

RED RIVER VALLEY COMMITTEE
Garrison Diversion Conservancy District
Carrington, ND

April 18, 2024

- 10:30 a.m. I. Call to Order & Pledge of Allegiance – Ken Vein
- 10:32 a.m. II. Roll Call – Lisa Schafer
- 10:33 a.m. III. Consideration of Minutes – Ken Vein
 - A. **>December 12, 2023**
- 10:35 a.m. IV. Red River Valley Water Supply Project Update – Kip Kovar
 - A. >Work Plan & Construction Update
 - 1. **Contract 5D - Change Order No. 1**
 - a. **>*Trenchless Crossing Removal**
 - 2. Contract 6 – Wetland Crossings (*handout*)
 - B. >2023-2025 Biennium Work Plan/Budget
 - C. >Program Schedule
 - D. >Risk Register
 - E. Pipe Manufacturer Tour
 - F. User Outreach Meetings
- 11:55 a.m. V. Other
- 12:00 p.m. VI. Adjourn

The following minutes are in draft form subject to review and approval by the Red River Valley Committee at its next meeting.

23-29

GARRISON DIVERSION CONSERVANCY DISTRICT

RED RIVER VALLEY COMMITTEE

Advanced Engineering & Environmental Services Grand Forks, North Dakota

December 12, 2023

A meeting of Garrison Diversion's Red River Valley (RRV) Committee was held on December 12, 2023, at Advanced Engineering & Environmental Services, Grand Forks, North Dakota. The meeting was called to order by Chair Ken Vein at 2:25 p.m.

MEMBERS PRESENT

Board Chairman Alan Walter
Committee Chairman Ken Vein
Director Jay Anderson
Director Greg Bischoff
Director Jason Siegert
Secretary Duane DeKrey

Garrison Diversion staff members and others were also present. A copy of the registration sheet is attached to the minutes as Annex I.

The meeting was recorded to assist with compilation of the minutes.

CONSIDERATION OF MINUTES

Motion by Director Bischoff to dispense with a reading of the October 19, 2023, Red River Valley Committee minutes and approve them as distributed. Second by Director Walter. Upon voice vote, motion carried.

RED RIVER VALLEY WATER SUPPLY PROJECT (RRVWSP)

LAWA TAC Recap - - The Red River Valley (RRV) Committee reviewed discussion items from the Lake Agassiz Water Authority (LAWA) Technical Advisory Committee (TAC) meeting held this morning.

The RRV Committee discussed setting more regular meetings and improving communication aspects.

Kip Kovar, District Engineer, Garrison Diversion, said once the pipeline construction starts this summer, the RRV Committee may need to meet monthly. There will be three separate contractors working on the RRVWSP, and there could potentially be a lot of changes and decisions to be made.

It was also suggested RRV Committee meetings be aligned with the LAWA TAC and/or LAWA Financial Advisory Committee (FAC) meetings when appropriate. These would be a combination of in-person and virtual meetings.

The RRV Committee also discussed the issues brought up at the LAWA TAC meeting regarding political decisions and the request for qualifications (RFQs).

Duane DeKrey, Secretary, stated the RRVWSP cannot be accomplished with only technical and engineering expertise. The state legislature and politics play a vital part of the RRVWSP, and they need to be kept informed of project activities.

Mr. Kovar referred to the task orders presented to the TAC today. The RRV Committee will review these today and recommend them for approval to the Executive Committee at its December 14 meeting. If approved at that time, the task orders will then be provided to the Garrison Diversion board for information only.

Kurt Ronnekamp, Black & Veatch, said in regard to the RFQs from subcontractors, these are not public advertisements. They are a request for RFQs from Black & Veatch. The RFQs were distributed based on the interest received when asking for statements of interest. Black & Veatch received submittals from firms who indicated they would like to be involved in certain areas of the project. That is who the RFQs were sent to.

Mr. Kovar said he envisions Black & Veatch reviewing the RFQ submittals to determine which firms are the best fit for certain areas of work on the RRVWSP. Black & Veatch would then share this information with Garrison Diversion. Per the request from the LAWA TAC, this information would also be shared with the LAWA board.

Mr. Kovar said in regard to the program cost update presented to the TAC today, the message heard was to stay with the cost model that is in place until further investigation.

Work Plan Update – Task Orders

ENDAWS (Eastern North Dakota Alternate Water Supply) Task Orders

Task Order 2250 – McClusky Canal Intake & Pumping Station Preliminary Design (PD)

The objective of Task Order 2250 is to complete a preliminary design for the McClusky Canal Intake and Pumping Station, which will be an approximated 2,400 HP pump station designed to convey 165 cubic feet per second (cfs) of flow. The cost of the task order is \$751,031.

Task Order 3210 – Biota Water Treatment Plant & McClusky Main Pumping Station PD

The objective of Task Order 3210 is to complete a preliminary design for the Biota Water Treatment Plant (BWTP) and the McClusky Main Pumping Station (McMPS). The BWTP generally consists of sediment/sand removal, ultraviolet (UV) disinfection and chlorine disinfection. The primary treatment goal for the BWTP is to limit the likelihood that Aquatic Invasive Species (AIS) would be transferred from the Missouri River watershed to the Hudson Bay watershed. The cost of the task order is \$2,872,752.

Task Order 4250 – Hydraulic Break Tank PD

The objective of Task Order 4250 is to complete a preliminary design for the Hydraulic Break Tanks, which will be two approximated 5-million-gallon break tanks at the point where the pipeline transitions from pressure flow to gravity flow. The cost of the task order is \$370,443.

Motion by Director Anderson to recommend approval of the ENDAWS Task Orders as follows: 1) Task Order 2250 McClusky Canal Intake & Pumping Station Preliminary Design in the amount of \$751,031; 2) Task Order 3210 Biota Water Treatment Plant & McClusky Main Pumping Station Preliminary Design in the amount of \$2,872,752 and 3) Task Order 4250 Hydraulic Break Tank Preliminary Design in the amount of \$370,443 to the Executive Committee. Second by Director Walter. Upon roll call vote, the following directors voted aye: Anderson, Bischoff, Siegert, Vein and Walter. Those voting nay: none. Motion carried.

RRVWSP Task Orders

Task Order 1520 – Operational Planning, Phase 3

The purpose of Task Order 1520 is to continue ongoing analysis of the RRVWSP operations through discussions with the system users, Garrison Diversion, Corps of Engineers and the State. There are five objectives: 1) update project operational descriptions and assumptions, 2) update project governance, 3) update water supplies, 4) update pipeline and reservoir operations and 5) update the preliminary water accounting model. The cost of this task order is \$462,030.

Task Order 5340 – Transmission Pipeline East, Contract 4, Final Design Services & Bidding Assistance

Task Order 5340 takes 30-percent plans and specifications for Contract 4 to final documents for public bidding. Contract 4 begins four miles east of Hurdsfield, North Dakota, and extends 27 miles east.

Motion by Director Siegert to recommend approval of RRVWSP Task Orders as follows: 1) Task Order 1520 Operational Planning in the amount of \$462,030 and 2) Task Order 5340 Transmission Pipeline East, Contract 4, Final Design Services, in the amount of \$7,183,000 to the Executive Committee. Second by Director Bischoff. Upon roll call vote, the following directors voted aye: Anderson, Bischoff, Siegert, Vein and Walter. Those voting nay: none. Motion carried.

