

## ADDENDUM NO. 2

The following general questions have been received and the responses are as follows:

- Q1. *The bid schedule for the optional bid price has Bid Items No. 250.1 and No. 265.1 with zero quantity and Bid Item No. 420.1 with N/A quantity. Are these correct, and if so, could they be removed from the bid schedule?*

Bid Item No. 250.1: See attached for revised Bid Form in specification Section 00 41 00. This bid item should have a unit quantity of one (1) to account for the Sta. 704+26 undershot culver drainage crossing.

Bid Item No. 265.1: Yes, this is a zero quantity. This bid item has been left in to acknowledge that the option bid is based on an assumption that the optional award would be in sufficient time to allow for completion in the same construction season as the base award. The "Pipeline Transition to Canal" priced in Bid Item No. 265.0 would be installed at the end of the option reach pipeline conversion. If option award can't be completed within the same construction season as the base award, the District and Contractor will need to negotiate a change order to install Bid Item No. 265.0 for interim Substantial Completion for the 2025 Irrigation Season and either de-obligate the remaining reach or add a quantity for a revised Bid Item No. 265.1 for the following construction season Final Completion in 2026.

Bid Item No. 420.1: Yes, this is a not-applicable (N/A) quantity. This bid item has been left in to acknowledge that the option bid is based on an assumption that the optional award would be in sufficient time to allow for completion in the same construction season as the base award. The "Canal Access Road" priced in Bid Item No. 420.0 already accounts for assumed construction damage regrading and crushed surfacing restoration for a length down to canal Sta. 720+00. If option award can't be completed within the same construction season as the base award, the District and Contractor will need to negotiate a change order for interim Substantial Completion for the 2025 Irrigation Season and either de-obligate the remaining reach or add a revised site restoration plan for the following construction season Final Completion in 2026.

- Q2. *On Drawing G003, a minimum reinforcing schedule is provided for walls but not slabs. What reinforcing should be used for cast-in-place slabs?*

See attached for revised Drawing G003 with new notes S-9 and S-10 and existing notes retained as renumbered notes S-11 through S-19.

- Q3. *Optional Reach Bid Item No. 220.1 lists one (1) Control Structure SB13.6 but the table on Drawing C501 also lists Control Structure SB13.8 and SB13.9. Should the bid quantity be increased to three (3) to account for SB13.8 and SB13.9.*

Only Control Structure SB13.6 is located within the optional reach. Control Structure SB13.8 and Control Structure SB13.9 would be considered in future contract packages independent of the current bidding process.

- Q4. *Optional Reach Bid Item No. 240.1 lists six (6) Turnouts but the table on Drawing C510 shows an additional SB13.1 turnout not listed in the bid item. Should the quantity for Bid Item No. 240.1 be increased?*

See attached for revised Bid Form in specification Section 00 41 00. The correct number of irrigation turnouts is six (6), but the designations in the description were incorrect. Yes, SB13.1 is one of the six turnouts being included in Bid Item No. 240.1. The reference to SB13.6 is incorrect as this is flagged via footnote to the table on Drawing C510 as being a Control Structure that is already accounted for by Bid Item No. 220.1.

- Q5. *Optional Reach Bid Item No. 210.1 lists a lineal footage of 3,285 feet of 72-inch pipe installation and Bid Item No. 211.1 lists a lineal footage of 40 feet of 66-inch pipe installation for a total of 3,325 feet of pipe. The reach pipe station is listed at Sta. P156+40 to P198+74 for a total length of 4,234 feet. Are the bid item quantities for the pipe installation accurate?*

See attached for revised Bid Form in specification Section 00 41 00. Bid Item No. 210.1 has been increased to 4,194 feet of 72-inch pipe installation. This is based on the total pipe station length less the Bid Item No. 211.1 length of 66-inch pipe installation. It does not account for potential pipe length optimization achievable from a portion of the pipe alignment station be occupied by Control Structure SB13.6.

- Q6. *There does not appear to be any information in the specifications for what brand and model number the propeller flow meters called out in the turnout details need to be. What are the meter specifications, and do they provide clarification of the “flanged tee” configuration mentioned in the SB12.8 turnout at Sta. P156+00?*

See attached for added revised Section 33 12 16 for added product specification of turbine/propeller flow meters as water utility distribution equipment. In order to facilitate ease of future District cleaning and maintenance, the propeller flow meters are to be of a top plate design where the meter can be removed via a flanged vertical tee branch of sufficient size to allow for removal and reinsertion of the turbine/propeller meter. The intent of the flanged top plate installation is to allow for future removal without having to excavate down past the crown of the mainline pipe. A bolt-on saddle meter would be considered under a post-award variance request if it was installed in a sufficiently sized vault to allow for removal and reinstallation of the saddle without need to excavate.

The following attached changes are incorporated into requirements for the Project No. 33-SBC-1008 Contract Documents by this Addendum:

Attachment 1: Section 00 41 00 – Bid Forms

- Added Addendum No. 2 to acknowledgement log in ¶2.2 on Page 2 of 15
- Schedule of Bid Prices:
  - ¶3.2 Optional Reach (Sta. 675+94 to Sta. 719+08) Bid Schedule
    - Revised Bid Line Item 210.1 quantity to 4,194 lineal feet.
    - Corrected Bid Line Item 240.1 description to include SB13.1 and remove SB13.6.
    - Corrected Bid Line Item 250.1 quantity to 1 each and description to include Sta. 704+26.

Attachment 2: Section 33 12 16 – Utility Valves and Gates

- Added Product ¶2.06 for Tubine/Propeller Flow Meters.

Attachment 3: Drawing G003

- Added Revision 1 for minimum slab reinforcement via notes S-9 and S-10.
- Previous notes S-9 and S-10 retained and renumbered along with all subsequent notes to S-11 through S-19.

KITTITAS RECLAMATION DISTRICT

Dated this 25th day  
of October, 2024

By: \_\_\_\_\_  
David Allison

Title: \_\_\_\_\_  
Engineer

**BID FORM  
(STIPULATED PRICE BASIS)**

1. GENERAL

1.1. The undersigned (Bidder) proposes and agrees, if this Bid is accepted, to enter into an Agreement with District in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

1.2. This Bid is submitted to:

Owner: Kittitas Reclamation District ("District")  
Mail Address: P.O. Box 276, Ellensburg, WA 98926  
Physical Address: 315 N. Water St., Ellensburg, WA 98926  
Project Number: 33-SBC-1008  
Project Name: South Branch Canal Improvements –  
2024-25 Reaches (Milepost 12.4 to Milepost 12.8)

1.3. This Bid is submitted by:

Bidder Name: \_\_\_\_\_

Date Submitted: \_\_\_\_\_

Business Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Washington Contractor's License No.: \_\_\_\_\_

Contractor's License Class (where applicable): \_\_\_\_\_

2. BIDDER'S ACKNOWLEDGEMENTS

- 2.1. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 2.2. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

Addendum No(s).	Addendum No(s).
01	
02	

(Bidder shall insert number of each Addendum received.)

