may be taken.
 4. Maintain free of damage, existing sidewalks, structures, and pavement, not indicated to be removed:
 - a. Any item known or unknown or not properly located that is inadvertently damaged shall be repaired to original condition.
 - b. All repairs to be made and paid for by the Contractor.
 5. Provide full access to public and private premises, fire hydrants, street crossings, sidewalks, and other points as designated by the Owner to prevent interruption of travel.
 6. Maintain stockpiles and excavations in such a manner to prevent inconvenience or damage to structures on-site or on adjoining property.
 7. Avoid surcharge or excavation procedures which can result in heaving, caving, or slides.
- B. Salvageable items: carefully remove items to be salvaged, and store on Owner's premises unless otherwise directed.

- C. Legally dispose of waste materials off site. Burning waste is not an allowed means of waste disposal.
- D. Burning of anything on site is prohibited.

3.02 USE OF EXPLOSIVES

Use of explosives is prohibited.

3.03 FIELD QUALITY CONTROL

- A. The Owner will retain a qualified independent testing laboratory to perform the laboratory and field tests.
- B. Do not include in bid price the cost of inspection services indicated herein as being performed by the independent testing laboratory.
- C. Moisture density relations, to be established by the independent testing laboratory, are required for all materials to be compacted.
- D. Extent of compaction testing will be as necessary to assure compliance with the Specifications.
- E. Give a minimum of 24 HR advance notice to the Engineer when ready for compaction or subgrade testing and inspection.
- F. Should any compaction density test or subgrade inspection fail to meet specified requirements, perform corrective work as necessary.
- G. Pay for all costs associated with corrective work and retesting resulting from failing compaction density tests.

3.04 COMPACTION DENSITY REQUIREMENTS

- A. Obtain approval from the Engineer with regard to suitability of soils and acceptable subgrade prior to subsequent operations.
- B. Provide dewatering system necessary to successfully complete excavation, compaction, and construction requirements.
- C. Remove frozen, loose, wet, or soft material; and replace with approved material as directed by the Engineer.
- D. Stabilize subgrade with well-graded granular materials as directed by the Engineer.

E. Assure, by results of testing, that compaction densities comply with the following requirements:

1. Sitework:

Location	Compaction Density
Under Paved Areas, Sidewalks, and Piping	95 percent per ASTM D1557
Unpaved Areas, Pipe Backfill	90 percent per ASTM D1557

2. Structures:

Location	Compaction Density
Inside of structures under foundations, under equipment support pads, under slabs-on-grade, and scarified existing subgrade under fill material	95 percent per ASTM D1557
Outside structures next to walls, piers, columns, and any other structure exterior member	90 percent per ASTM D1557

3.05 EXCAVATION, FILLING, AND BACKFILLING FOR STRUCTURES

A. General:

1. In general, work includes, but is not limited to, excavation for structures and retaining wall, removal of underground obstructions and undesirable material, furnishing and placing fill and backfill, and compaction of subgrade and backfill.
2. Obtain fill and backfill material necessary to produce grades required:
 - a. Materials and source to be approved by the Engineer.
3. In this Section, the word "foundations" includes footings, base slabs, foundation walls, mat foundations, grade beams, piers, and any other support placed directly on soil.
4. In the paragraphs of this Section, the word "soil" also includes any type of rock subgrade that may be present at or below existing subgrade levels.

B. Excavation requirements for structures:

1. General:

- a. Do not commence excavation for foundations for structures until the Engineer approves:
 - 1) The removal of topsoil and other unsuitable and undesirable material from existing subgrade.
 - 2) Density and moisture content of site area compacted fill material meets requirements of the Specifications.

- 3) Site surcharge or mass fill material can be removed from entire construction site or portion thereof.
 - 4) Surcharge or mass fill material has been removed from construction area or portions thereof.
 - b. Engineer grants approval to begin excavations.
2. Dimensions:
 - a. Excavate to elevations and dimensions indicated or specified.
 - b. Allow additional space as required for construction operations and inspection of foundations.
3. Removal of obstructions and undesirable materials in excavation includes, but is not limited to, removal of old foundations, existing construction, unsuitable subgrade soils, expansive type soils, and any other materials which may be concealed beneath present grade, as required to execute work indicated on Drawings:
 - a. If undesirable material and obstructions are encountered during excavation, remove material, and replace as directed by the Engineer.
4. Level off bottoms of excavations to receive foundations, floor slabs, equipment support pads, or compacted fill:
 - a. Remove loose materials and bring excavations into approved condition to receive concrete or fill material.
 - b. Where compacted fill material must be placed to bring subgrade elevation up to underside of construction, compact existing subgrade to density stated in this Section before fill material is placed thereon.
 - c. Do not carry excavations lower than shown for foundations except as directed by the Engineer.
 - d. If any part of excavations is carried below required depth without authorization, maintain the excavation and start the foundation from the excavated level with concrete of the same strength as required for the superimposed foundation; no extra compensation will be made to the Contractor therefore.
5. Make excavations large enough for working space, forms, dampproofing, waterproofing, and inspection.
6. Notify the Engineer as soon as excavation is completed in order that subgrades may be inspected:
 - a. Do not commence further construction until subgrade under compacted fill material, under foundations, under floor slabs-on-grade, under equipment support pads, and under retaining wall footings have been inspected and approved by the Engineer as being free of undesirable material, being of compaction density required by this specification, and being capable of supporting the allowable foundation design bearing pressures and superimposed foundation, fill, and building loads to be placed thereon.

- b. Engineer shall be given the opportunity to inspect subgrade below fill material both prior to and after subgrade compaction.
 - c. Place fill material, foundations, retaining wall footing, floor slabs-on-grade, and equipment support pads as soon as weather conditions permit after excavation is completed, inspected, and approved and after forms and reinforcing are inspected and approved.
 - d. Before concrete or fill material is placed, protect approved subgrade from becoming loose, wet, frozen, or soft due to weather, construction operations, or other reasons.
7. Dewatering:
- a. Refer to Geotechnical Engineering Report for Construction Dewatering considerations and on-site soils information.
 - b. The Contractor is fully responsible for controlling groundwater.
 - c. Excavations shall be kept free of water as necessary to advance the project and maintain safe working conditions.
 - d. The Contractor shall control surface run-off to prevent entry or collection of water in excavations.
 - e. The control of groundwater shall prevent softening of the bottom of excavations, or formations of “quick” or heaving conditions, or “boils”.
 - f. Dewatering systems shall be designed and operated to prevent any removal or flowing of native soils or previously placed fill soils.
 - g. In the event the subgrade is compromised as a result of the Contractor’s dewatering methods, the Contractor shall be fully responsible for restoring the integrity of the subgrade to the satisfaction of the Engineer.
 - h. Disposal of the water shall not cause injury to public or private property, or nuisance to the public, or degradation of the natural or built environment.
 - i. Sufficient pumping and power equipment in good working condition shall be available at all times for all emergencies, including power outage, and competent personnel shall be available at all times for the operation of the dewatering system.
 - j. Water discharge locations shall comply with required permits from Kitsap County, other local jurisdictions, State, and Federal agencies, as appropriate.
 - k. The Contractor shall discharge dewatering water in accordance with the terms of the Construction Stormwater General Permit and any other applicable project permits. No sediment shall present in the discharge water and the discharge volume/rate shall be within the permit’s allowable capacity. All sediment removal measures shall be at the Contractor’s expense.
 - l. If sediment-laden water is being discharged, the Contractor shall immediately cease dewatering discharge upon notification by the Owner or Engineer. The Contractor shall anticipate that the

dewatering discharge may have to be discontinued for a period of time, especially during wet weather conditions. No claim may be made if the conditions require that the dewatering discharge be temporarily discontinued.