GENERAL MANAGER'S SPENDING AUTHORITY

Mr. Kovar reminded the committee the general manager currently has authority to approve expenditures that are under \$75,000 and not within the board approved budget. The committee had suggested possibly increasing this amount as the RRVWSP progresses. Additional contractors will arrive in 2024, and more change orders are likely to occur. Such a change would result in an amendment to current board policy.

Following committee discussion, it was suggested increasing the general manager's spending authority to \$125,000. Anything above \$125,000 and not within the board approved budget would require formal approval from the full board.

Motion by Director Walter to recommend amending Garrison Diversion Board Policy, Chapter 5, Section 5.11, Spending Authorization, increasing the general manager's spending authority to \$125,000 to the Executive Committee. Second by Director Siegert. Upon roll call vote, the following directors voted aye: Anderson, Bischoff, Siegert, Vein and Walter. Those voting nay: none. Motion carried.

OTHER BUSINESS

There being no further business to come before the committee, the meeting adjourned at 3:10 p.m.

Ken Vein, Chairman

Duane DeKrey, Secretary

REGISTRATION

RED RIVER VALLEY COMMITTEE MEETING
Advanced Engineering & Environmental Services
Grand Forks, North Dakota

December 12, 2023

NAME	ADDRESS
<i>Lisa Schaefer</i>	<i>GRC CO</i>
<i>Jenni Norgard</i>	<i>Vogel</i>
<i>Greg Busch</i>	<i>GDDP</i>
<i>For + Jonorkamp</i>	<i>BY</i>
<i>Shawn Goppit</i>	<i>AGES</i>
<i>Alan M. Walter</i>	<i>GDCD</i>
<i>Ken Vern</i>	<i>GDCD</i>
<i>Tasha Siegert</i>	<i>GDCD</i>
<i>Jay Paul Anderson</i>	<i>GDCD</i>
<i>Steve Burich</i>	<i>Burich + Associates</i>

RRVWSP Work Plan Update April 12, 2024

CONSTRUCTION

Pipeline Construction

Contract 5B

The original pipe delivery of June 15, 2021, was delayed due to a surface blemish in the steel coil. Year one, 2022, there was 7,761 feet of pipe installed out of the total nine miles. High groundwater slowed the pipe installation progress.

In the second year, 2023, there was 21,120 feet of pipe installed for a total Contract 5B pipe installation to-date of 28,881 feet (5.5 miles).

To date, \$28,804,037.79 has been paid on the original contract amount of \$45,961,700.00. Change Orders No. 1, 2 and 3 have been approved, leaving the current contract price at \$44,932,678.24.



Contract 5C

The contract price is \$76,663,355.00 for 8 miles of pipe awarded to Oscar Renda Contracting. To date, the contractor has been working on administrative construction submittals. Topsoil stripping will begin toward the end of April.

Contract 5D

The contract price is \$61,677,275.00 for 10 miles of pipe awarded to Carstensen Contracting. To date, the contractor has been prepping the first two miles by receiving aggregate deliveries, preparing for pipe and topsoil stripping.



Soil Strata



Topsoil Removal

Missouri River Intake Tunnel and Screen Final Design Contract 2

The project is closed, original contract price \$18,896,900 with five change orders bringing the final contract price to \$19,444,165.60.



Site Under Construction



Completed Missouri River Intake

DESIGN

The design team is also working with Reclamation and USFWS routing the ENDAWS pipeline through wetland and other various existing easements.

Contract 6A will be scheduled for bid in 2024. Final design efforts have been started on Contracts 7 and 4. Additional geotechnical data is complete.

CHANGE ORDER

Change Order No. 1

DATE OF ISSUANCE _____ EFFECTIVE DATE April 18, 2024

Owner: Garrison Diversion Conservancy District
Contractor: Carstensen Contracting, Inc.
Project: Red River Valley Water Supply Project, Transmission Pipeline East
Owner's Contract No.: 5D
Owner's Task Order No.: 5534

The Contract is modified as follows upon execution of this Change Order:

Description: Remove Trenchless Crossing at Station 6074+50

Attachments: BV Request for Change Proposal No. 1 – Remove Trenchless Crossing at Station 6074+50 dated February 7, 2024.

Carstensen Contracting, Inc. Change Proposal No. 1 - Remove Trenchless Crossing at Station 6074+50 dated March 21, 2024.

CHANGE IN CONTRACT PRICE:

CHANGE IN CONTRACT TIMES:

Original Contract Price

\$61,677,275.00

Original Contract Times:
Milestone Completion: October 31, 2025
Substantial Completion: May 29, 2026
Ready for final payment: July 31, 2026
(days or dates)

No previously approved Change Orders

\$0.00

No previously approved Change Orderse
Milestone Completion: 0
Substantial Completion: 0
Ready for final payment: 0
(days)

Contract Price prior to this Change Order:

\$61,677,275.00

Contract Times prior to this Change Order:
Milestone Completion: October 31, 2025
Substantial Completion: May 29, 2026
Ready for final payment: July 31, 2026
(days or dates)

Decrease of this Change Order:

\$(2,301,780.00)

Increase of this Change Order:
Milestone Completion: 0
Substantial Completion: 0
Ready for final payment: 0
(days)

Contract Price incorporating this Change Order:

\$59,375,495.00

Contract Times with all approved Change Orders:
Milestone Completion: October 31, 2025
Substantial Completion: May 29, 2026
Ready for final payment: July 31, 2026
(days or dates)

ACCEPTED:

ACCEPTED:

By: _____
Owner (Authorized Signature)

By: _____
Contractor (Authorized Signature)

Printed: _____

Printed: _____

Title: _____

Title _____

Date: _____

Date: _____



BLACK & VEATCH CORPORATION
 8400 WARD PARKWAY
 KANSAS CITY, MO 64114 USA
 913-458-3571 | RONNEKAMPKA@BV.COM

Thursday, April 4, 2024

Garrison Diversion Conservancy District
 401 Hwy 281 NE
 Carrington, ND 58421

RRVWSP TO 5534 TPE CT 5D
 BV Project 415094-5D
 BV File 60.1350.4

Attention: Kip Kovar, Deputy Program Manager – Engineering

Subject: Task Order 5534 / CO No. 1 Recommendation

Information Referenced: Change Proposal No. 1 – Remove Tunnel at Station 6074+50

In reference to Request for Proposal No. 1 dated February 7, 2024, Black & Veatch (BV) received the attached credit proposal from Carstensen Contracting (Carstensen) dated March 21, 2024. The proposal provides a credit for deletion of a single tunnel in the amount of \$2,301,780.