- 2.3. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- 2.4. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- 2.5. Bidder has carefully studied: drawings of physical conditions relating to existing surface or subsurface structures at the Site.
- 2.6. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
- 2.7. Based on information and observations referred to in paragraph above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) Bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

- 2.8. Bidder is aware of the general nature of work to be performed by District and others at the Site that relates to the Work as indicated in the Bidding Documents.
  - 2.9. Bidder has given District written notice of conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by District is acceptable to Bidder.
  - 2.10. The Bidding Documents are generally sufficient to indicate and convey understanding of terms and conditions for the performance of the Work for which this Bid is submitted.
3. SCHEDULE OF BID PRICES

Fill in all Bid items completely, including lump sums, unit prices, and alternates. Quote in figures only, unless words are specifically requested.

3.1. Base Reach (Sta. 655+09 to Sta. 675+94) Bid Schedule

The base bid improvements in these documents are for roadway improvements and pipeline replacement of open channel from the existing 78-inch steel reinforced HDPE pipe transition as work related to canal improvements for 2,100 feet between Stations SBC 655+09 (MP12.40) and Station SBC 674+94 (MP12.80) and for the lateral pipeline beginning at turnout 10.4 and running 1,080 feet .

Item No.	Approx. Quantity	Unit	Item Description	Unit Price	Total Amount
<b>000.0</b>	-	-	<b>CONTRACTOR ADMINISTRATION</b>	-	-
010.0	1	Lump Sum	Mobilization (5% max.)	\$	\$
020.0	1	Lump Sum	Permit Documentation / Compliance (administrative allowance)	\$	\$
030.0	1	Lump Sum	General Contractor Margin (administrative allowance)	\$	\$
050.0	1	Lump Sum	Record Document Maintenance (administrative allowance)	\$	\$
060.0	1	Lump Sum	Demobilization (3% max.)	\$	\$
<b>100.0</b>	-	-	<b>SITE PREPARATION (Sta. 655+09 to 675+94)</b>	-	-
110.0	2,100	Lineal Feet	Access Improvement (O&M road clearing, canal removal and rough grade)	\$	\$
120.0	1	Lump Sum	Staging / Site Improvements (staging site clear and rough grade)	\$	\$
121.0	0.4	Acre	Tree & Brush Removal (clear and chip right bank to KRD right-of-way Sta. 664+50 to 668+90)	\$	\$
130.0	1	Lump Sum	Develop and Maintain Erosion Control / SWPP Plan	\$	\$
140.0	50	Cubic Yard	Quarry Spalls (allowance – as approved by District)	\$	\$
<b>200.0</b>	-	-	<b>CANAL PIPING (Sta. P135+54 to P156+40)</b>	-	-
210.0	1,960	Lineal Feet	78" Pipe Installation (inclds. excav., materials, placing, jointing, backfill & compaction)	\$	\$
211.0	40	Lineal Feet	72" Pipe Installation (inclds. excav., materials, placing, jointing, backfill & compaction)	\$	\$
215.0	50	Cubic Yard	Rock Excavation (allowance – as approved by District)	\$	\$
220.0	1	Each	Control Structure SB12.8 w/ 0.0L and 0.0R (inclds. mainline struct., turnout piping, & meters)	\$	\$
221.0	30	Each	Control Structure aluminum stoplogs (Detail 2/C502)	\$	\$
230.0	1	Each	30" Access Riser (Sta. P145+02)	\$	\$
235.0	5	Each	8" Vent (Sta. P138+52, 141+91, 148+87, 152+37, 156+13)	\$	\$
240.0	2	Each	Irrigation Turnouts (12.6 and 12.7)	\$	\$

Item No.	Approx. Quantity	Unit	Item Description	Unit Price	Total Amount
250.0	1	Each	Drainage Crossing – SBC 664+80	\$	\$
260.0	1	Each	Transition Structure	\$	\$
<b>300.0</b>	<b>-</b>	<b>-</b>	<b>SB10.4 Lateral Pipeline (SB10.4 Sta. 0+60 to 11+40)</b>		
310.0	1,175	LF	Burial and capping of 16" DR25 C905 pipe for the future reroute of SB9.9 at SB10.4	\$	\$
<b>400.0</b>	<b>-</b>	<b>-</b>	<b>SITE RESTORATION (Sta. 528+00 to 720+00)</b>	<b>-</b>	<b>-</b>
410.0	2,000	Lineal Feet	Wire Fence (allowance for relocation or repair of existing fencing displaced during construction)	\$	\$
420.0	19,200	Lineal Feet	Canal Access Road (restore rough grade and final grade with crushed surfacing)	\$	\$
430.0	2,100	Lineal Feet	Restoration Seeding (Main canal only, no reseeded of SB10.4 lateral)	\$	\$
<b>SUB-TOTAL BASE BID PRICE</b>					\$
Sales and Use Tax (see acknowledgement below)					\$
<b>TOTAL BASE BID PRICE</b>					\$

- Acknowledgement that pursuant to RCW 82.04.050, the District is exempt from paying State of Washington sales and use tax on equipment and labor portions of the Project cost. In the estimated "Sales & Use Tax" line in the Bid Schedules, Bidders shall include the combined Washington State and unincorporated Kittitas County estimated Sales and Use Taxes that the Contractor will pay on purchases of materials and supplies used or consumed in the Project.

### 3.1.1. Base Reach Bid Item Descriptions

#### 000.0 Contract Administration

010.0 Mobilization (5% Max.): Includes bonds, insurance, site work trailers and miscellaneous construction facilities, temporary utilities, preconstruction conference and submittals, other startup costs for construction, The payment for mobilization will be made when the items listed herein, have been completed and the Engineer is satisfied that the Contractor is diligently pursuing commencement of the Work.

020.0 Permit Documentation / Compliance: Includes the creation and securing of permits related to maintenance of work related to temporary construction activities. Permit fees associated with permits are incidental to this bid item.

030.0 General Contractor Margin: Includes all contractor markup/profit related to materials, labor, and overhead related to the project not otherwise accounted for in individual line item pricing.