- m. The Contractor shall do whatever is necessary to eliminate or minimize sediment transport during dewatering operations. If sediments or solids are present in the dewatering water, the Contractor shall employ best management practices (BMPs) to remove settleable and suspended solids as required to meet permit or water quality requirements.
 - n. The dewatering system shall be designed to prevent loss of foundation support to adjacent structure, underground installation, improvement, or the sides of an excavation. The dewatering system shall be installed and operated so that the groundwater level outside the excavation is not drawn down to the extent that would damage or endanger adjacent structure, underground installation, sidewalk, pavement, other improvement, or property.
 - o. The groundwater table shall be lowered to a minimum of 2 feet below the bottom of any excavation.
 - p. The return of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils and supported soils, prevent disturbance of compacted bedding and backfill, and prevent flotation or movement of structures and utilities.
 - q. Costs associated with dewatering excavations and controlling groundwater will be paid under bid item "Dewatering" in accordance with Section 1-09.6.
 - r. Keep dewatering system in operation until dead load of structure exceeds possible buoyant uplift force on structure.
8. Subgrade stabilization:
- a. If subgrade under foundations, fill material, floor slabs-on-grade, or equipment support pads is in a frozen, loose, wet, or soft condition before construction is placed thereon, remove frozen, loose, wet, or soft material and replace with approved Foundation Material as directed by the Engineer.
 - b. Provide compaction density of replacement material as stated in this Section.
 - c. Method of stabilization shall be performed as directed by the Engineer.
 - d. Do not place further construction on the repaired subgrades, until the subgrades have been approved by the Engineer.
9. Protection of structures:
- a. Prevent new and existing structures from becoming damaged due to construction operations or other reasons.
 - b. Prevent subgrade under new and existing foundations from becoming wet and undermined during construction due to

presence of surface or subsurface water or due to construction operations.

10. Shoring:
 - a. Provide Excavation Support Systems in accordance with Section 31 41 00 – Excavation Support Systems.
 - b. Shore, sheet pile, slope, or brace excavations as required to prevent them from collapsing.
 - c. Remove shoring as backfilling progresses but only when banks are stable and safe from caving or collapse.
 11. Drainage:
 - a. Control grading around structures so that ground is pitched to prevent water from running into excavated areas or damaging structures.
 - b. Maintain excavations free of water where foundations, floor slabs, equipment support pads, or fill material are to be placed.
 - c. Provide pumping required to keep excavated spaces clear of water during construction.
 - d. Should any water be encountered in the excavation, notify the Engineer.
 - e. Provide free discharge of water by trenches, pumps, wells, well points, or other means as necessary and drain to point of disposal that will not damage existing or new construction or interfere with construction operations.
 12. Frost protection:
 - a. Do not place fill material on frozen ground.
 - b. When freezing temperatures are expected, do not excavate to full depth indicated, unless fill material can be placed immediately after excavation has been completed and approved.
 - c. Protect excavation from frost if placing of fill is delayed.
- C. Fill and backfill below base slabs, and piping:
1. General:
 - a. Subgrade to receive fill or backfill shall be free of undesirable material as determined by the Engineer and compacted to density specified herein.
 - b. Surface may be stepped by at not more than 12 IN per step or may be sloped at not more than 2 percent.
 - c. Do not place any fill or backfill material until subgrade under fill or backfill has been inspected and approved by the Engineer as being free of undesirable material and compacted to specified density.
 2. Obtain approval of fill and backfill material and source from Engineer prior to placing the material.

3. Fill and backfill placement:
 - a. Prior to placing fill and backfill material, optimum moisture and maximum density properties for proposed material shall be obtained from the Engineer.
 - b. Place fill and backfill material in 6 IN maximum compacted thickness lifts as necessary to obtain required compaction density. 12 IN compacted thickness lifts may be used if the Contractor proves the required compaction density is being obtained.
 - c. Compact material by means of equipment of sufficient size and proper type to obtain specified density.
 - d. Use hand operated equipment for filling and backfilling next to walls.
 - e. Do not place fill and backfill when the temperature is less than 40 DegF and when subgrade to receive fill and backfill material is frozen, wet, loose, or soft.
 - f. Use vibratory equipment to compact granular material; do not use water.

- D. Filling and backfilling outside of structures.
 1. This paragraph of this Section applies to fill and backfill placed outside of structures above bottom level of both foundations and piping but not under paving.
 2. Provide material as approved by the Engineer for filling and backfilling outside of structures.
 3. Fill and backfill placement:
 - a. Prior to placing fill and backfill material, obtain optimum moisture and maximum density properties for proposed material from the Construction Manager or Engineer.
 - b. Place fill and backfill material in 6 IN compacted thickness lifts as necessary to obtain required compaction density. 12 IN compacted thickness lifts may be used if the Contractor proves the required compaction density is being obtained.
 - c. Compact material with equipment of proper type and size to obtain density specified.
 - d. Use only hand operated equipment for filling and backfilling next to walls and retaining walls.
 - e. Do not place fill or backfill material when the temperature is less than 40 DegF and when subgrade to receive material is frozen, wet, loose, or soft.
 - f. Use vibratory equipment for compacting granular material; do not use water.

- E. Backfilling outside of structures under piping or paving:
1. When backfilling outside of structures requires placing backfill material under piping or paving, the material shall be placed from bottom of excavation to underside of piping or paving at the density required for fill under piping or paving as indicated in this Section.
 2. This compacted material shall extend transversely to the centerline of piping or paving a horizontal distance each side of the exterior edges of piping or paving equal to the depth of backfill measured from bottom of excavation to underside of piping or paving.
 3. Provide special compacted bedding or compacted subgrade material under piping or paving as required by other Sections for the Project.

END OF SECTION

SECTION 31 25 14
SOIL EROSION AND SEDIMENT CONTROL

PART 1 : GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Soil erosion and sediment control.

1.02 REFERENCES

- A. Erosion control standards: Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas by the United States Department of Agriculture (USDA), Soil Conservation Service, College Park, Maryland.
- B. 2023 Standard Specifications for Road, Bridge, and Municipal Construction by the Washington State Department of Transportation.

1.03 QUALITY ASSURANCE

Designate and have a Certified Erosion and Sediment Control Lead (CESCL) onsite at all times.

PART 2 : PRODUCTS

2.01 MATERIALS

- A. Straw bales, twine tied.
- B. Pipe riser and barrel: 16 GA corrugated metal pipe (CMP) of size indicated.
- C. Stone for stone filter: 2 IN graded gravel or crushed stone.
- D. Grass Seed: annual ryegrass.
- E. Catch basin inserts: Conform to Section 8-01.3(9)D of the Standard Specifications. Inserts shall have straps to facilitate removal and cleaning of inserts and shall have a minimum storage capacity of 0.5 cf. Above inlet covers and inlet grate covers are not allowed.
- F. Check Dams: Conform to Section 8-01.3(6) of the Standard Specifications.
- G. Mulch shall be wood cellulose fiber with guar gum or accepted equal as a soil binder.

PART 3 : EXECUTION

3.01 PREPARATION

- A. Prior to general stripping of topsoil and excavating:
 - 1. Install perimeter filter fabric fence, as shown on the Drawings.

2. Excavate and shape sediment basins and traps.
 3. Construct pipe spillways and install stone filter, if required.
 4. Machine compact all berms, dikes and embankments for basins and traps.
 5. Install straw bales where required:
 - a. Provide two stakes per bale.
 - b. First stake angled toward previously installed bale to keep ends tight against each other.
 6. Install catch basin inserts, filter fabric fence, coir logs, and other erosion control measures, as necessary.
- B. Construct sediment traps, where indicated on Drawings or as needed, during rough grading as grading progresses.
- C. Temporarily seed slopes and topsoil stockpiles:
 1. Rate: 1/2 LB/1000 SF.
 2. Re-seed as required until good stand of grass is achieved.
- D. Temporary erosion and sedimentation control measures shall be in place and functional before land disturbing activities take place.