A. Comments and Recommendation

1. The Carstensen proposal correctly identifies the items to be deleted (steel carrier and casing pipes and launching and receiving shafts) and identifies the addition of the same length of open cut pipe installation. All quantities and unit prices for these items are in accordance with the Bid Form submitted by Carstensen with its Bid and a part of the Agreement.
2. The Carstensen proposal also identifies an addition cost of \$155,000 for open-cut construction through the wetland using the proper non-notify construction methods. These methods include the following items:
 - a. Contractor must place and work from mats or timbers while operating equipment in the approved jurisdictional determination wetland (AJD) / preliminary jurisdictional determination wetland (PJD) area. They cannot drive on the existing ground as is the case with non-jurisdictional determination wetland (NJD) areas.
 - b. The Contractor must provide pre-construction and post-construction survey's documenting the natural lines and grades were maintained.
 - c. Excavated soil stockpiles must be replaced or removed within 90 days of commencement of work in the wetland.
 - d. Contractor cannot stage or store prohibited material, including embedment and aggregate trench backfill, in the wetland. Contractor must haul material from stockpiles outside of the wetland.
 - e. Natural flow through the wetland must be maintained during construction.
 - f. Trench excavation and backfill material cannot create a drain to the wetland.
 - g. We also note that there are additional conditions and considerations that will need to be met and documented to follow nationwide permit conditions.

BV Recommendation

The requirements outlined above, in our opinion, justify the proposed additional cost of \$155,000 for the open-cut pipeline and properly credit Garrison Diversion for deletion of the tunnel at Station 6074+50. BV therefore recommends Garrison Diversion process a change order approving this change. The overall result of this scope of work change is a reduction in the Contract Price in the amount of \$2,301,780 resulting in a revised Contract Price of \$59,375,495.

If you have any questions about the change in the scope of work or the proposed change in Contract Price, please let us know. In anticipation of Garrison Diversion agreement to this change, Change Order No. 1 has been prepared and it is attached for signature and execution.

Sincerely,
BLACK & VEATCH



Kurt A. Ronnekamp
Sr Project Manager

Attachments: BV Request for Change Proposal No. 1 dated February 7, 2024
Carstensen Proposal dated March 21, 2024
Change Order No. 1 dated April 18, 2024

cc: Brad Carstensen, CC
Mark Funston, BV
Vance Miller, BV

REQUEST FOR CHANGE PROPOSAL

Project: <u>RRVWSP TPE Contract 5D</u>	Project Number: _____
Owner: <u>Garrison Diversion Conservancy District</u>	<u>TO5534</u>
Contractor: <u>Carstensen Contracting, Inc.</u>	_____
Engineer: <u>Black & Veatch</u>	<u>415094</u>

Request No: <u>001</u>	Description: <u>Remove trenchless crossing at Sta. 6074+50</u>
Specification: <u>NA</u>	_____
Drawing No: <u>14-C-104</u>	_____

Reference Document:

Request for Information No: _____ Shop Drawing No: _____

Work Change Directive No: _____ Contract Document: _____

The Owner requests that the Contractor prepare a Change Proposal for the changes in the Contract Documents described in this Request for a Change Proposal. The compensation offered for this Change Proposal is to be the full, complete, and final compensation for all costs the Contractor may incur as a result of or relating to this change whether said costs are known, unknown, foreseen, or unforeseen at this time, including without limitation, any cost for delay, extended overhead, ripple or impact cost, or any other effect on changed or unchanged Work as a result of this Contract Amendment. Requested changes in Contract Times are to be the complete and final adjustments for direct impacts to the ability of the Contractor to complete the Work within the Contract Times and are the only adjustments to which the Contractor will be entitled. Authorization to proceed with changes must be approved by the Owner in accordance with the Contract Documents.

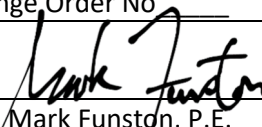
Owner requests a Change Proposal for the following modifications to the Contract Documents:
 Remove 345 LF trenchless crossing between stations 6072+65 and 6076+10 and install pipeline using open-cut construction methods. Revised profile for open-cut installation is shown on revised sheet 14-C-104. This change results in the following Bid Form adjustments:
 -Eliminate Bid Items 6 and 7
 -Reduce quantity for Bid Items 4 and 5 from 575 LF to 230 LF.
 -Increase quantity for Bid Item 2 from 50,570 LF to 50,915

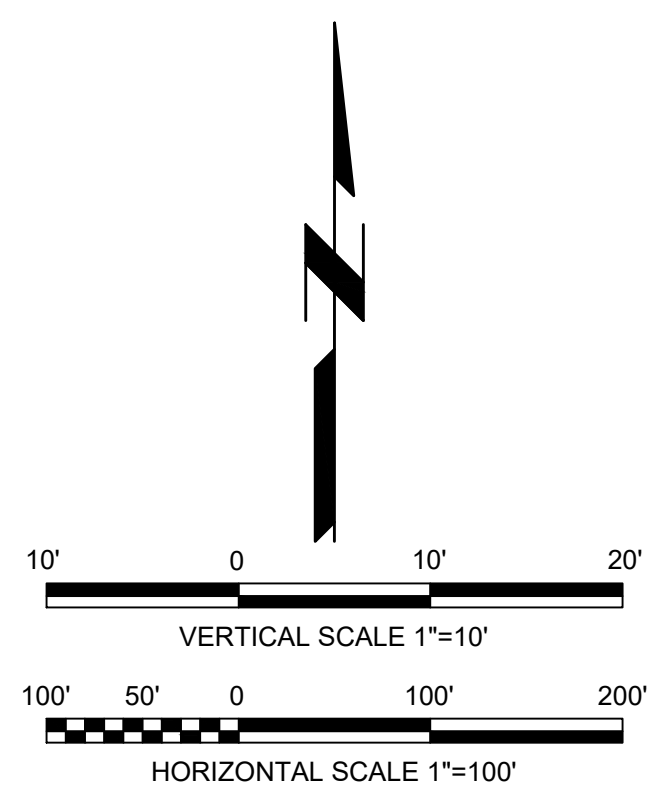
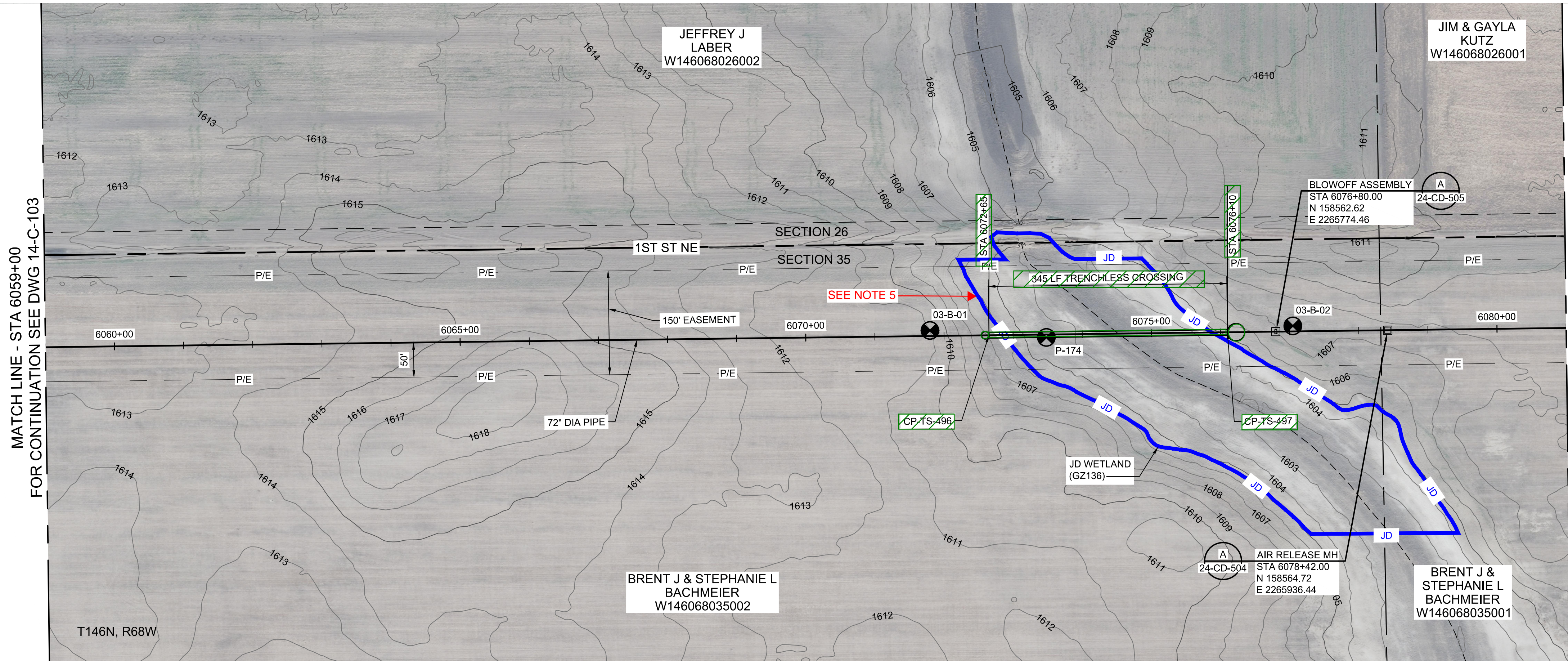
Purpose of Change Proposal:
 GDCD and the Design Team have decided to cross the jurisdictional wetland at station 6074+50 using open-cut construction under the terms of a non-notify nationwide permit. The removal of this trenchless crossing is expected to save a significant amount of construction cost.