050.0 Record Document Maintenance: Includes all record documentation associated with the project including design drawing as-built redlines, O&M Manuals, warranty documentation delivery, etc.

060.0 Demobilization (3% Max.): Includes removal of all on-site construction equipment, site work trailers and miscellaneous construction facilities, temporary utilities, site cleanup, and other demobilization activities. Payment for demobilization will be made at the time of the final payment upon final acceptance of the Work by the Owner. The payment for demobilization will be made when all Work is complete, including but not limited to removal of work trailers, warranty, and O&M Manuals provided, unused material removal, all equipment removed, road work complete, etc.

### 100.0 Site Preparation

110.0 Access Improvement: Includes all equipment, materials, and labor for site improvements necessary to provide adequate access to project and staging area for the use of heavy construction equipment and materials delivery. This Bid Item includes survey associated with establishment of ROW Centerline. Any damage to public or private roads will be the responsibility of the contractor to repair or replace at the end of the project at no cost to the Owner.

120.0 Staging / Site Improvements: Includes all materials, equipment and labor required to improve a staging area within the project right-of-way alignment for project use, rough grading, and any removal of existing items along the canal such as turnouts, concrete headwalls, bridge, ect. Also includes any cost of securing and maintaining a lease for staging area(s) at the Contractor's option outside of project right-of-way.

121.0 Right-of-Way Tree and Brush Removal: Includes all materials, equipment and labor required to cut all trees and brush along the western, right bank, of the canal up to the right-of-way in the Catlin Canyon drainage from Sta. 664+50 through Sta. 668+90. Woody debris and vegetative refuse to be chipped and spread across the area cleared.

130.0 Develop, Implement, and Maintain Erosion Control / SWPP Plan: Includes all work related to the creation, implementation, and maintenance of a SWPPP specific to the project and the Contractor's planned means and methods.

140.0 Quarry Spalls (Optional): Includes all materials, equipment, hauling, and placement of quarry spalls on to improve the subbase of access road or other areas as directed by Engineer. This item is optional and only required with approval and direction by Engineer.

### 200.0 Canal Piping

210.0 78" Pipe Installations: Includes all materials, equipment, and labor necessary to install 78" pipe along canal alignment. Includes pipeline

survey and staking, excavation, pipe bedding, pipe material, bends and fittings, installation, CDF backfill (thrust block), joint welding (if required), backfill and compaction.

211.0 72" Pipe Installations: Includes all materials, equipment, and labor necessary to install 72" pipe along canal alignment. Includes pipeline survey and staking, excavation, pipe bedding, pipe material, bends and fittings, installation, CDF backfill (thrust block), joint welding (if required), backfill and compaction

215.0 Rock Excavation Allowance: Includes all equipment and labor necessary for hauling and disposal of rock excavation necessary if encountered in field to complete the work in the design drawings.

220.0 Control Structure: Includes all labor, equipment, and materials necessary to construct and install concrete control structure. Includes excavation, foundation preparation, installation of structure (precast or cast in place) structural backfill. Also includes installation of pipes, pipe grouting, canal gates, grating, grating supports, and stop log guides.

221.0 Stop Logs: Includes all labor, equipment, and materials necessary to construct and install stainless steel stoplogs used in the control structure.

230.0 30" Access Riser: Includes all labor, equipment, and materials necessary to construct and install 30" access risers along the pipeline as shown on plans. Bid item to include pipe, couplers, saddle, welding, flange, blind flange, spacers, and pest exclusion / screen material, and any other items requires for installation.

235.0 8" Vent: Includes all labor, equipment, and materials necessary to construct and install 8" air vents along the pipeline as shown on plans. Bid item to include pipe, couplers, saddle, welding, flange, blind flange, spacers, and pest exclusion / screen material, and any other items requires for installation.

240.0 Irrigation Turnout: Includes all labor, equipment, and materials necessary to construct and install irrigation turnouts, turnout boxes and/or metered outlets from mainline pipe. Bid item to Include excavation, pipe installation, saddle, welding, backfill, canal gate, turnout box and other equipment as shown on plans.

250.0 Overshot & Undershot Drain: Includes all labor, equipment, and materials necessary to construct and install overshots & undershots. Bid item to Include excavation, pipe, pipe installation, granular material and as shown on plans.

260.0 Pipeline Transition to Canal: Includes all labor, equipment, and materials necessary to construct ecology block headwall and riprap

apron. Bid item to Include all items require for headwall, placement of riprap and transition grading to existing canal. Ecology blocks from removed transitions can be reused.

### 300.0 Lateral Piping

310.0 16" Pipe Installations: Includes all materials, equipment, and labor necessary to install 16" PVC pipe as shown in drawings. Includes pipeline survey and staking, excavation, pipe bedding, pipe material, bends and fittings, installation, backfill and compaction, and site restoration.

### 400.0 Site Restoration

410.0 Fencing: Includes allowance for all labor, equipment, and materials necessary to temporarily maintain, relocate, or restore existing fencing along the right-of-way disturbed by Contractor's means and methods.

420.0 Canal Access Road: Includes all labor, equipment, and materials necessary to construct the final canal access roadway as shown in the design drawings. Bid item shall include final grading, ditch and surfacing.

430.0 Restoration Seeding: Includes all labor, equipment, and materials necessary to final grade and dryland-mix seeding of site. Bid item is per linear foot, from right-of-way lines, minus roads and canal.

3.2. Optional Reach (Sta. 675+94 to Sta. 719+08) Bid Schedule

Pricing of the Optional Reach extension is requested for potential optional award at the discretion of KRD. The optional bid improvements in these documents are for roadway improvements and pipeline replacement of open channel described as work related to canal improvements between Stations 676+00 to 719+10. Optional award will depend on a variety of factors, including, but not limited to, grant funding award, weather, cost, Contractor's work plan, demonstrated productivity on base bid reach, and the anticipated start of the 2025 irrigation seasons on or about April. In the event that only partial funding is granted, the District may negotiate a partial extension based on the submitted prices. This optional pricing will not be factored into evaluation of apparent low bidder.