3.02 DURING CONSTRUCTION PERIOD

- A. Maintain erosion and sedimentation control measures:
 1. Inspect regularly especially after rainstorms.
 2. Repair, augment, or replace damaged or missing items.
- B. After rough grading, sow temporary grass cover over all exposed earth areas not draining into sediment basin or trap.
- C. Provide necessary swales and dikes to direct all water towards and into sediment basins and traps.
- D. Do not disturb existing vegetation (grass and trees):
 1. The Contractor shall over-seed areas at a rate of 5 pounds per 1,000 square feet where the Contractor's actions have compromised the erosion and sedimentation control functions of the existing vegetation.
 2. Areas subsequently disturbed by the Contractor's operations shall be reseeded.
- E. Remove sediment out of basins, traps, and catch basin inserts, when capacity has been reduced by 50 percent.
- F. Remove sediment from behind bales to prevent overtopping.

- G. Topsoil and fine grade slopes and swales, etc.: Seed and mulch as soon as areas become ready. Apply mulch at 200 pounds per acre minimum.
- H. All construction areas shall be properly protected and stabilized with erosion and sedimentation control measures as construction progresses.

3.03 NEAR COMPLETION OF CONSTRUCTION

- A. Remove basins, dikes, traps, and all soil erosion and sediment control measures.
- B. Grade to finished or existing grades.
- C. Fine grade all remaining earth areas, then seed and mulch.
- D. Clean catch basins and stormwater conveyance piping.

END OF SECTION

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**SECTION 31 41 00
EXCAVATION SUPPORT SYSTEMS**

PART 1 : GENERAL

1.01 SUMMARY

Work covered in this Section includes requirements for cribbing and shoring to be used for demolition, structural excavations, and trench safety.

1.02 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials.
- B. Submit the following:
 - 1. Certification that all excavation support system design work has been performed under the direction of a professional engineer licensed by the State of Washington.
 - 2. Structural shoring design and support calculations for all shoring system that will be used for this project. The shoring design shall be stamped by a professional engineer licensed in the State of Washington.
 - 3. Shoring contractor qualifications.
- C. Informational submittals that will not be reviewed or approved by the Engineer:
 - 1. Trench shield (trench box) certification, if employed:
 - a. Specific to Project conditions.
 - b. Re-certified if members become distressed.
 - c. Certification by registered professional structural engineer, registered in the State of Washington.
 - 2. Trench safety plan and/or trench shoring drawing:
 - a. Trench Safety Plan and/or trench shoring drawings submittal is required only as evidence that plans and drawings have been prepared if required by authorities having jurisdiction.

1.03 REFERENCES

- A. WAC 296-155 – Safety Standards for Construction Work.
- B. RCW Chapter 39.04.180 – Trench Excavations – Safety Systems Required.
- C. RCW Chapter 49.17 Washington Industrial Safety and Health Act.
- D. Standard Specifications for Road, Bridge, and Municipal Construction, 2021 by the Washington State Department of Transportation.
- E. Reference Document: Geotechnical Engineering Report, Johnson to Norum Pipeline Upgrade Phase 1 and 2 Design, April 26, 2023, Landau Associates.

1.04 QUALITY ASSURANCE

- A. The shoring contractor shall:
 - 1. Specialize in earth retention/construction as its primary business.
 - 2. Be fully experienced and properly qualified, licensed, equipped, organized and financed to perform the shoring and excavation support work.
 - 3. Have successfully completed at least five projects of similar scope and shoring/earth retention requirements in similar soil and groundwater conditions in the last five (5) years.

1.05 SYSTEM REQUIREMENTS

- A. Cribbing, sheeting, and shoring shall be designed by a qualified person and meet the requirements of WAC 296-155.
- B. The Contractor shall be exclusively responsible for providing the services of the competent person and registered professional engineer, as referenced in WAC 296-155-650, relating to excavation, trenching, and shoring. Representatives of the Owner and the Engineer shall not be required to perform the roles of competent person or registered professional engineer as defined in WAC 296-155-650.
- C. Adequate sheeting, shoring, bracing, sloping, dewatering, or other methods of sustaining the stability of the floor and walls of the excavation shall be utilized as necessary to support the excavation under loading conditions that exist or arise during construction.
- D. Means and methods shall protect and not adversely impact the structures or facilities, existing or constructed. Dewatering, if employed in conjunction with a shoring system, shall be in accordance with Sections 31 23 43 – Earthwork.

PART 2 : PRODUCTS

NOT USED

PART 3 : EXECUTION**3.01 CRIBBING, SHEETING, AND SHORING**

- A. Install and maintain shoring, sheeting, bracing, and sloping necessary to support the sides of the excavation and to prevent movement that may damage adjacent facilities, delay the work, or endanger life and health. Conform to the requirements of WISHA and other applicable governmental regulations and agencies.
- B. The Contractor shall be solely responsible for making and maintaining excavations in a safe manner.
- C. Proper design and installation of the shoring and associated dewatering systems, method of construction, and monitoring and protection of the structure excavations, shoring, existing structures, and facilities are the responsibility of

the Contractor. The Contractor shall ensure the integrity of existing structures and facilities are maintained and that appropriate construction techniques are employed at all times to protect existing, as well as installed, structures and facilities. In the event shoring becomes unstable or surface settlement occurs, the Contractor shall immediately implement corrective measures and notify the Engineer. The Contractor shall be solely liable for shoring and associated dewatering systems necessary to support the excavations under loading conditions that may exist or arise during construction.

- D. Use any combination of shoring and overbreak, tunneling, boring, sliding trench shield, or other method allowed by the applicable local, State, and Federal safety codes.
- E. Carefully reconsolidate the bedding and side support behind a movable box prior to placing backfill.
- F. Sheet piling and timbers in trench and other excavations shall be withdrawn in a manner so as to prevent subsequent settlement of structures or pipe, or additional backfill loading that might overload the pipe. Reconsolidate bedding/backfill to the satisfaction of the Engineer.
- G. Leave in place those portions of cribbing and sheeting extending below the crown elevation of the pipe, unless the bedding and side support can be reconsolidated to the satisfaction of the Engineer.
- H. Where shoring or movable trench shields extend below the top of a pipe and are to be removed, locate at least one pipe diameter away from the pipe. They may be located closer only if the Contractor demonstrates to the Engineer's satisfaction a means of reconsolidation.
- I. If a movable box is used in lieu of cribbing or sheeting, and the bottom cannot be kept above the spring line of the pipe, the bedding or side support shall be carefully reconsolidated behind the movable box prior to placing initial backfill.
- J. Where removal of sheeting would result in damage to adjacent utilities or other property, the Engineer may order all or a portion of sheeting to be cut off and left in place.
- K. Do not use horizontal strutting below the barrel of a pipe.
- L. Do not use the pipe as support for trench bracing.
- M. Damages resulting from improper shoring and failure to shore shall be the sole responsibility of the Contractor.

3.02 TRENCH EXCAVATION SAFETY SYSTEMS

- A. Protect utility trench excavation in excess of 4 feet in depth with a safety system conforming to the referenced requirements.
- B. The Contractor's trench safety system shall be designed by a qualified person and meet the referenced requirements.

3.03 PAYMENT

Costs associated with providing, installing, and maintaining adequate excavation support systems as specified herein shall be included in and paid under bid item "Excavation Support Systems".

END OF SECTION

SECTION 32 12 16
HOT MIX ASPHALT (HMA) PAVING

PART 1 : GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Temporary and permanent hot mix asphalt (HMA) paving.

1.02 REFERENCES

- A. Federal Specifications (FS):
 - 1. TT-P-115F, Paint, Traffic (Highway, White and Yellow).
- B. Standard Specifications for Road, Bridge, and Municipal Construction, 2023 by the Washington State Department of Transportation.
- C. Construction Manual: Washington State Department of Transportation, 2022 as amended to date.
- D. AASHTO T 209 – Standard Method of Test for Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt (HMA) Paving Mixtures.

1.03 MISCELLANEOUS

Should conflicts arise between Standard Specifications of government agencies mentioned herein and these Contract Documents, these Contract Documents shall govern.

1.04 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials.
- B. Product technical data including:
 - 1. Acknowledgement that products submitted meet requirements of standards referenced.
 - 2. Manufacturer's installation instructions.
- C. HMA concrete design mix.