Attachments:
 Revised 14-C-104

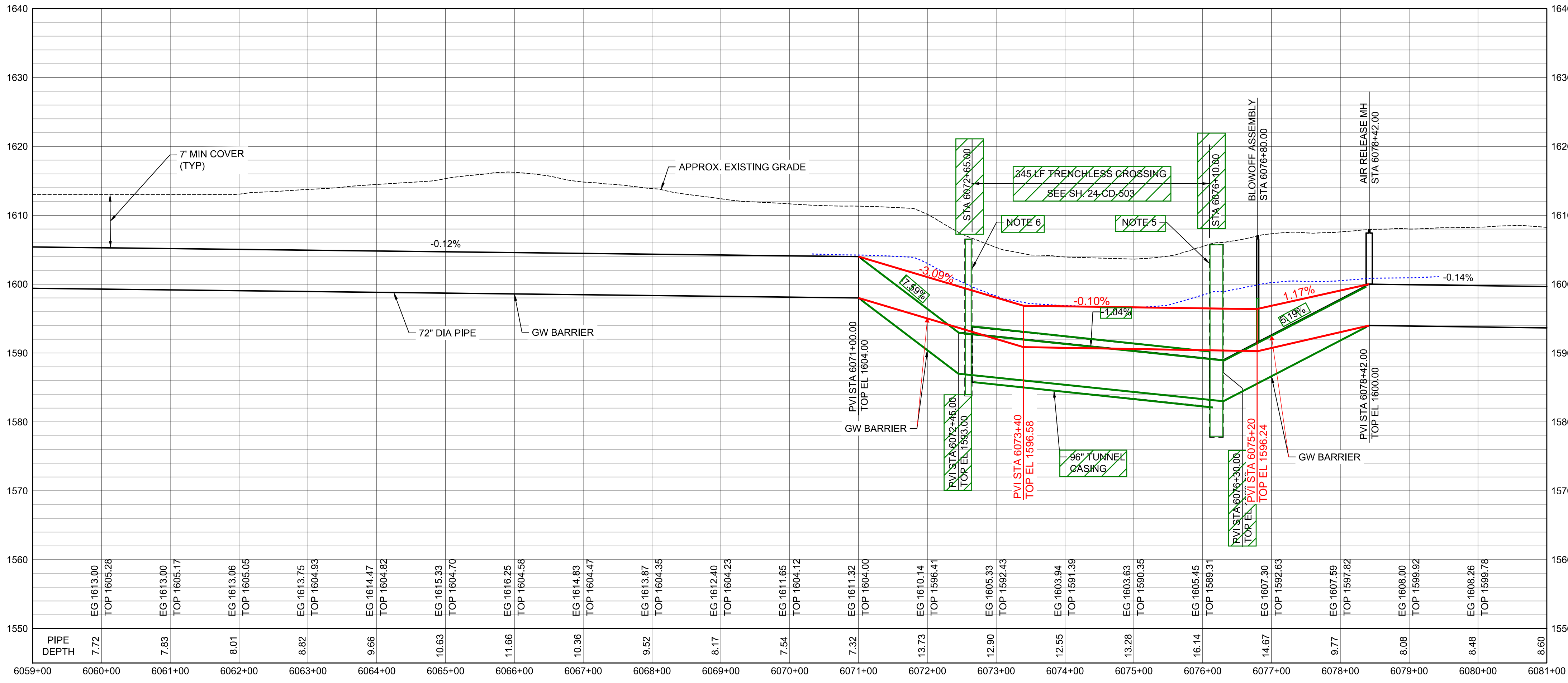
Status:
 Change Proposal No _____ Received Cancelled

Action Required:
 None Include in Change Order No _____ Revise and Resubmit Cancelled

Requested by:  **Date:** 02/07/2024
 Mark Funston, P.E.



- CONSTRUCTION NOTES:**
- SEE HYDRAULIC PROFILE FOR PIPELINE PRESSURE CLASS.
 - PROFILE FOLLOWS THE CENTERLINE OF THE PIPELINE.
 - THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND ARE BASED ON INFORMATION AVAILABLE TO THE ENGINEER. THE DEPTH AND LOCATION FOR ALL EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR IN ADVANCE OF CONSTRUCTION AND ANY CONFLICTS WITH THE PROPOSED PIPELINE SHALL BE REPORTED TO THE ENGINEER. ANY EXISTING UTILITY DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED WITH LIKE OR BETTER MATERIALS.
 - SEE SHEETS 34-CP-501 THROUGH 34-CP-504 FOR CATHODIC PROTECTION DETAILS.
 - JACKING SHAFT PER CONTRACTOR DESIGN.
 - RECEIVING SHAFT PER CONTRACTOR DESIGN.
 - CONTRACTOR MAY DISTURB JURISDICTIONAL (JD) WETLAND AREA AT THIS LOCATION ONLY. RESTORATION AND SOIL STOCK PILING SHALL BE AS SPECIFIED FOR NON-JURISDICTIONAL (NJD) WETLANDS. CONTACT ENGINEER BEFORE STARTING ANY WORK IN THIS AREA.