Item No.	Approx. Quantity	Unit	Item Description	Unit Price	Total Amount
<b>000.1</b>	-	-	<b>CONTRACTOR ADMINISTRATION</b>	-	-
010.1	1	Lump Sum	Mobilization (5% max.)	\$	\$
020.1	1	Lump Sum	Permit Documentation / Compliance (administrative allowance)	\$	\$
030.1	1	Lump Sum	General Contractor Margin (administrative allowance)	\$	\$
050.1	1	Lump Sum	Record Document Maintenance (administrative allowance)	\$	\$
060.1	1	Lump Sum	Demobilization (3% max.)	\$	\$
<b>100.1</b>	-	-	<b>SITE PREPARATION (Sta. 676+00 to 719+10)</b>	-	-
110.1	4,310	Lineal Feet	Access Improvement (O&M road clear, canal removal and rough grade)	\$	\$
120.1	1	Lump Sum	Staging / Site Improvements (staging site clear and rough grade)	\$	\$
130.1	1	Lump Sum	Develop and Maintain Erosion Control / SWPP Plan	\$	\$
140.1	50	Cubic Yard	Quarry Spalls (allowance – as approved by District)	\$	\$
<b>200.1</b>	-	-	<b>CANAL PIPING (Sta. P156+40 to P198+74)</b>	-	-
210.1	4,194	Lineal Feet	72" Pipe Installation (incls. excav., materials, placing, jointing, backfill & compaction)	\$	\$
211.1	40	Lineal Feet	66" Pipe Installation (incls. excav., materials, placing, jointing, backfill & compaction)		
215.1	80	Cubic Yard	Rock Excavation (allowance – as approved by District)	\$	\$
220.1	1	Each	Control Structure SB13.6 (incls. mainline struct & install w/ misc. metal)	\$	\$
221.1	22	Each	Control Structure aluminum stoplogs (Detail 2/C502)	\$	\$
230.1	2	Each	30" Access Riser (Sta. 170+41, 188+11)	\$	\$

235.1	9	Each	8" Vent (Sta. 159+79, 163+33, 166+87, 173+95, 177+49, 181+03, 184+57, 195+28, 198+58)	\$	\$
240.1	6	Each	Irrigation Turnouts 13.0, 13.05, 13.1, 13.45, 13.50, 13.51 (incls. piping, gates, and turnout box)	\$	\$
250.1	1	Each	Overshot & Undershot Drains (Sta.704+26)	\$	\$
265.1	0	Each	Pipeline Transition to Canal (cost covered in base bid)	\$	\$
<b>400.1</b>	<b>-</b>	<b>-</b>	<b>SITE RESTORATION (Sta. 676+00 to 719+10)</b>	<b>-</b>	<b>-</b>
410.1	2,000	Lineal Feet	Wire Fence (allowance for relocation or repair of existing fencing displaced during construction)	\$	\$
420.1	N/A	Lineal Feet	Canal Access Road (included in base bid)	\$	\$
430.1	4,310	Lineal Feet	Restoration Seeding	\$	\$
<b>SUB-TOTAL OPTIONAL BID PRICE</b>					\$
Sales and Use Tax (see acknowledgement below)					\$
<b>TOTAL OPTIONAL BID PRICE</b>					\$

- Acknowledgement that pursuant to RCW 82.04.050, the District is exempt from paying State of Washington sales and use tax on equipment and labor portions of the Project cost. In the estimated "Sales & Use Tax" line in the Bid Schedules, Bidders shall include the combined Washington State and unincorporated Kittitas County estimated Sales and Use Taxes that the Contractor will pay on purchases of materials and supplies used or consumed in the Project.

### 3.2.1. Option Reach Bid Item Descriptions

#### 000.1 Contract Administration

010.1 Mobilization (5% Max.): Includes bonds, insurance, site work trailers and miscellaneous construction facilities, temporary utilities, preconstruction conference and submittals, other costs for continuation of construction. The payment for mobilization will be made when the items listed herein, have been completed and the Engineer is satisfied that the Contractor is diligently pursuing commencement of the Work.

020.1 Permit Documentation / Compliance: Includes the creation and securing of permits related to maintenance of work related to temporary construction activities. Permit fees associated with permits are incidental to this bid item.

030.1 General Contractor Margin: Includes all contractor markup/profit related to materials, labor, and overhead related to the project not otherwise accounted for in individual line item pricing.

050.1 Record Document Maintenance: Includes all record documentation associated with the project including design drawing as-built redlines, O&M Manuals, warranty documentation delivery, etc.

060.1 Demobilization (3% Max.): Includes removal of all on-site construction equipment, site work trailers and miscellaneous construction facilities, temporary utilities, site cleanup, and other demobilization activities. Payment for demobilization will be made at the time of the final payment upon final acceptance of the Work by the Owner. The payment for demobilization will be made when all Work is complete, including but not limited to removal of work trailers, warranty, and O&M Manuals provided, unused material removal, all equipment removed, road work complete, etc.

### 100.1 Site Preparation

110.1 Access Improvement: Includes all equipment, materials, and labor for site improvements necessary to provide adequate access to project and staging area for the use of heavy construction equipment and materials delivery. This Bid Item includes survey associated with establishment of ROW Centerline. Any damage to public or private roads will be the responsibility of the contractor to repair or replace at the end of the project at no cost to the Owner.

120.1 Staging / Site Improvements: Includes all materials, equipment and labor required to improve a staging area within the project right-of-way alignment for project use, rough grading, and any removal of existing items along the canal such as turnouts, concrete headwalls, bridge, ect. Also includes any cost of securing and maintaining a lease for staging area(s) at the Contractor's option outside of project right-of-way.

130.1 Develop, Implement, and Maintain Erosion Control / SWPP Plan: Includes all work related to the creation, implementation, and maintenance of a SWPPP specific to the project and the Contractor's planned means and methods.

140.1 Quarry Spalls (Optional): Includes all materials, equipment, hauling, and placement of quarry spalls on to improve the subbase of access road or other areas as directed by Engineer. This item is optional and only required with approval and direction by Engineer.

### 200.1 Canal Piping

210.1 72" Pipe Installation: Includes all materials, equipment, and labor necessary to install 72" pipe along canal alignment. Includes pipeline survey and staking, excavation, pipe bedding, pipe material, bends and fittings, installation, CDF backfill (thrust block), joint welding, backfill and compaction.

211.0 66" Pipe Installation: Includes all materials, equipment, and labor necessary to install 66" pipe along canal alignment. Includes pipeline survey and staking, excavation, pipe bedding, pipe material, bends and fittings, installation, CDF backfill (thrust block), joint welding (if required), backfill and compaction.

215.1 Rock Excavation Allowance: Includes all equipment and labor necessary for hauling and disposal of rock excavation necessary if encountered in field to complete the work in the design drawings.

230.1 30" Access Riser: Includes all labor, equipment, and materials necessary to construct and install 30" access risers along the pipeline as shown on plans. Bid item to include pipe, couplers, saddle, welding, flange, blind flange, spacers, and pest exclusion / screen material, and any other items requires for installation.