PART 2 : PRODUCTS

2.01 MATERIALS

- A. HMA:
 - 1. Asphalt Binder: PG 58H-22 as set forth in Section 9-02.1(4) of the Standard Specifications.

2. Hot Mix Asphalt: HMA Class ½-inch as set forth in Section 9-03.8(2) of the Standard Specifications.
 3. Aggregate: Per Section 9-03.8 of the Standard Specifications for HMA Class 1/2-inch.
- B. Tack coat: AR-4000W, per Section 9-02.1(4) of the Standard Specifications.
- C. Line paint:
1. Nonreflective.
 2. White.
 3. FS TT-P-115F.

2.02 MIXES

- A. Mix shall comply with Section 5-04 of the Standard Specifications:
1. Equivalent single axle load (ESAL) shall be > 3 million and less than 10 million.

PART 3 : EXECUTION

3.01 PREPARATION

- A. Subgrade preparation:
1. Prepare using methods, procedures, and equipment necessary to attain required compaction densities, elevation, and section.
 2. Scarify and re-compact top 6 IN of fills and embankments that will be under paved areas.
 3. Remove soft or spongy areas and replace with aggregate material.
 4. Compact subgrade to 95 percent relative density per ASTM D1557.
 5. Assure moisture content of structural fill is within 3 percent of its optimum to achieve required compaction density.
 6. Following compaction, trim and roll to exact cross section:
 - a. Check with approved grading template.
 7. Coordinate with the Engineer for density tests on subgrade to determine that subgrade complies with the Specification.
- B. Aggregate course:
1. Place material in not more than 6 IN thick layers.
 2. Spread, shape, and compact all material deposited on the subgrade during the same day.
 3. Compact to 95 percent relative density per ASTM D1557.
- C. Loose and foreign material: remove loose and foreign material immediately before application of paving.

- D. Appurtenance preparation:
 - 1. Adjust manholes, inlets, valve boxes and any other utility appurtenances to design grade after new HMA pavement has been installed.

3.02 INSTALLATION

- A. Construct to line, grade and section as shown on the Drawings and in accordance with the Standard Specifications.
 - 1. Affected roads shall be excavated for installation of sanitary sewer main, IPS force main, and associated structures, as shown on the drawings. Trenches within HMA-paved areas shall be restored in accordance with the Drawings, see Detail 2 Sheet R-5.
- B. Spread prime coat uniformly on compacted aggregate top course at rate of 0.05 to 0.10 GAL per square yard.
- C. Compact each lift to a minimum of 92 percent of the maximum density, as determined by AASHTO Test Method T 209:
 - 1. Level of compaction shall be determined as the average of not less than 5 nuclear density gauge tests taken on the day the mix is placed at randomly selected locations within each lot.
 - 2. Quantity represented by each lot shall be no greater than a single day's production or approximately 400 tons, whichever is less.
 - 3. Cores taken within 48 hours of placement of the mix may be used as an alternative to the nuclear density gauge tests.
 - 4. HMA pavement not meeting the prescribed minimum density standard shall be removed and replaced with satisfactory material at the Contractor's expense.
- D. All joints of asphalt concrete pavement shall be sealed with asphalt cement. The asphalt paint binder, or tack coat, shall conform in all respects to Section 5-04 of the Standard Specifications. After pavement is in place, all joints shall be sealed with hot asphalt cement (AR 4000W).
- E. Temporary HMA pavement:
 - 1. HMA pavements that are installed and subsequently removed by the Contractor.
 - 2. Install to a minimum depth of one inch over 3 inches of crushed surfacing top course.
 - 3. Provide a suitable and safe driving surface for traffic and pedestrians by compacting with a roller or vibratory plate to provide a smooth driving surface. "Wheel-rolling" is not acceptable.
 - 4. Remove and dispose of temporary HMA pavement prior to installing permanent HMA pavement.

5. Install temporary HMA pavement over all trenches in streets that currently have asphalt paving. Maintain temporary HMA pavement until permanent HMA pavement is installed.
 6. Temporary HMA pavement that fails due to rutting, spalling, or other means, as determined by the Engineer, shall be repaired by the Contractor at no cost to the Owner.
- F. Line painting:
1. Thoroughly clean surfaces which are to receive paint.
 2. Make completely dry before paint is applied.
 3. Do not paint until a minimum of five (5) days has elapsed from time surface is completed:
 - a. A longer period may be required if directed by the Engineer.
 - b. Provide temporary striping as needed.
 4. Do not apply paint over wet surfaces, during wet or damp weather, or when temperature is below 40 DegF.
 5. Markings and striping shall be applied to match existing.

3.03 FIELD QUALITY CONTROL

- A. Comply with Section 5-04 of the Standards Specifications.
- B. Composite pay factors will not be used.
- C. No deductions will be made for the weight of asphalt binder, blending sand, mineral filler, or any other component of the mixture.
- D. If HMA is rejected or subsequently removed as a function of the Contractor's means and methods for obtaining the final grades and thicknesses shown on the Drawings, the material removed will not be included in the measured quantity being paid.

END OF SECTION

SECTION 32 91 19
TOPSOILING AND FINISHED GRADING

PART 1 : GENERAL

1.01 SUMMARY

- A. Section includes:
 - 1. Topsoiling and finished grading.
- B. Location of work: All areas within limits of grading and all areas outside limits of grading which are disturbed in the course of the work.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. D1557, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
 - 2. E11, Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves.

1.03 SUBMITTALS

- A. Submit in accordance with the provisions of Section 1-06 – Control of Materials.
- B. Project Data: test reports for furnished topsoil.

1.04 PROJECT CONDITIONS

Verify amount of topsoil stockpiled and determine amount of additional topsoil, if necessary to complete work.

PART 2 : PRODUCTS

2.01 MATERIALS

- A. Topsoil:
 - 1. Two-way soil mix of 50% composted organic mulch and 50% sand, sandy loam, or silty sand high in organic content blended with compost.
 - 2. Well combined, free of weeds, rocks debris and other deleterious materials that will not pass through a 7/16-inch sieve.
 - 3. Shall not contain sawdust or other fresh wood byproducts.
 - 4. Acceptable Sources:
 - a. Peninsula Topsoil and Landscape Supplies, Belfair, WA.
 - b. North Mason Fiber, Belfair, WA.
 - c. Cedar Grove Compost Company, Maple Valley, WA.
 - d. Or accepted equal.

2.02 TOLERANCES

Finish grading tolerance: 0.1 foot plus/minus from required elevations.

PART 3 : EXECUTION**3.01 GENERAL**

- A. Proceed as rapidly as the Site becomes available, consistent with normal seasonal limitations for soil preparation work.
- B. Subgrade to consist of native soils or placed soils that will provide plants with nutrients, positive drainage and appropriate particle sizes that promote long-term plant health and stability.
- C. Immediately notify the Engineer of poorly draining or unacceptable drainage conditions within landscape areas that will affect the health and maturation of new plantings.
- D. Soil moisture content:
 - 1. Do not work soil when moisture content is so great that excessive compaction will occur. A person walking across subgrade or planting soil shall not depress soil more than one inch.
 - 2. Do not work soil when it is so dry that dust will form in the air or when clods will not break readily.
- E. Keep streets, sidewalks, and project area clean and free from debris.
- F. Protect prepared soils from disruption by other work and construction activities.

3.02 SUBGRADE PREPERATION

- A. Clear existing grass within limits of areas to be sodded or hydroseeded.
- B. Loosen grade to a depth of 4 inches.
- C. In areas with existing tree roots or within tree driplines, hand cultivate soil to a depth of 4 inches taking care not to damage existing root systems.

3.03 ROUGH GRADE REVIEW

Prior to placing topsoil, the Engineer shall review subgrades for acceptance.

3.04 SOIL PREPARATION AND PLACING TOPSOIL

- A. Place sufficient depth of planting soil to achieve finish grade as indicated on the Drawings and to provide allowance for one inch depth of settlement.
- B. Place planting soil mix to a depth of 2 inches.
- C. Roll and compact planting soil at 85 percent maximum density per ASTM D1557.