DESIGNED: GDN
 DETAILED: SK
 CHECKED: MTF
 APPROVED: KAR
 DATE: JULY 2023

PROJECT NO. 192840
 SHEET 14-C-104
 12 OF 49

TRANSMISSION PIPELINE EAST
 SYKESTON TO CARRINGTON
 TASK ORDER 5534, CONTRACT 5D

CIVIL
 PLAN AND PROFILE
 STA 6059+00 TO STA 6081+00

BLACK & VEATCH

RED RIVER VALLEY WATER SUPPLY PROJECT

Lake Area Water Authority

CARRINGTON

NORTH DAKOTA CALL

811 Know what's below. Call before you dig.

REMOVED TRENCHLESS CROSSING - REPLACED WITH OPEN-CUT
 REVISIONS AND RECORD OF ISSUE
 DATE 02/07/24
 C:\pw_working\hvw_america\0450162_5534-5D-SHT-14C101-14C112.dwg
 SAVED 6/1/2023 2:21 PM
 PLOTTED 6/1/2023 2:37 PM
 USER: NAY64139
 DWG: VER:

REGISTERED PROFESSIONAL ENGINEER
 MARK T FUNSTON
 PE 29271
 DATE 07/20/23
 NORTH DAKOTA



Integrity. Solutions. Results.

PROPOSAL

800 East Quartzite Street
Dell Rapids, SD 57022

3/21/2024

QUOTE Black & Veatch
TO Attn: Mark Funston
8400 Ward Parkway
Kansas City, MO 64114

CONTACT Mark Funston
469-513-3191

JOB	WORK OFFERED	PLAN DATE
Red River Contract 5D	Remove Trenchless Crossing at Sta. 6074+50	3/21/2024

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXT PRICE
1	Bid item 2 - 72" Steel Pipe (Class 200) Open Cut Installation	345	LF	626.00	215,970.00
2	Bid item 4 - Trenchless Crossing 72" Steel Carrier	-345	LF	800.00	-276,000.00
3	Bid item 5 - Trenchless Crossing 96" Casing Pipe	-345	LF	5,150.00	-1,776,750.00
4	Bid item 6 - Tunnel Launching Shaft - Sta. 6076+10	-1	EA	400,000.00	-400,000.00
5	Bid item 7 - Tunnel Launching Shaft - Sta. 6072+65	-1	EA	220,000.00	-220,000.00
6	Additional Wetland Requirements	1	EA	155,000.00	155,000.00
TOTAL:					\$-2,301,780.00

Proposal for removal of trenchless crossing at Sta. 6074+50

Proposal includes removal of trenchless crossing of 345' at Sta. 6074+50 and credit for removal of tunnel shafts. This area will be completed by open cut installation. The additional line item is justified by a 75 percent credit back of the shafts for additional risk placed on CCI. Including wet conditions and following Ulteig Non-PCN Conditions for Wetlands and to maintain minimum disturbance of wetland area. Pipe installation requirements is to match adjoining pipeline and the possibility for trench bottom stabilization is to remain as owner directed and will be processed as it would be on the rest of the contracted alignment. Bore subcontractor mobilization is to remain unchanged.

INCLUSIONS: All labor, equipment, and materials needed to complete scope.

Brett Baerenwald
Carstensen Contracting, Inc.
507-215-0067



2023 to 2025 Biennium Work Plan

(\$244.0 mil Total Funding: \$180 mil State; \$61 mil Local Users; \$3.0 mil MR&I)

March 14, 2024

No.	Scope of Work	Feature	Date Task Orders Auth	Note	2023-25 Bien ENDAWS Project Development Budget (mil \$)			2023-25 Biennium RRVWSP Project Development Budget (mil \$)			2023-25 Biennium RRVWSP Project Constr Budget (mil \$) ^{1,2,3}		
					Total	Federal 75%	Local 25%	Total	State 75%	Local 25%	Total	State 75%	Local 25%
1.	Garrison Diversion Conservancy District Budget Scope: Account for all costs for which Garrison Diversion is responsible not included in other Task Orders listed here. Need: Budget allocation for GDCD direct costs associated with the Red River Valley Water Supply Project.	Garrison Diversion's costs for the RRVWSP, including internal mgmt, admin, legal, communication, insurance advisory, misc., etc.		GDCD				\$ 2.50	\$ 1.87	\$ 0.63			
2.	Property, Easements, and Crop Damage Payments⁴ Scope: Costs to obtain easements and acquire property for associated facilities. Crop damage payments to landowners. Need: Secure land for installing future pipeline segments staying years ahead of pipeline design/construction needs. Purchase property on which to build all remaining facilities so property will be in hand before final design begins.	Acquire easements in Sheridan and Wells County for 32-mi pipeline. Pay bonus payment to all easement holders. Acquire property for Biota WTP, Hydraulic Break Tanks, McClusky Canal Intake, and James River sites. Pay for crop damage.		RRVWSP ENDAWS ENDAWS Facilities Crp Dmg				\$ 2.21	\$ 1.66	\$ 0.55			
					\$ 0.49	\$ 0.37	\$ 0.12						
					\$ 2.00	\$ 1.50	\$ 0.50				\$ 0.78	\$ 0.58	\$ 0.20
3.	Transmission Pipeline East Contract 5C Scope: Pipeline installation, including construction phase engineering services by Engineer. Need: Continue progress of transmission pipeline installation for completion of RRVWSP by the target end date.	8± mi of 72" pl, including two 96" tunnels. Pipeline extends eastward from Contract 5B NE of Bordulac to a termination point just east of the James River.	Jul-23 Nov-23	Prof Svcs Const, 2026 Fin							\$ 5.64	\$ 4.23	\$ 1.41
										\$ 76.67	\$ 57.50	\$ 19.17	
4.	Transmission Pipeline East Contract 5D Scope: Pipeline installation, including construction phase engineering services by Engineer. Need: Continue progress of transmission pipeline installation for completion of RRVWSP by the target end date.	10± miles of 72" pl, including several 96" tunnels. Pipeline section extends westward from Contract 5A south of Carrington to a termination point south of Sykeston.	Jul-23 Oct-23	Prof Svcs Const, 2026 Fin							\$ 5.47	\$ 4.10	\$ 1.37
										\$ 61.68	\$ 46.26	\$ 15.42	
5.	RRV Transmission Pipeline Contract 6A Scope: Pipeline installation, including construction phase engineering services by Engineer. Need: Continue progress of transmission pipeline installation for completion of RRVWSP by the target end date.	6± mi of 72" pl, including several 96" tunnels. Pipeline section extends eastward from Contract 5C just east of the James River to a termination point southwest of Glenfield.	Jul-23 Oct-24	Prof Svcs Const, 2027 Fin							\$ 5.47	\$ 4.10	\$ 1.37
									\$ 45.00	\$ 33.75	\$ 11.25		
6.	ENDAWS Transmission Pipeline Contract 3 Scope: Final design (30% docs to biddable plans and specs) and bidding assistance. Need: Continue progress of transmission pipeline installation for completion of RRVWSP/ENDAWS by the target end date.	11± mi of 72" pipeline, including 96" tunnels. Pipeline section extends west from the west end of Contract 4 to the Sheridan Wells County line.	Aug-23	ENDAWS	\$ 3.06	\$ 2.30	\$ 0.76						