235.1 8" Vent: Includes all labor, equipment, and materials necessary to construct and install 8" air vents along the pipeline as shown on plans. Bid item to include pipe, couplers, saddle, welding, flange, blind flange, spacers, and pest exclusion / screen material, and any other items requires for installation.

240.1 Irrigation Turnout: Includes all labor, equipment, and materials necessary to construct and install irrigation turnout boxes or metered outlets from control structures. Bid item to Include excavation, pipe installation, saddle, welding, backfill, canal gate, turnout box and other equipment as shown on plans.

250.1 Overshot & Undershot Drain: Includes all labor, equipment, and materials necessary to construct and install overshots & Undershots. Bid item to Include excavation, pipe installation, granular material and as shown on plans.

265.1 Pipeline Transition to Canal: Includes all labor, equipment, and materials necessary to construct ecology block headwall and riprap apron. Bid item to Include all items require for headwall, placement of riprap and transition grading to existing canal. Ecology blocks from removed transitions can be reused. For Optional Reach award prior to completion of Base Reach, cost for Optional Reach Pipeline Transition to Canal assumed to be covered by cost for omitted Base Reach Pipeline Transition.

#### 400.1 Site Restoration

410.1 Fencing: Includes allowance for all labor, equipment, and materials necessary to temporarily maintain, relocate, or restore existing fencing along the right-of-way disturbed by Contractor's means and methods.

420.1 Canal Access Road: Includes all labor, equipment, and materials necessary to construct the final canal access roadway as shown in the design drawings. Bid item shall include final grading, ditch and surfacing.

430.1 Restoration Seeding: Includes all labor, equipment, and materials necessary to final grade and dryland-mix seeding of site. Bid item is per linear foot, from right-of-way lines, minus roads and canal.

4. TIME OF COMPLETION

- 4.1. Bidder agrees the Work will be substantially complete in accordance with Section 00 73 00 (Supplementary Conditions). Anticipated award and Notice to Proceed to allow for construction during the annual canal outage beginning in fall 2023.
- 4.2. Bidder agrees the Work will be completed and ready for final payment 30 calendar days after the date of Substantial Completion.
- 4.3. Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work, and any specified Milestones, within the Contract Times.

5. ATTACHMENTS TO THIS BID

- 5.1. The following documents are submitted with and made a condition of this Bid:
  - 5.1.1. Signed Bidder's Certification Form.
  - 5.1.2. Issued Bid security in the form of Bid bond.
  - 5.1.3. Evidence of Bidder authority and registration to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids.
  - 5.1.4. Separately sealed Bidder's Statement of Qualifications packet.
  - 5.1.5. RCW 39.30.060 list of Proposed Subcontractors and Suppliers.



6. BID SUBMITTAL

This Bid submitted by:

An Individual

Name (typed or printed): \_\_\_\_\_

By (signature): \_\_\_\_\_

Doing business as: \_\_\_\_\_

A Partnership

Partnership Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
(Signature of general partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

A Corporation

Corporation Name: \_\_\_\_\_ (SEAL)

State of Incorporation: \_\_\_\_\_

Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

By: \_\_\_\_\_  
(Signature – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_ (CORPORATE SEAL)

Attest: \_\_\_\_\_  
(Signature of Corporate Secretary)

Date of Qualification to do business in State of Washington is: \_\_\_\_\_

A Joint Venture

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated below.)

Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
(Signature of joint venture partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature of joint venture partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature of joint venture partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature of joint venture partner – attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

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## SECTION 33 12 16 – UTILITY VALVES AND GATES

### PART 1 – GENERAL

#### 1.01 SECTION INCLUDES

- A. Canal Gates.
- B. Stop Logs
- C. Butterfly Valves
- D. Alfalfa Valves
- E. Turbine/Propeller Flow Meters

#### 1.02 RELATED WORK SPECIFIED ELSEWHERE

The provisions and intent of the Contract, including the General Conditions and Specific Requirements, apply to this work as if specified in this section. Work related to this section is described in:

- A. Section 01 33 00 – Submittal Procedures
- B. Section 01 45 00 – Quality Control

#### 1.03 REFERENCES

- A. ASTM International (ASTM):
  - 1. A126 .....Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings
  - 2. A240 / A276 .....Stainless and Heat Resisting Steel Bars and Shapes
  - 3. B308 .....Aluminum-Alloy 6061-T6 Standard Structural Profiles
  - 4. D2000 .....Classification System for Rubber Products in Automotive Applications.
- B. American Society of Mechanical Engineers (ASME):
  - 1. B16.5 .....Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24, Metric/Inch Standard

#### 1.04 SUBMITTALS

- A. Product Data: Submit material list naming each product to be used identified by manufacturer and model or type number. Provide data on valves, gates, and accessories.

## 1.05 DELIVERY, STORAGE, AND HANDLING

- A. Solvent Cement: Store in accordance with ASTM D2855.

## PART 2 – PRODUCTS

### 2.01 MATERIALS

- A. All valves and gates shall be manufacturer's standard design unless otherwise specified, and shall be furnished with operating wheel, extension stems, wrench nut or lever, and other accessories, which are required for proper completion of the work. Unless otherwise indicated, the direction to open the valve shall be to the left.

### 2.02 CANAL GATES

- A. Canal gates shall be self-contained with yoke and bench stand operators.
- B. Frame and cover shall be epoxy coated, cast iron with machined seating faces. The cover shall be domed design to withstand a maximum seating head of 20 feet. Installations where gate is subjected to an unseating head, gate to be designed for a minimum unseating head of 10 feet.
- C. Guide rails and head rails to be stainless steel, minimum ¼ inch thick, designed and built to withstand the total thrust of the gate slide due to water pressure and wedge action.
- D. Stems shall be stainless steel and shall have a slenderness ratio (L/R) less than 200.
- E. Operator to be as shown on gate schedule.
- F. Fasteners and yoke to be stainless steel.

### 2.03 STOP LOGS

- A. Stop logs shall be of the quantity and dimensions shown on plans.
- B. Stop log planks, lifting lugs, and appurtenances shall conform to the requirements of ASTM A484 and stainless steel.
- C. Unless otherwise specified, seals shall be extruded neoprene conforming to ASTM D2000 with a durometer of 60 +/- 5.
- D. Guides, anchor bolts, and miscellaneous hardware and lifting devices shall be of Type 304 stainless steel conforming to ASTM A276
- E. The stop log planks shall not deflect more than 1/360 of the span of the plank under a design seating head of 10 feet of water.
- F. Stop log planks shall be fabricated of stainless steel rectangular tube or stainless steel horizontal and vertical members.