3.05 FINISH GRADE

- A. Provide finished surface free of stones, sticks, or other material 1 inch or more in any dimension.
- B. Provide finished surface smooth and true to required grades.
- C. Restore stockpile area to condition of rest of finished work.

3.06 ACCEPTANCE

- A. Upon completion of topsoiling, obtain the Engineer's acceptance of grade and surface.
- B. Make test holes where directed to verify proper placement and thickness of topsoil.

END OF SECTION

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SECTION 33 05 16 UTILITY STRUCTURES

PART 1 : GENERAL

1.01 SUMMARY

A. Section includes:

1. Precast concrete manholes, vaults, and accessories.

1.02 REFERENCES

A. ASTM International (ASTM):

1. A48, Standard Specification for Gray Iron Castings.
2. A615, Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
3. C150, Standard Specification for Portland Cement.
4. C443, Standard Specification for Joints for Concrete Pipe and Manholes Using Rubber Gaskets.
5. C478, Standard Specification for Circular Precast Reinforced Concrete Manhole Sections.
6. C857, Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures.
7. C858, Standard Specification for Underground Precast Concrete Utility Structures.
8. C923, Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.
9. C1244, Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill.
10. C1619, Standard Specification for Elastomeric Seals for Joining Concrete Structures.

B. AASHTO Standard Specification for Highway Bridges.

C. ACI 318 Building Code Requirements for Structural Concrete.

D. Standard Specifications for Road, Bridge, and Municipal Construction, 2021 by the Washington State Department of Transportation.

E. Reference Document: Geotechnical Engineering Report, Johnson to Norum Pipeline Upgrade Phase 1 and 2 Design, Landau Associates, April 26, 2023

1.03 SUBMITTALS

- A. In accordance with the provisions of Section 1-06 – Control of Materials, submit the following:
 - 1. Product technical data including:
 - a. Catalog data.
 - b. Acknowledgement that products submitted meet requirements of standards referenced.
 - c. Manufacturer's installation instructions.
 - 2. Fabrication and/or layout drawings:
 - a. Include detailed diagrams of precast structures showing typical components and dimensions, reinforcements, weights, and other details.
 - b. Itemize, on separate schedule, sectional breakdown of each catch basin, manhole, and vault structure with all associated components and refer to drawing identification number or notation.
 - c. Indicate knockout elevations for all piping entering each precast structure coordinated with the location and elevation of pipe and conduit shown on the Drawings.
 - 3. Cement concrete mix design.
 - 4. Reinforcement design based on specified Design Requirements in Paragraph 1.04.
 - 5. Buoyancy design calculations for precast structures.
 - 6. Structural design calculations based on the Basis of Rational Design, stamped by a professional engineer licensed by the State of Washington.
 - 7. Manhole vacuum test results.

1.04 DESIGN REQUIREMENTS

- A. Normal weight concrete per ASTM standards for underground precast concrete utility structures.
- B. Minimum concrete cover over reinforcement shall not be less than that required by ACI 318, if greater than ASTM C858 unless shown otherwise noted on the Drawings.
- C. Minimum Loading Requirements:
 - 1. Loading assumptions, unless noted otherwise on the Drawings, shall conform to ASTM C857 except as follows:
 - a. Top slabs shall be designed for A-16 (HS20-44) Loading OR 250 PSF Live Loading, whichever is greater, unless otherwise indicated.

- b. Wall and bottom slab design and uplift calculations shall include hydrostatic pressure from groundwater, with a design groundwater elevation equal to the ground surface, as recommended by the Geotechnical Engineering Report, Johnson to Norum Pipeline Upgrade Phase 1 and 2 Design prepared by Landau Associates, dated April 26, 2023.
- c. Live loads and weights for post-installed items such as internal piping, pumps, valves, sewage, concrete grout fill, etc. shall not be included in the buoyancy calculations.
- d. Buoyancy calculations shall have a minimum factor of safety equal to 1.5.
- e. Buoyancy resistance forces may include the following:
 - 1) Weight of the precast structure.
 - 2) Weight of the cast-in-place top slab shown on the Drawings within a footprint of 1 foot beyond outside edge of the precast structure.
 - 3) Buoyant soil weight within the footprint of the extended base slab.
 - 4) Buoyant soil weight within a wedge defined from the outside of the extended base slab to ground surface assuming a soil friction angle of 20 degrees. Frictional resistance forces between the concrete and soil may not be used for resistance in the buoyancy calculations.

PART 2 : PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
 - 1. Precast Concrete Structures:
 - a. Oldcastle Precast (basis of design).
 - b. Or accepted equal.
 - 2. Watertight Manhole Frame and Cover (30-inch):
 - a. MwayPro.
 - b. Or accepted equal.
 - 3. Watertight Manhole Frame and Cover (24-inch):
 - a. EJ Group International.
 - b. Or accepted equal.
 - 4. Manhole Steps:
 - a. Bowco Industries, Inc.
 - b. Parson Environmental Products, Inc.
 - c. American Step Company, Inc.

- d. Or accepted equal.
 5. Premolded Joint Compound:
 - a. Kent Seal, Hamilton Kent.
 - b. Or accepted equal.
 6. Exterior Joint Wrap:
 - a. ConSeal CS-212, Concrete Sealants, Inc.
 - b. WrapidSeal, CCI Pipeline Systems.
 - c. Or accepted equal.
- B. Submit request for substitution in accordance with Section 1-06.6 Substitution.

2.02 MANHOLE AND VAULT STRUCTURE COMPONENTS

- A. Manhole components:
1. Reinforcement: ASTM C478.
 2. Concrete Mix:
 - a. Constructed with Portland ASTM C150, Type I/II cement blend for a marine environment.
 3. Minimum wall and base thicknesses: As determined by precast manufacturer based on specified Design Requirements, minimum if noted on the Drawings.
 4. Provide the following components for each manhole structure as appropriate:
 - a. Extended base (precast) with integral bottom section. Extended base dimensions and thickness shall be determined by precast manufacturer to accommodate the specified Design Requirements in Paragraph 1.04. Extended base shall be designed to the minimum dimensions noted on the Drawings.
 - b. Precast bottom section(s).
 - c. Precast barrel section(s), minimized to reduce number of joints.
 - 1) Joints shall be located a minimum 6 inches from a pipe penetration, cast or cored.
 - d. Precast eccentric transition section.
 - e. Precast adjuster ring(s).
 - f. Precast concrete transition section.
 5. Provide manhole section with minimum inside dimensions as shown on the Drawings.
 6. Interior and exterior surfaces shall be sacked and/or ground smooth to provide a uniform surface.
 7. Wrap all joints with 8-inch-wide Exterior Joint Wrap after installation.

8. Coat interior and exterior surfaces of manholes and wet wells as specified in Section 09 96 00 – Painting and Protective Coatings.
 9. Manholes shall be vacuum tested and visually inspected as specified in this Section.
- B. Vaults components:
1. Reinforcement: ASTM C478.
 2. Concrete Mix:
 - a. Constructed with Portland ASTM C150, Type I/II cement blend for a marine environment.
 3. Minimum dimensions: As indicated on the Drawings.
 4. Minimum wall thicknesses: As determined by precast manufacturer based on specified Design Requirements, minimum if noted on the Drawings.
 5. Provide the following components for each vault:
 - a. Extended base (precast) with integral bottom section. Extended base dimensions and thickness shall be determined by precast manufacturer to accommodate the specified Design Requirements in Paragraph 1.04. Extended base shall be designed to the minimum dimensions noted on the Drawings.
 - 1) Pitch floor at a minimum of 1/4-inch per foot to drain during casting or with high strength non-shrink grout.
 - b. Precast bottom section(s).
 - c. Precast riser section(s), minimized to reduce number of joints.
 - 1) Joints shall be located a minimum 6 inches from a pipe penetration, cast or cored.
 - d. Precast solid wall and solid center construction.
 - e. Aluminum ladder as shown on the Drawings.
 6. Interior and exterior surfaces shall be sacked and/or ground smooth to provide a uniform surface.
 7. Wrap all joints with 8-inch-wide Exterior Joint Wrap after installation.
 8. Coat interior and exterior surfaces of vaults as specified in Section 09 96 00 – Painting and Protective Coatings.
- C. Pipe penetrations in precast structures:
1. Pipe and conduit penetrations larger than 6 inches in diameter shall be precast with the structure in the location and elevations shown on the Drawings. All penetrations below 6 inches in diameter may be core drilled in the field by the Contractor if allowed by the precast manufacturer.
- D. Watertight Manhole Frame and Cover:
1. Frame and cover shall meet load rating EN124:1994 C250.