2023 to 2025 Biennium Work Plan

(\$244.0 mil Total Funding: \$180 mil State; \$61 mil Local Users; \$3.0 mil MR&I)

March 14, 2024

No.	Scope of Work	Feature	Date Task Orders Auth	Note	2023-25 Bien ENDAWS Project Development Budget (mil \$)			2023-25 Biennium RRVWSP Project Development Budget (mil \$)			2023-25 Biennium RRVWSP Project Constr Budget (mil \$) ^{1,2,3}		
					Total	Federal 75%	Local 25%	Total	State 75%	Local 25%	Total	State 75%	Local 25%
7.	Transmission Pipeline East Contracts 4A and 4B	27± mi of 72" pl, including several 96" tunnels. Pipeline extends from the west end of Contract 5D south of Sykeston west to a termination point NE of Hurdsfield at HBTs.	Feb-24	Prof Srvs				\$ 7.19	\$ 5.39	\$ 1.80			
	Scope: Final design (30% docs to biddable plans and specs) and bidding assistance.												
	Need: Have the next pipeline section bid-ready when State funding becomes available (likely the 2025-27 biennium).												
8.	RRV Transmission Pipeline Contract 7	14± mi of 72" pipeline, including several 96" tunnels. Pipeline extends from the east end of Contract 6B to the outfall on the Sheyenne River southeast of Cooperstown.	Aug-23	Prof Srvs				\$ 2.93	\$ 2.20	\$ 0.73			
	Scope: Final design (30% docs to biddable plans and specs) and bidding assistance.												
	Need: Have the next pipeline section bid-ready when State funding becomes available (likely the 2025-27 biennium).												
9.	McClusky Canal Intake and Pumping Station	Siting; passive intake screens, pumping station similar to MRI, and utility extension design can begin for new facility to be located near McClusky, ND.	Feb-24	Prof Srvs	\$ 0.76	\$ 0.57	\$ 0.19						
	Scope: Conceptual and preliminary design of an intake and pumping station at the McClusky Canal.												
	Need: Preliminary designs are necessary so site acquisition can begin and final design can commence when land is secured.												
10.	Biota Water Treatment Plant and Main Pumping Station	165-cfs biota WTP, with chlorine and UV disinfection to meet NDPDES permit and FEIS requirements per Reclamation. Chloramines for residual disinfectant in pipeline.	Feb-24	Prof Srvs	\$ 2.88	\$ 2.16	\$ 0.72						
	Scope: Conceptual and preliminary designs for a Biota WTP and Main Pumping Station, including hydraulic surge facility.												
	Need: Complete design to a point where land acquisition can begin and project can move into final design next biennium.												
11.	Hydraulic Break Tanks	Two 5 MG above-ground storage tanks and accessories, site piping and valves, monitoring, and utility extensions necessary for a new greenfield site.	Feb-24	Prof Srvs	\$ 0.38	\$ 0.28	\$ 0.10						
	Scope: Preliminary design of above-ground tanks and associated facilities at or near the continental divide.												
	Need: Complete design to a point where land acquisition can begin and project can move into final design next biennium.												
12.	PMIS Annual Licenses & Continued Maint/Upgrades	Vendor fees (e-Builder & DocuSign) for licenses of expanded team and consulting support for training of contractors/ subcontractors and workflow/report additions and modifications.	Feb-24	Vend & Prof Srvs				\$ 0.49	\$ 0.37	\$ 0.12			
	Scope: Annual software license renewal for expanded team and consulting support for training and configuration services.												
	Need: Create greater efficiency and documentation for voluminous amount of construction related documents.												
13.	Prg Mgmt to Support Larger Spend and Expanded Team	Overall planning, management, administration, scheduling, budgeting, coordination, meeting preparation/attendance, regulatory interface, reporting, etc.	Aug-23	Prof Srvs				\$ 0.66	\$ 0.50	\$ 0.16			
	Scope: Overall program management, planning, budgeting, scheduling, and other support for Garrison Diversion.												
	Need: Consulting services of a broad programmatic nature not included under project-specific design or construction TOs.												



2023 to 2025 Biennium Work Plan

(\$244.0 mil Total Funding: \$180 mil State; \$61 mil Local Users; \$3.0 mil MR&I)

March 14, 2024

No.	Scope of Work	Feature	Date Task Orders Auth	Note	2023-25 Bien ENDAWS Project Development Budget (mil \$)			2023-25 Biennium RRVWSP Project Development Budget (mil \$)			2023-25 Biennium RRVWSP Project Constr Budget (mil \$) ^{1,2,3}		
					Total	Federal 75%	Local 25%	Total	State 75%	Local 25%	Total	State 75%	Local 25%
14.	Outreach, Plng, and Design to Secure User Commitments	Size pipelines, pumping stations, channels, storage, etc. and other necessary infrastructure to deliver raw water to end users. Update capex to reflect current market.	Aug-23	Prof Srvs				\$ 1.70	\$ 1.28	\$ 0.42			
	Scope: User briefings and necessary support, including conceptual designs, to secure project commitments. Need: Define pipeline extensions to identify for users how and a what cost water will be delivered to their communities.												
15.	Operational Planning and Asset Management Phase 3	Refine details of diversions to/from Lake Ashtabula. Finalize stakeholder roles and responsibilities as it relates to system operation.	Feb-24	Prof Srvs				\$ 0.47	\$ 0.35	\$ 0.12			
	Scope: System modeling, evaluation, planning, and report development documenting results/findings/outcomes. Need: Finalize Garrison Diversion, State Water Commission, and USACE roles for system operation.												
16.	Financial Planning Support	Update financial models; address state loan and financing program changes; end user funding, financing, and cost-share analyses; continued funding and finance outreach.	Aug-23	Prof Srvs				\$ 0.59	\$ 0.44	\$ 0.15			
	Scope: Continue to refine the financial model and provide scenarios as required to support users and the program. Need: Accurate water bill estimates and affordability for customers are necessary to gain approval from users.												
17.	Contingency	Budget flexibility to adapt to work plan changes and to pay for construction change orders typically running from 3 to 5% of original construction costs at bid time.	N/A	GDCD	\$ 1.08	\$ 0.81	\$ 0.27	\$ 2.18	\$ 1.64	\$ 0.54	\$ 11.72	\$ 8.79	\$ 2.93
	Scope: A budget reserve for task order additions to professional services, construction, legal, real estate, etc. TOs. Need: Address and pay for changes that are sure to occur.												
TOTAL PROGRAM BUDGET					\$ 10.65	\$ 7.99	\$ 2.66	\$ 21.70	\$ 16.28	\$ 5.42	\$ 211.65	\$ 158.73	\$ 52.92

Notes:

1. Construction costs include management, engineering services during construction, inspection, field quality control, and construction.
2. Projects indicated for construction funding in a given biennium will be shovel ready for construction at the start of the biennium.
3. Future capital costs are escalated to an anticipated midpoint of construction per Finance Team rates of 7, 6, 5, 5, and 3.5 percent per annum thereafter starting in 2022 with an anticipated 2032 finish. All future RRVWSP construction projects and costs are not shown.
4. Land services costs are the amount likely to be paid for real estate, easements, including bonus payments, crop damage, and field obstructions. Estimates include pipeline easements required for the ENDAWS east/west pipeline (none are secured at this point) and remaining easements from the Hydraulic Break Tanks to the Sheyenne River Outfall (25% remain mostly in Wells County).
5. Items appearing in blue bold are progressing with task orders and contracts issued to the engineering team and contractors, respectively. Items appearing in blue italics have been updated to reflect adjustments made for actual amounts contracted. Items shown in black text are pending.