- G. Planks will be of sufficient weight to be submerged under their own weight.
- H. Each stop log plank shall be provided with uninterrupted seals along the bottom of the plank and up both sides. The seals shall be attached to the plank with Type 304 stainless steel bars and fasteners.
- I. Two lifting lugs shall be provided for each stop log plank. Lifting lugs shall be capable of withstanding the lifting load necessary to remove the stop log plank under the field design head.
- J. Lifting device shall be provided to remove and install the stop log plank as specified herein and shown on the Contract Drawings. The lifters shall be extendible so that they will function with different stop log plank lengths.

#### 2.04 BUTTERFLY VALVES

- A. Butterfly valve actuation shall be as indicated on the contract drawings with self-locking position for throttling use. Actuator shall be completely weatherproof and self-lubricated with position indicator.
- B. Butterfly valve body shall be non-corrosive weather proof material or coated material, conforming to ASTM A126.
- C. Butterfly valve shall be wafer or lug mounted to ANSI/ASME B16.5 Class 150 flanges.
- D. Sylax 3 manufactured by Flomatic or approved equal.

#### 2.05 ALFALFA VALVE AND HYDRANT

- A. Alfalfa valves shall be designed for use in surface irrigation systems to provide effective shut-off and regulation of flow from pipelines risers via resilient seal covers.
- B. Valve frames shall be designed for use with plastic pipe where the outside of the valve frame is joint to the inside of the plastic pipe with epoxy.
- C. Valve arches shall be removable to allow for easy riser access for cleaning and debris removal.
- D. Hydrants shall be cast aluminum specifically designed to fit alfalfa valve risers with gasketed outlet and base via outside hook.
- E. Valve cover and hydrant screws shall be noncorroding acme square threaded stems.
- F. Preapproved alfalfa valve and hydrant products, or equal:
  - 1. Sunshine Type 4 or Type CIP Alfalfa Valve manufactured by Waterman Industries, Inc.

2. Universal Combination Hydrant manufactured by Waterman Industries, Inc.
3. Series 2200 Valley Alfalfa Valve manufactured by Fresno Valves & Castings, Inc.
4. Series 3200 Universal Portable Hydrant manufactured by Fresno Valves & Castings, Inc.

## 2.06 TURBINE/PROPELLER FLOW METERS

- A. Provide flow meters where shown on the drawings for indication of irrigation water flow. Meters shall meet AWWA standard C704 for propeller type flowmeters for installation on AWWA Class D flanges.
- B. Propeller shall be coupled with the drive mechanism via leak tight meter assembly to a mechanical register providing instantaneous flowrate in cubic feet per second. For buried pipe installation, provide meter mount extension sufficient to place register in a valve boxes with register face no more than six inches below finished grate elevation.
- C. Meter shall be McCrometer Model MW5 series, or equal.

## PART 3 – EXECUTION

### 3.01 INSTALLATION

- A. Prior to installation of valves and gates, Contractor shall clean and touch up all surfaces previously primed or painted, make visual check of operating parts for proper and satisfactory operation and clean and remove all foreign matter from valve or gate.
- B. All valves shall be installed according to the manufacturer's instructions and as shown on the contract drawings.

### 3.02 FIELD QUALITY CONTROL

- A. Upon completion of installation, valves, and gates shall be tested by operation through a complete cycle of opening, closing and opening. Gates shall be adjusted so that they operate freely. Gate leakage shall be within the manufacturer's specifications for gate leakage
- B. Valves shall be leak tested in conjunction with testing of the piping system to which they are attached. Joints shall show no visible leakage under test. Repair joints that show signs of leakage prior to final acceptance. If there are any special parts of control systems or operators that might be damaged by the pipeline test, they shall be properly protected. The Contractor will be held responsible for any damage caused by the testing.

END OF SECTION

GENERAL NOTES

- G-1 THE WORK OF THIS CONTRACT SHALL BE PLANNED AND COORDINATED WITH OTHER WORK THAT MAY BE OCCURRING AT OR IN THE VICINITY OF THE PROJECT SITE.
G-2 SOME WORK ACTIVITIES MAY ONLY OCCUR AT SPECIFIC TIMES TO MAINTAIN OPERATION OF EXISTING ADJACENT FACILITIES. THE CONTRACTOR SHALL COORDINATE ITS WORK SCHEDULE TO ACCOMMODATE THESE RESTRICTIONS. SEE CONTRACT SPECIFICATIONS.
G-3 ALL SECTIONS, DETAILS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS UNLESS OTHERWISE NOTED.
G-4 WHEN DISCREPANCIES BETWEEN THE PROJECT DOCUMENTS ARE FOUND, IMMEDIATELY NOTIFY THE DISTRICT REPRESENTATIVE. FOR FINAL COORDINATION PRIOR TO ORDERING, FABRICATION, OR CONSTRUCTION.
G-5 THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, AND SIMILAR ITEMS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF ALL PIPING, STRUCTURES, AND RELATED ITEMS PRIOR TO THE COMPLETION OF ALL INSTALLATION.
G-6 DIMENSIONS LABELED "REFERENCE" OR "REF" ARE TAKEN FROM ORIGINAL PROJECT CONSTRUCTION DRAWINGS AND HAVE NOT BEEN FIELD VERIFIED. SEE ALSO NOTE G-4.
G-7 DIMENSIONS NOT SHOWN SHALL BE ESTABLISHED BY THE CONTRACTOR, SUBJECT TO THE APPROVAL OF THE DISTRICT REPRESENTATIVE.
G-8 CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL EXISTING ITEMS AFFECTING THIS WORK PRIOR TO FABRICATION. CONFLICTS IN SIZE OR LOCATION SHALL BE REFERRED TO THE DISTRICT REPRESENTATIVE FOR RESOLUTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL INTERFERENCES ARE RESOLVED AS REQUIRED FOR PROPER OPERATION OF EACH EQUIPMENT ITEM. SHOP DRAWINGS, WHERE REQUIRED, SHALL BE CHECKED AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE DISTRICT REPRESENTATIVE FOR REVIEW. THE CONTRACTOR SHALL NOTE ITS REVIEW AND APPROVAL ON THE SUBMITTED DOCUMENT. VALVES AND CONTROLS OF EXISTING WATER SYSTEMS SHALL BE OPERATED ONLY BY DISTRICT PERSONNEL.
G-9 RESTORE DISTURBED DRIVING SURFACES BY GRADING SMOOTH TO MATCH EXISTING GRADES UNLESS OTHERWISE NOTED. FINISH WITH A MINIMUM OF 3 INCHES OF CRUSHED SURFACING BASE COURSE COMPACTED TO 90% OF MAXIMUM DENSITY.
G-10 UPON COMPLETION OF CONSTRUCTION, THE STAGING AREAS SHALL BE RESTORED BY DECOMPACTING THE SOILS AND REVEGETATION WITH THE HYDRO-SEEDING GRASS MIX. DECOMPACTION SHALL BE ACCOMPLISHED USING RIPPER EQUIPMENT TO A MINIMUM DEPTH OF 18-INCHES. RIPPING SHOULD BE COMPLETED IN AT LEAST TWO PASSES IN DIFFERENT DIRECTIONS (PERPENDICULAR TO EACH OTHER). SOILS SHOULD THEN BE DISCED AND CULTIPACKED TO SMOOTH IN PREPARATION FOR PLANTING. LEVELING AND GRADING IS NOT PREFERRED DURING DISCING WITH PREFERRED FINISHED SURFACE FOLLOWING, OR RECREATING, NATURAL TOPOGRAPHY WHEN POSSIBLE.
G-11 ALL PAVED AREAS IMPACTED BY TRACKED SEDIMENT TO BE SWEEPED PRIOR TO THE END OF THE CONSTRUCTION DAY. THIS INCLUDES AREA USED FOR LOADING AND UNLOADING EQUIPMENT AND MATERIALS, AND PAVED AREAS CROSSED BY THE CANAL ACCESS ROAD.