2. Material shall be fiberglass composite for both frame and cover.
 3. Clear opening shall be 30-inches.
 4. Cover shall be watertight with a replaceable gasket.
 5. All component parts shall be resistant to chemical attack, fuels, salt and water or a combination of the above over the lifespan of the cover and frame. Surface discoloration is acceptable in service.
 6. Manhole frame and cover shall be cast into a precast flat top of diameter and thickness shown on the Drawings.
- E. Manhole Steps:
1. Injection molded copolymer polypropylene conforming to ASTM D4101 that encapsulates a 1/2-inch diameter, Grade 60 ASTM A615 deformed steel reinforcing bar.
 2. Meet ASTM C478, ASTM C497, AASHTO M199, and OSHA related standards.
 3. Steps provided in accordance with ASTM C478 shall conform to ANSO 14.3.
- F. Joint Treatment:
1. Joints of precast manholes and vault base, riser, and top sections:
 - a. Manholes: rubber gaskets conforming to ASTM C443.
 - b. Other Joints: Rubber gasket or self-sealing mastic type waterstop, Greenstreak, Lockstop, or accepted equal to provide a watertight seal on the interior.
- G. High Strength, Non-shrink Grout: as specified in Section 03 60 00 – Grout.

PART 3 : EXECUTION

3.01 MANHOLE AND VAULT CONSTRUCTION

- A. Precast concrete manholes and vaults with integral bottom section:
1. Ensure accurate vertical placement and leveling prior to placement.
 2. Provide vertical alignment tolerance of maximum 1 IN horizontal to 10 FT vertical.
 3. Prechannel manhole inverts with a semi-circular bottom conforming to the inside contour of the adjacent sewer sections:
 - a. Channels shall be prechanneled with concrete extending to the spring line of the largest diameter pipe penetration or higher.
 - b. Shape inverts accurately and smoothly to minimize turbulence and give them a steel trowel finish.
 - c. For changes in direction of the sewer and entering branches into the manhole, make a circular curve in the manhole invert of as large a radius as manhole size will permit.

- d. Slope benches from the manhole wall towards the channel at a minimum of 1/4 inch per foot.
 4. Build each manhole and vault structure to dimensions shown on the Drawings and at such elevation that pipe sections built into wall of manhole will be true extensions of line of pipe.
 5. Provide reinforcing around openings for pipe or duct penetrations per ACI 318.
- B. For all horizontal mating surfaces between concrete and concrete or concrete and metal, seal joints with rubber gaskets in a manner similar to pipe joints conforming to ASTM C443 or ASTM C1619. In addition, all joints shall be provided with an Exterior Joint Wrap.
- C. Manholes and vaults shall be watertight.
- D. Pipe to manhole connections as shown on the Drawings.
- E. Joints in structures shall be located a minimum 6 inches from a pipe penetration, cast or cored.
- F. Set and adjust frame and cover final 6 IN (minimum) to 18 IN (maximum) to match finished pavement or finished grade elevation using precast adjuster rings.

3.02 FIELD QUALITY CONTROL

- A. Manhole Testing:
1. Vacuum Testing:
 - a. Prior to backfill and interior coating installation, vacuum test manholes according to ASTM C1244.
 2. Visual Inspection Testing:
 - a. After backfill and release of groundwater to its natural level, observe inside of structure for groundwater infiltration. Contractor shall perform corrective action as approved by the Engineer to eliminate any infiltration, at no cost to the Owner.
- B. Precast reinforced concrete risers and tops shall be subject to rejection on account of failure to conform to any Specification requirements. In addition, individual sections of risers and tops may be rejected because of any of the following reasons:
1. Fractures or cracks passing through shell, except for single end crack not exceeding depth of joint.
 2. Defects indicating imperfect proportioning, mixing, and molding.
 3. Surface defects indicating honeycombed or open texture.
 4. Damaged ends where such damage would prevent making satisfactory joint.
 5. Manhole steps out of line or not properly spaced.

6. Visible infiltration.
7. Internal diameter of section varying more than 1 percent from nominal diameter.
8. Any continuous crack having surface width of 0.01 inch or more and extending for length of 12 inches or more, regardless of position.

END OF SECTION

**SECTION 33 11 50
EXISTING PIPE ABANDONMENT**

PART 1 : GENERAL

1.01 SUMMARY

- A. This Section includes the removal of existing buried piping and abandonment in place of existing buried piping.
- B. Section includes:
 - 1. Pipe removal.
 - 2. In-place abandonment of pipe.

1.02 RELATED SECTIONS

- A. Section 03 60 00, Grouting.
- B. Section 31 23 24, Flowable Fill.
- C. Section 31 23 33, Trenching, Backfilling and Compacting for Utilities.

1.03 SUBMITTALS

- A. In accordance with the provisions of Section 1-06 – Control of Materials submit the following:
 - 1. Piping Abandonment Plan:
 - a. Identify locations specified for pipe abandonment.
 - b. Provide method to be utilized to abandon the pipe, including whether the pipe will be left in place or removed in its entirety.
 - c. Provide lengths of pipe sections to be filled in a single pour.
 - 2. Non-Shrink Grout: Product data in accordance with Section 03 60 00, Grouting.
 - 3. Controlled low-strength material (CLSM): Mix designs in accordance with Submittal requirements of Section 31 23 24, Flowable Fill.

1.04 REQUIREMENTS OF REGULATORY AGENCIES

- A. Permits: The Contractor is responsible for obtaining all necessary permits required for completion of the work described herein.

- B. Protection of Persons and Property: Meet all federal, state, and local safety requirements for the protection of workmen, other persons, and property in the vicinity of the work and requirements of the General Provisions.
- C. Protection of Existing Work
- D. Carefully examine the Contract Documents to determine the extent of the work of this Section.
- E. Carefully coordinate the work of this Section with all other work and construction.
- F. Take all necessary precautions to prevent damage to existing facilities or utilities which are to remain in place and be responsible for any damages to existing facilities or utilities, which are caused by the operations.

1.05 REPAIR OF DAMAGE

- A. Contractor assumes all risk for the pipe abandonment, including risks associated with the condition of the existing pipe.
- B. Work procedures shall provide for safe conduct of the work; careful removal and disposition of materials and equipment; protection of facilities, utilities and property which are to remain undisturbed; coordination with existing facilities and utilities to remain in service.
- C. Any damage to existing facilities or utilities to remain as caused by the Contractor's operations shall be repaired to acceptance of Engineer, including roadways.
- D. Damaged items shall be repaired or replaced with new materials as required to restore damaged items or surfaces to a condition equal to and matching that existing prior to damage or start of work of this contract.

1.06 EXISTING CONDITIONS

- A. If the pipe material contains any hazardous materials, such as asbestos, requiring special handling upon removal, it is the responsibility of the Contractor to remove and dispose of the material in accordance with all applicable federal, state, and local regulations.

PART 2 : PRODUCTS

2.01 OWNERSHIP OF EXISTING MATERIALS

- A. All materials, equipment, miscellaneous items and debris involved, occurring or resulting from pipe removal work shall become the property of the Contractor at the place of origin, unless otherwise specified in the Drawings or by the Engineer.

2.02 CONTROLLED LOW STRENGTH MATERIAL

- A. As specified in Section 31 23 24, Flowable Fill.