2020-2027 Schedule
Red River Valley Water Supply Project

24-4 GDCD RRVWSP 2020-27 Schedule

Fri 4/12/24

ID	Task Name	Duration	Start	Finish	% Complete	2020				2021				2022				2023				2024				2025				2026				2027				2028						
						Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1						
1	EARLY-OUT PROJECTS	497 days	Mon 10/19/20	Tue 9/13/22	100%	10/19																9/13																						
32	MRI, SCREEN STRUCTURE & TUNNEL, CT 2	727 days	Thu 10/1/20	Fri 7/14/23	100%	10/1																7/14																						
48	TRANSMISSION PIPELINE EAST, CT 5B	648 days	Thu 7/1/21	Mon 12/25/23	70%							7/1																12/25																
49	Final Design Wrap-up	107 days	Thu 7/1/21	Fri 11/26/21	100%							7/1				11/26																												
52	Bidding Assistance & Award	65 days	Mon 11/29/21	Fri 2/25/22	100%							11/29			2/25																													
59	Construction 5B - Garney (9 miles)	476 days	Mon 2/28/22	Mon 12/25/23	59%							2/28																12/25																
60	Substantial Completion	433 days	Mon 2/28/22	Wed 10/25/23	65%													10/25																										
61	Final Completion	43 days	Thu 10/26/23	Mon 12/25/23	0%													12/25																										
62	TRANSMISSION PIPELINE EAST, CTS 5C&D	1261 days	Fri 10/1/21	Fri 7/31/26	38%							10/1																7/31																
63	Final Design Wrap-up	456 days	Fri 10/1/21	Fri 6/30/23	100%							10/1																6/30																
67	Bidding Assistance & Award	109 days	Mon 7/3/23	Thu 11/30/23	100%													7/3				11/30																						
74	Construction 5C - Oscar Renda (8 miles)	713 days	Wed 11/8/23	Fri 7/31/26	9%													11/8																7/31										
75	Initial Pipe Submittals, Fab, & Delivery	148 days	Wed 11/8/23	Fri 5/31/24	35%																																							
76	Pipe Installation	370 days	Mon 6/3/24	Fri 10/31/25	0%																																							
77	Testing and Substantial Completion	43 days	Wed 4/1/26	Fri 5/29/26	0%																																							
78	Final Completion	45 days	Mon 6/1/26	Fri 7/31/26	0%																																							
79	Construction 5D - Carstensen (10 miles)	726 days	Fri 10/20/23	Fri 7/31/26	20%													10/20																7/31										
80	Initial Pipe Submittals, Fab, & Delivery	161 days	Fri 10/20/23	Fri 5/31/24	75%																																							
81	Pipe Installattion	370 days	Mon 6/3/24	Fri 10/31/25	0%																																							
82	Testing and Substantial Completion	43 days	Wed 4/1/26	Fri 5/29/26	0%																																							
83	Restoration and Final Completion	45 days	Mon 6/1/26	Fri 7/31/26	0%																																							
84	RRV TRANSMISSION PIPELINE, CTS 6A&B	1500 days	Mon 11/1/21	Fri 7/30/27	35%																																							
85	Final Design	695 days	Mon 11/1/21	Fri 6/28/24	90%							11/1																6/28																
86	Prepare & Deliver 60% Docs	215 days	Mon 11/1/21	Fri 8/26/22	100%																																							
87	Prepare & Deliver 90% Docs	132 days	Mon 8/29/22	Tue 2/28/23	100%																																							
88	Prepare & Deliver 100% Docs	30 days	Wed 3/1/23	Tue 4/11/23	100%																																							
89	Prepare & Deliver Final Docs	43 days	Wed 5/1/24	Fri 6/28/24	0%																																							
90	Bidding Assistance & Award for 6A	67 days	Thu 8/1/24	Fri 11/1/24	0%																			8/1				11/1																
97	Construction of 6A	716 days	Fri 11/1/24	Fri 7/30/27	0%																			11/1																7/30				

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description		Potential Risk Outcome				Mitigation		Timeframe	Assignment		Severity				Latest Review Date			
		Brief Summary of Risk Type		Brief Summary of Risk Details				Steps to Mitigate Risk			Responsible Party	Target Date	Probability	Consequence	Risk Score	Severity Rating				
1	L	Appeal of ENDAWS Record of Decision is possible until ~2026.		3	5	15	HIGH	Need input from Vogel.	D	Tami	2026?	2	5	10	MEDIUM	1/29/2024				
1	L	Result of the Appeal of ENDAWS ROD requires EIS to be extended to the State Portion of RRVWSP.		1	5	5	LOW	Need input from Vogel.	D	Tami	2026?	1	5	5	LOW	1/29/2024				
1	L	Appeal of ENDAWS ROD results in a contested Discharge Permit Biota WTP w/ Filtration Required and/or Multiple Barriers		Health Department or Manitoba may require a higher level of treatment than currently included in the PDR. A substantial increase in CAPEX is expected. Regulators could potentially require the addition of granular or microfiltration plus possibly two additional barriers to contaminants.				3	5	15	HIGH	Focus on getting an updated NDPDES permit by mid-year 2025.	D	Tami	2026?	3	5	15	HIGH	1/29/2024
1	L	Federal Nexus Triggered		Pipeline is being designed to utilize USACE Nationwide Permit for temporary impact to Waters of the US. This option will be implemented on a wetland by wetland basis. The risk of triggering a federal nexus appears to be decreasing				2	5	10	MEDIUM	Pipeline design has attempted to reroute to avoid impact to Waters of the US. There are locations, or timing, where avoidance is not possible. Potential mitigation is to construct most challenging wetland crossings at the end of the project.	D	Tami	Thru design	2	4	8	MEDIUM	1/29/2024
1	L	Environmental Group(s) file court proceedings to stop the program.		Environmental concerns with facilities and conveyance pipeline.				1	5	5	LOW	Focus efforts on continued favorable perceptions of the project. Currently appears to be little environmental opposition.	D	Tami	Thru design	1	3	3	LOW	1/29/2024
2	L	Missouri River Intake Permit Triggers NEPA permitting, which involves an environmental impact statement (EIS)		Intake permit could trigger USACE to require NEPA review of entire project. This Federal nexus would delay project implementation for years.				3	5	15	HIGH	Locate pumping station and associated facilities above the ordinary high water mark of the Missouri River.	D	PrM	7/1/2023	1	1	1	Resolved	1/29/2024
2	T-I											Route tunnel alignment to avoid USACE bank improvements and channel armoring.	D	PrM	7/1/2023	1	1	1	Resolved	1/29/2024
2	T-I											Completed biological assessment (BA) to minimize potential impact of construction. Incorporate permit requirements into CCDs.	D	PrM	7/1/2023	1	1	1	Resolved	1/29/2024
3	L	Native Americans File Suit		Similar to the Dakota Access pipeline, Native Americans could object/protest the project and file suit to stop construction.				4	5	20	HIGH	??	D	GDCD	12/31/2018	1	1	1	Resolved	1/29/2024
4	T-P	Intake, Outfall, or Initial Trenchless Sites Require Condemnation		Difficulty purchasing property could delay early-out construction projects planned to begin in 2019.				3	2	6	MEDIUM	Early discussions with land owners to ID quickly if condemnation is probable for any of the properties.	D	GDCD	6/30/2018	1	1	1	Resolved	1/29/2024