CIVIL NOTES

- C-1. EARTH WORK MATERIAL, BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. ALL TOPSOIL ORGANICS, DEBRIS AND LOOSE SURFACE SOIL SHALL BE REMOVED FROM BENEATH PIPES, CONCRETE FOOTINGS, OR SLABS.
C-2. EXISTING RIGHT OF WAY, CANAL CENTERLINE AND SURFACE FEATURES AS OF JANUARY 2019 FIELD WORK PROVIDED BY: CRUSE AND ASSOCIATES 217 E 4TH AVENUE ELLENSBURG, WASHINGTON 98926 PHONE: 509-962-8242
C-3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988. HISTORICAL DRAWINGS USE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
C-4. HORIZONTAL DATUM: COORDINATES PROVIDED IN LOCAL PROJECT GROUND DISTANCES. SUBTRACT 17,000,000 FEET FROM THE NORTHING COORDINATE, SUBTRACT 20,000,000 FEET FROM THE EASTING COORDINATE, AND APPLY THE COMBINED SCALE FACTOR OF 0.99985483 ABOUT SURVEY POINT AA6050 TO CONVERT LOCAL GROUND DISTANCES TO PROJECT GRID DISTANCE.
C-5. UNLESS NOTED OTHERWISE, ALL MEASUREMENTS ARE LOCAL GROUND DISTANCES.
C-6. FOLLOW MANUFACTURER'S RECOMMENDATIONS AND METHODS FOR INSTALLATION AND HANDLING OF PIPE.
C-7. HYDRO-SEEDING: GRASS SEEDING FOR HYDRO-SEEDING FOR EROSION CONTROL AND SLOPE STABILITY ENHANCEMENT SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION SECTION 8-01.3(2)B. SEED MIX APPLICATION RATE SHALL MEET THE FOLLOWING REQUIREMENTS:
SEED BY COMMON NAME, POUNDS PURE LIVE "SOURCE" & (BOTANICAL NAME) SEEDS (PLS) PER ACRE
BLUEBUNCH WHEATGRASS "GOLOAR" (PSEUDOROEGNERIA SPICATA) 15.02
THICKSPIKE WHEATGRASS "SCHWENDIMAR" (AGROPYRON TRACHYCAULUM) 12.21
IDAHO FESCUE "CTUIR / UMATILLA" (ARTEMESIA TRIDENTATA) 3.99
SANDBERG BLUEGRASS "HANFORD" (POA SANDBERGII) 2.44
PRAIRIE JUNEGRASS "UMATILLA" (KOELERIA CRISTATA) 0.92
SAND DROPSEED "WESTERN" (SPOROBOLUS CRYPTANDRUS) 0.40
COMMON YARROW "YAKIMA" (ACHILLEA MILLIFOLIUM) 0.02
TOTAL POUNDS PLS PER ACRE 35.00
C-8. MULCHING: HYDRO-SEEDING FOR EROSION CONTROL AND SLOPE STABILITY ENHANCEMENT SHALL INCLUDE LONG TERM MULCH HYDRAULICALLY APPLIED AT A RATE OF 3,500 POUNDS PER ACRE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATIONS SECTION 8-01.3(2)D.

STRUCTURAL NOTES

- S-1. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF ACI 301-10.
S-2. ALL CONCRETE MIXES SHALL COMPLY WITH THE CURRENT WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CLASS 4000 CONCRETE UNLESS NOTED OTHERWISE. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. WATER TO CEMENTITIOUS MATERIAL RATIO OF 0.45 SHALL NOT BE EXCEEDED. AIR ENTRAINMENT SHALL MEET SEVERE EXPOSURE PER ACI 350 SECTION 4.2.1 REQUIREMENTS. THE NOMINAL MAXIMUM COARSE AGGREGATE SIZE SHALL BE AT LEAST 3/4", BUT NOT GREATER THAN 1 1/2". CALCIUM CHLORIDE (CACL2) OR OTHER WATER-SOLUBLE CHLORIDE ION ADMIXTURES SHALL NOT BE USED.
S-3. THE CONSTRUCTION PERIOD FOR THIS WORK IS WINTER TO EARLY SPRING. ALL COLD WEATHER CONCRETE WORK SHALL COMPLY WITH ACI 306R-10.
S-4. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60.
S-5. ALL REINFORCING BARS SHALL BE DETAILED AND FABRICATED IN ACCORDANCE WITH THE "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" ACI 315-05 AND SHALL BE CLEAN AND FREE OF GREASE AND SCALING RUST.
S-6. ALL BARS SHALL BE CONTINUOUS AROUND CORNERS, OR CORNER BARS IN OUTSIDE FACE SHALL BE INSTALLED OF EQUAL SIZE AND SPACING. PROVIDE VERTICAL DOWELS OF SAME NUMBER, SIZE, AND SPACING AS VERTICAL BARS, LAP SPLICE WITH VERTICAL BARS.
S-7. DEVELOPMENT LENGTH AND LAP SPLICES FOR REINFORCING STEEL SHALL BE AS SHOWN IN THE SCHEDULE BELOW. STAGGER ADJACENT SPLICES 24 INCHES MINIMUM. MECHANICAL OR WELDED BUTT SPLICES SHALL NOT BE USED WITHOUT APPROVAL OF THE DISTRICT REPRESENTATIVE.