PART 3 : EXECUTION**3.01 PIPE REMOVAL**

- A. Where identified on the Drawings, remove, and dispose of all pipe material and associated appurtenances.
 - 1. All air release valves, individual pump station service lines and appurtenances being abandoned shall be removed to 36 inches below finished grade.
- B. All exposed ends of pipes and fittings shall be capped or plugged with an appropriate ductile iron blind flange, cap or plug and restrained.
- C. All excavation and backfilling associated with pipe removal shall be performed in accordance with 31 23 33 Trenching, Backfilling, and Compacting for Utilities.

3.02 IN-PLACE ABANDONMENT OF PIPING

- A. Where identified on the Drawings, abandon pipe in place.
- B. All exposed ends of pipes being abandoned in place shall be cut and plugged with a minimum of 2 feet of non-shrink grout.
- C. Prior to placing grout, roughen interior pipe surface and apply epoxy bonding agent.

3.03 FILLING PIPE WITH CLSM

- A. All pipe to be abandoned-in-place shall be filled with CLSM.
- B. CLSM shall be placed in a manner to ensure complete filling of the pipe, leaving no cavities or voids.
- C. Lengths of pipe to be filled shall be not longer than 750 feet.
- D. Fills shall be from low points to high points only. CLSM shall not flow over intermediate highpoints.
- E. Install hot taps, saddles, fill lines, and appurtenances as necessary for pumping CLSM from the surface into the pipe being filled.
- F. CLSM shall be pumped up grade from fill lines rigidly connected to the pipes being filled.
- G. Placement of CLSM by free flowing (non-pumped) methods will not be acceptable.
- H. Fill lines shall be located at elevations lower than the pipe being filled.
- I. As the CLSM is being placed, use other fill lines as view ports to ensure complete filling of the pipes.

- J. Relocate pumping equipment as necessary to complete filling of the pipes.
- K. Excavate and cut access holes in the pipes as necessary to complete filling operations.
- L. Perform pipe filling operations in a manner to eliminate all air pockets.
- M. Submit volume calculations for CLSM placed in each filled segment of piping to verify that pipelines have been completely filled.

3.04 CLEANUP

- A. During and upon completion of work of this Section, promptly remove all unused tools and equipment, surplus materials, and debris.
- B. Adjacent areas shall be returned to their existing condition prior to the start of work.

END OF SECTION

SECTION 33 34 00
SANITARY UTILITY SEWERAGE FORCE MAINS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Force mains.
 - 2. Bedding and cover materials.
- B. Related Sections
 - 1. Section 31 23 19 - Dewatering: Dewatering of excavations.
 - 2. Section 31 23 23 – Trenching, Backfilling, and Compacting for Utilities: Excavation, backfilling, compacting, and fill over underground pipe markers .
 - 3. Section 22 13 00 - Pipe: Pressure testing.

1.2 REFERENCE STANDARDS

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.
- B. American Water Works Association:
 - 1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
 - 2. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
 - 3. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
 - 4. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.
 - 5. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. through 60 In. (100 mm through 1,500 mm).
- C. ASTM International:
 - 1. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³)).
 - 2. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)).
 - 3. ASTM D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.

4. ASTM D2241 - Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series).
 5. ASTM D2466 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
 6. ASTM D2467 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
 7. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
- D. Ductile Iron Pipe Research Association (DIPRA):
1. Thrust Restraint Design for Ductile Iron Pipe.

1.3 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.
- B. Coordinate Work of this Section with connection to existing municipal sewer utility service.

1.4 PREINSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Requirements for preinstallation meeting.
- B. Convene minimum one week prior to commencing Work of this Section.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit Manufacturer information indicating pipe material used, pipe accessories, valves, and restrained joint details and materials.
- C. Shop Drawings:
 1. Indicate piping piece numbers and locations.
 2. Indicate restrained joint locations.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Delegated Design Submittals: Submit signed and sealed Shop Drawings with design calculations and assumptions for restrained joints, including establishing lengths of restrained joint piping required.
- F. Manufacturer Instructions: Indicate special procedures required to install specified products.

- G. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
- H. Qualifications Statements:
 - 1. Submit qualifications for Manufacturer, installer, and licensed professional.
 - 2. Submit Manufacturer's approval of installer.

1.6 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record invert elevations and actual location of pipe runs and connections.
- C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.7 QUALITY ASSURANCE

- A. Perform Work according to County standards.

1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years experience.
- B. Installer: Company specializing in performing Work of this Section with minimum three years documented experience.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Section 1-06.4(3) - Delivery of Material or Equipment: Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in Manufacturer's original packaging and inspect for damage.
- C. Storage:
 - 1. Store materials according to Manufacturer instructions.
 - 2. Do not place materials on private property without written permission of property owner.
 - 3. Do not stack pipe higher than recommended by Pipe Manufacturer.
- D. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.

2. Store gaskets for mechanical and push-on joints in cool and dry location, out of direct sunlight, and not in contact with petroleum products.
3. Provide additional protection according to Manufacturer instructions.

1.10 EXISTING CONDITIONS

- A. Field Measurements:
 1. Verify field measurements prior to fabrication.
 2. Indicate field measurements on Shop Drawings.

PART 2 PRODUCTS

2.1 PVC PIPE

- A. PVC Pressure Sewer Pipe and Fittings, 60-Inch Nominal Size and Smaller:
 1. Comply with AWWA C900.
 2. DR 25.
 3. Joints: Bell and spigot.

2.2 MATERIALS

- A. Bedding and Cover:
 1. See Section 31 23 33.

2.3 ACCESSORIES

- A. Pipe Markers: As shown on Plans.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify that trench cut is ready to receive Work.
- C. Verify that excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

- A. Remove large stones or other hard matter capable of damaging pipe or of impeding consistent backfilling or compaction.

3.3 INSTALLATION

A. Bedding:

1. Excavate pipe trench as specified in Section 31 23 33 – Trenching, Backfilling, and Compacting for Utilities.
2. Place bedding material at trench bottom.
3. Maintain optimum moisture content of bedding material to attain required compaction density.

B. Piping:

1. Install pipe, fittings, and accessories as indicated on Drawings.
2. Route piping in straight line.
3. Install bedding at sides and over top of pipe to minimum compacted thickness as shown on the Plans.
4. Backfilling and Compacting:
 - a. As specified in Section 31 23 33 – Trenching, Backfilling, and Compacting for Utilities.
 - b. Do not displace or damage pipe while compacting.
5. Connect to County sewer system.
6. Pipe Markers: shown on Plans.
7. Installation Standards: Install Work according to County standards.

C. Thrust Restraints:

1. Provide pressure pipeline with restrained joints or concrete thrust blocking at bends, tees, and changes in direction.
2. Construct concrete thrust blocking as indicated on Drawings.

3.4 FIELD QUALITY CONTROL

- A. Section 1-06.7 - Testing and Quality Control and Section 1-06.8 – Construction Quality Assurance Plan.
- B. Inspections: Request inspection by Engineer prior to and immediately after placing bedding.
- C. Testing:
 1. If tests indicate that Work does not meet specified requirements, remove Work, replace, and retest.

2. Perform tests on Site sanitary sewage system as required in Section 22 13 00 - Pipe.
3. Compaction Testing:
 - a. Comply with Section 31 23 33 – Trenching, Backfilling, and Compacting for Utilities.

3.5 PROTECTION

- A. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

END OF SECTION

**SECTION 40 05 23.72
MISCELLANEOUS VALVES**

PART 1 : GENERAL

1.01 SUMMARY

- A. This Section includes miscellaneous valves not included in other Sections for use in buried service and utility vaults.
- B. Section Includes:
 - 1. Combination air/vacuum valves.
 - 2. Blow-off assemblies.

1.02 RELATED SECTION

- A. Section 09 90 00, Painting and Coating

1.03 REFERENCE STANDARDS

- A. American Society of Mechanical Engineers (ASME):
 - 1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings.
 - 2. ASME B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 through 24 - Metric/Inch Standard.
 - 3. ASME B16.11 - Forged Fittings, Socket-Welding and Threaded.
 - 4. ASME B16.42 - Ductile Iron Pipe Flanges and Flanged Fittings: Classes 150 and 300.
 - 5. ASME B1.20.1 - Pipe Threads, General Purpose (Inch).
- B. ASTM International (ASTM):
 - 1. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 - 2. ASTM A536 - Standard Specification for Ductile Iron Castings.

ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.

1.04 COORDINATION

- A. Contractor shall be solely responsible to coordinate Work of this Section with piping, equipment, and appurtenances.

1.05 SUBMITTALS

- A. Submittal documents shall conform to the requirements of Section 1-06 – Control of Materials.

- B. Product Data:
 - 1. Submit manufacturer's latest published literature. Include illustrations, installation and maintenance instructions, and parts lists.
 - 2. Submit valve cavitation limits.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer Instructions: Submit installation instructions and special requirements, including storage and handling procedures.
- E. Lining and coating data.
- F. Valve Labeling Schedule: Indicate valve locations and nametag text.
- G. Certification of Valves Larger than 12 inches: Furnish certified copies of hydrostatic factory tests, indicating compliance with applicable standards.
- H. Source Quality-Control Submittals: Indicate results of factory tests and inspections.
- I. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections, including factory-applied coatings.

1.06 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of valves and actuators.
- B. Operation and Maintenance Data: Submit information for valves.

1.07 MAINTENANCE MATERIAL SUBMITTALS

- A. Spare Parts:
 - 1. Furnish one set of manufacturer's recommended spare parts.
- B. Tools:
 - 1. Furnish special wrenches and other devices required for Owner to maintain equipment.
 - 2. Furnish compatible and appropriately labeled toolbox when requested by Owner.

1.08 QUALITY ASSURANCE

- A. Cast manufacturer's name, pressure rating, size of valve, and year of fabrication into valve body.
- B. Valve Testing: Each valve body shall be tested under a test pressure equal to twice its design water-working pressure.

- C. Certification: Prior to shipment, submit for all valves over 12 inches in diameter, certified, notarized copies of the hydrostatic factory tests, showing compliance with the applicable standards of AWWA, ANSI, ASTM, etc. Valves tested and supplied shall be trackable and traceable by serial number, tagged or otherwise noted on valve, upon arrival to Site.
- D. Maintain clearances as indicated on Drawings.
- E. Unless otherwise noted, all water works materials provided for the Project shall be new, of first-class quality and shall be made by reputable manufacturers.
- F. All material of a like kind shall be provided from a single manufacturer, unless otherwise approved by the Engineer.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- B. Store materials according to manufacturer instructions.
 - 1. Store materials in areas protected from weather, moisture, or other potential damage.
 - 2. Do not store materials directly on ground.
 - 3. Protection:
 - 4. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 5. Protect valve ends from entry of foreign materials by providing temporary covers and plugs.
 - 6. Provide additional protection according to manufacturer instructions.
- C. Handle products carefully to prevent damage to interior or exterior surfaces.
- D. All defective or damaged materials shall be replaced with new materials at no cost to the Owner.

PART 2 : PRODUCTS

2.01 COMBINATION AIR/VACUUM VALVES

- A. Description:
 - 1. Construction: One combined air release/vacuum relief valve.
 - 2. Inlet Size: 2-inch diameter.
 - 3. Body: Reinforced Nylon.
 - 4. Provide stainless steel ¼-turn ball valves on inlet.

B. Manufacturers:

1. ARI – Flow Accessories, no substitutions.

2.02 BALL VALVES, 2 INCHES AND UNDER

A. Description:

1. Material: Stainless Steel 316.
2. Manufacturer: Apollo Valves 76F-100-A or equal.

2.03 SOURCE QUALITY CONTROL

A. Testing Pressure-Reducing and Pressure-Sustaining Valves:

1. Leakage Testing:
 - a. Test each assembled valve hydrostatically at 1-1/2 times rated working pressure for minimum five minutes.
 - b. Test each valve for leakage at rated working pressure against closed valve.
 - c. Permitted Leakage: None.
2. Functional Testing:
 - a. Test each valve to verify specified performance.

PART 3 : EXECUTION

3.01 INSTALLATION

- A. Install valves per manufacturer requirements and recommendations.
- B. Install all valves with valve seats level.
- C. Install protective strainers upstream of solenoid valves, pressure-reducing valves, and pressure-sustaining valves.

END OF SECTION

**SECTION 40 05 61
GATE VALVES**

PART 1 : GENERAL

1.01 SUMMARY

- A. This Section includes gate valves for use in buried service and utility vaults.
- B. Section Includes:
 - 1. Resilient-seated gate valves.

1.02 REFERENCE STANDARDS

- A. American Society of Mechanical Engineers (ASME):
 - 1. ASME B16.1 - Gray Iron Pipe Flanges and Flanged Fittings.
 - 2. ASME B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 through 24 - Metric/Inch Standard.
 - 3. ASME B16.42 - Ductile Iron Pipe Flanges and Flanged Fittings: Classes 150 and 300.
 - 4. ASME B1.20.1 - Pipe Threads, General Purpose (Inch).
- B. ASTM International (ASTM):
 - 1. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
 - 2. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.
 - 3. ASTM B584 - Standard Specification for Copper Alloy Sand Castings for General Applications.
- C. American Water Works Association (AWWA):
 - 1. AWWA C500 - Metal-Seated Gate Valves for Water Supply Service.
 - 2. AWWA C509 - Resilient-Seated Gate Valves for Water Supply Service.
 - 3. AWWA C550 - Protecting Interior Coatings for Valves and Hydrants.
- D. Manufacturers Standardization Society of the Valve and Fittings Industry (MSS):
 - 1. MSS SP-70 - Gray Iron Gate Valves, Flanged and Threaded Ends.
 - 2. MSS SP-80 - Bronze Gate, Globe, Angle and Check Valves.

1.03 SUBMITTALS

- A. Submittal documents shall conform to the requirements of Section 1-06 – Control of Materials.

PART 2 : PRODUCTS**2.01 RESILIENT-SEATED GATE VALVES**

- A. Description:
1. Comply with AWWA C509.
 2. Minimum Pressure Rating:
 - a. Twelve-inch Diameter and Smaller: 200 pounds per square inch (gauge) (psig).
 - b. Sixteen-inch Diameter and Larger: 150 psig.
 3. End Connections: As shown in the Drawings.
 - a. Standard mechanical joint ends comply with ANSI/AWWA C111.
 - b. Flanged end dimensions and drilling comply with ANSI/ASME B16.1, class 125. Comply with AWWA C115 & ASME 16.5.
 - 1) The Contractor shall coordinate with pipe, valve, and fitting suppliers to make certain pipe, valve, and fitting flanges match in bolt pattern.
 4. Gear Actuators: Conforming to AWWA C509 for manual valves.
 5. Linings and Coatings:
 - a. Corrosion-resistant fusion bonded epoxy conforming to AWWA C550.
 - b. All internal and external ferrous surfaces.
 - c. Do not coat flange faces of valves.
 6. Bi-directional flow.
- B. Operation:
1. Non-rising stem.
 2. Open counterclockwise when viewing the valve from above, unless otherwise indicated in the Drawings.
 3. Buried Valves: All buried valves shall be provided with 2-inch square operating nuts.
- C. Materials:
1. Wedge:
 - a. ASTM A126, cast iron or ASTM A536, ductile iron.
 - b. Fully encapsulated with molded rubber.
 2. Body and Bonnet:
 - a. ASTM A126, cast iron or ASTM A536, ductile iron.
 3. Stem, Stem Nuts, Glands, and Bushings: ASTM B584, bronze.
 4. Valve Body Bolting: Stainless steel.

- D. Manufacturers:
 - 1. Clow Valve Company.
 - 2. M&H Valve.
 - 3. U.S. Pipe.
 - 4. American Flow Control.
 - 5. Mueller Company.

2.02 SOURCE QUALITY CONTROL

- A. Testing: Test gate valves according to AWWA C509.

PART 3 : EXECUTION

3.01 INSTALLATION

- A. Install according to manufacturer's instructions.
- B. Support valves in plastic piping to prevent undue stresses on piping.

END OF SECTION

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