DEVELOPMENT LENGTH & SPLICE table with columns: BAR SIZE, VERT. BARS - LENGTHS, HORIZ. BARS - LENGTHS, DEVELOPMENT, SPLICE.

- S-8. REQUIRED CONCRETE COVER TO REINFORCING: UNFORMED SURFACES CAST AGAINST EARTH ..... 3" FORMED SURFACES EXPOSED TO EARTH, WATER OR WEATHER ..... 2"
S-9. MINIMUM CONCRETE SLAB REINFORCING SHALL BE REINFORCED AS FOLLOWS:

MINIMUM SLAB REINFORCING SCHEDULE table with columns: THICKNESS, LONG. BARS, LAT. BARS, LOCATION.

- S-10 FOR SLABS AND CONCRETE LINED CANAL CHANNEL FINISHES OF 4" THICKNESS AND LESS, SYNTHETIC MACROFIBER EQUIVALENT REPLACEMENT FOR WELDED WIRE MESH SIZE 6x6 W3.5XW3.5 TO CONTROL CRACKING DUE TO TEMPERATURE / SHRINKAGE. ACCEPTABLE FIBER TYPES AND DOSAGES (POUNDS OF FIBER PER CUBIC YARD OF CONCRETE) ARE LISTED IN THE SCHEDULE BELOW. ANY PROPOSED ALTERNATIVE MUST BE APPROVED BY THE DISTRICT. SYNTHETIC MICROFIBERS ARE NOT AN ACCEPTABLE ALTERNATIVE.

ACCEPTABLE MACROFIBER REINFORCEMENT table with columns: NAME/MODEL, LENGTH, DOSAGE, MANUF.

STRUCTURAL NOTES (CONTINUED)

- S-11 MINIMUM CONCRETE WALL REINFORCING SHALL BE REINFORCED AS FOLLOWS:
MINIMUM WALL REINFORCING SCHEDULE table with columns: THICKNESS, HORIZ. BARS, VERT. BARS, LOCATION.
S-12. WHEN CONCRETE IS PLACED IN MULTIPLE LIFTS AGAINST HARDENED CONCRETE, THE INTERFACE SHALL BE CLEAN, FREE OF LAITANCE AND INTENTIONALLY ROUGHENED TO AN AMPLITUDE OF 1/4 INCH.
S-13. ALL EXPOSED CORNERS AND EDGES SHALL BE CHAMFERED 3/4" AND ALL RE-ENTRANT CORNERS, EXCEPT WALL TO FLOOR CONSTRUCTION JOINTS, SHALL HAVE A 3/4" FILLET UNLESS OTHERWISE DETAILED OR DIRECTED.
S-14. CONCRETE SCREWS ANCHORS TO BE SCREW BOLT+ BY POWERS FASTNERS, OR APPROVED EQUAL.
S-15. ADHESIVE ANCHORAGE SYSTEM: "RE 500" BY HILTI, INC. OR APPROVED EQUAL. ICC-ES EVALUATION REPORT REQUIRED, MINIMUM REINF. DOWEL AND THREADED ROD EMBEDMENT SHALL BE AS SHOWN IN THE SCHEDULES BELOW. EMBEDMENT LENGTH MAY BE INCREASED FOR ALTERNATE SYSTEMS.

ADHESIVE ANCHOR MINIMUM EMBEDMENT table with columns: REINFORCING DOWELS, BOLTS/ THREADED RODS, BAR SIZE, EMBEDMENT, ROD SIZE, EMBEDMENT.

- S-16. STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING STANDARDS UNLESS NOTED OTHERWISE: CARBON STEEL STRUCTURAL STEEL ..... ASTM A992 GR. 50 CHANNELS, ANGLES AND MISC. STEEL ..... ASTM A36 PLATES, BARS & SHEET PILES ..... ASTM A572 GR. 50 STRUCTURAL TUBES ..... ASTM A500 GR. B STEEL PIPE ..... ASTM A53 GR. B ANCHOR BOLTS (HEAVY HEX) ..... ASTM F1554 GR. 55 THREADED ROD (HEAVY HEX) ..... ASTM A36 WELDING ELECTRODES ..... E70XX CRES (STAINLESS) STEEL CRES BAR AND SHAPES..... ASTM A240 TYPE 304L CRES PLATE ..... ASTM A240 TYPE 304L NUTS AND WASHERS ..... ASTM A194 BOLTS AND ANCHOR BOLTS ..... ASTM A193 ALUMINUM BAR AND SHAPES..... 6061-T6
S-17. CARBON STEEL SHOWN TO BE GALVANIZED SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A153 AND TOUCHED UP IN THE FIELD PER ASTM A780 UNLESS NOTED OTHERWISE.
S-18. ALL CARBON STEEL WELDS SHALL CONFORM TO ANS/AWS D1. WELDERS SHALL BE CERTIFIED FOR WELDING PROCESS, WELD TYPE AND POSITION BY THE WASHINGTON ASSOCIATION OF BUILDING OFFICIALS (WABO).
S-19. ALL CRES STEEL WELDING SHALL CONFORM TO AWS D1.6. WELDERS SHALL BE AWS CERTIFIED FOR WELDING PROCESS, WELD TYPE, AND POSITION. SELECT ELECTRODES PER AWS. MINIMUM FILLET WELD SIZE SHALL BE 3/16" (UNLESS NOTED OTHERWISE) OR LARGER WELD SIZE REQUIRED BY AISC 360 TABLE J2.4. S-18. MINIMUM FILLET WELD SIZE SHALL BE 3/16" (UNLESS NOTED OTHERWISE) OR LARGER WELD SIZE REQUIRED BY AISC 360 TABLE J2.4.

Vertical text on the left margin: D, C, B, A, FILE NAME: W:\3\78309.3-D-G003.DWG, SIZE: ANSI FULL BLEED D (22.00 X 34.00 INCHES), PLOT SCALE: 1:1, PLOT DATE: 2024-10-25

Professional seal and contact information for Kittitas Reclamation District, including the name of the engineer and project details.

Conserving water, promoting local agriculture, and enhancing the environment... SOUTH BRANCH IMPROVEMENTS 33-SBC-1008; 2024-25 REACHES (MILEPOST 12.4 TO MILEPOST 13.6)

Revision table with columns: REV NO, DATE, DESCRIPTION.

GENERAL NOTES AND SPECIFICATIONS section, including the project name G003 and sheet information SHEET 03 OF 44.