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description	Potential Risk Outcome	Probability	Consequence Severity	Risk Score	Risk Rating	Mitigation	Timeframe	Assignment	Target Date	Probability	Consequence Severity	Risk Score	Severity Rating	Latest Review Date
		Brief Summary of Risk Type	Brief Summary of Risk Details					Steps to Mitigate Risk								
5	T-C	Energy Dissipation Structure Access & Safety	Large, sudden increase in flow could cause unsafe conditions if individual was inside structure or apron at the time.	4	2	8	MEDIUM	As part of CVS construction, add warning signs, fencing and alarms.	D	ENG		1	2	2	LOW	1/29/2024
6	F	Funding has been established for the 2023-25 biennium and there is legislative commitment to complete the project in 2032.	Risk is that future legislatures will not obligate required funding to complete the project on the current schedule.	3	5	15	HIGH	Best way to mitigate funding delay is to 1) spend the money currently allocated in this biennium and 2) secure all PPAs in this biennium.	D	Duane	1/1/2025	2	5	10	MEDIUM	1/29/2024
6	F	Funding has been established for the 2023-25 biennium and there is legislative commitment to complete the project in 2032.	Risk is also that future state revenues do not support the 23/25 legislative intent.	2	5	10	MEDIUM	Bonding bill for RRVWSP, ENDAWS, and SRJWB in 25/27? Need also to note importance of following through on legislative priorities task.		Duane	1/1/2025	2	5	10	MEDIUM	1/29/2024
6	F	Funding has been established for the 2023-25 biennium and there is legislative commitment to complete the project in 2032.	SWC/DWR/BND cash management limits the availability of water funding	1	5	5	LOW	May not be a mitigation strategy for this.		Duane	1/1/2025	1	5	5	LOW	1/29/2024
7	CAPEX	Actual construction costs exceed programmatic cost estimate	Programmatic cost estimates do not reflect market conditions (e.g, steel price) capture quantities, address contingency (known unknowns) and/or program allowance (unknown unknowns) can exceed program budget.	3	5	15	HIGH	Need to validate programmatic CAPEX versus biennium budgets, and actual construction segment OPCC. Quality control of cost estimates. Contractor validation of cost opinions. Establish a risk-based cost estimated and program contingency. Track design changes that increase project costs.	D	PrM	Thru design	2	3	6	MEDIUM	1/29/2024

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description		Potential Risk Outcome				Mitigation		Timeframe	Assignment		Severity				Latest Review Date
		Brief Summary of Risk Type		Brief Summary of Risk Details				Steps to Mitigate Risk			Responsible Party	Target Date	Probability	Consequence	Risk Score	Severity Rating	
7	CAPEX	Construction program cost estimating is lower than actual program CAPEX.		Programatic cost estimates do not reflect market conditions, capture quantities, address contingency (known unknowns) and/or program allowance (unknown unknowns) can exceed program budget.				Quality control of cost estimates. Contractor validation of cost opinions. Establish a risk-based program contingency.		D	PrM	Thru design	2	3	6	MEDIUM	1/29/2024
7	CAPEX	CAPEX Increases During Design		CAPEX can escalate as design progresses with the addition of new bells and whistles not originally part of the project.				Use appropriate contingencies for facility and pipeline projects for a given project's stage of design.		D	PrM	Thru design	2	3	6	MEDIUM	1/29/2024
7	CAPEX	CAPEX Increases During Construction		Pipeline construction can't keep pace with Program schedule and Contractors lose interest.				Need to set achievable schedules for contractors		D	PrM		2	3	6	MEDIUM	1/29/2024
7	CAPEX	Contractor Interest and Bid Pool		Lack of competition will impact bid pricing for any construction package.				Contractor outreach program. Appropriate risk allocation between GDCD and general contractors.		D	PrM	Thru design	2	3	6	MEDIUM	1/29/2024
8	R	Extended land acquisition timeline slows the implementation and increases program costs.		75% of easements voluntarily obtained. GDCD and Engineering Team closely monitoring the acquisition of the remaining 25%				Plan 25/27 and 27/29 biennium's for pipeline construction where easements have been obtained. Implementation of quick take in ND.		D	PrM	12/31/2026	2	3	6	MEDIUM	1/29/2024
8	R	ENDAWS pipeline easements acquisition does not match the Program implementation plan. Note - voluntary easement ask went to landowners in 8/2023.		ENDAWS TP Ct3 26/27 Construction ENDAWS TP Ct3 27/28 Construction ENDAWS PE Ct3 27/28 Construction ENDAWS easement acquisition may extend past 2027 for land if eminent domain is used.				44 of 70 easements have been voluntarily obtained. No parcels have been moved to legal proceedings. By 12/31/2024 have obtained all voluntary easements or moved to legal proceedings.		D	PrM	12/31/2024	3	3	9	MEDIUM	1/29/2024
8	R	RRVWSP TPE Ct4 pipeline easements acquisition does not match the Program implementation plan.		TPE Ct4 28/29 Construction				TPE Ct4 22 of 56 easements acquired. 34 easements in legal proceedings.		D	PrM	12/31/2024	3	5	15	HIGH	1/29/2024
8	R	RRVWSP TPE Ct5 pipeline easements acquisition does not match the Program implementation plan.		TPE Ct5 segments are all in construction.				TPE Ct5 all easements obtained.		D	PrM	Resolved	1	1	1	Resolved	1/29/2024
8	R	RRVWSP RRVTP Ct6 pipeline easements acquisition does not match the Program implementation plan.		RRVTP Ct6a 25/26 Construction RRVTP Ct6b 26/27 Construction				RRVTP Ct6 56 of 57 and 1 in legal. No impact to bidding and contract award.		D	PrM	Resolved	1	1	1	Resolved	1/29/2024
8	R	RRVWSP RRVTP C7 pipeline easements acquisition does not match the Program implementation plan.		RRVTP Ct7 26/27 Construction				RRVTP Ct7 24 of 31 and 5 in legal. Contiguous parcels in legal, bidding impacted.		D	PrM	12/31/2024	3	4	12	HIGH	1/29/2024
8	R	ENDWAS McClusky Intake, pump station and HBT site property acquisition.		3				Purchase McClusky Intake, WTP, and HBT sites in 23/25.		D	PrM	12/31/2024	3	5	15	HIGH	1/29/2024
9	T-Pipe	Disposal of excess soils slows the construction progress, creates landowner issues, and increases CAPEX.		It will be necessary to dispose of significant quantities of spoil excavated for pipe installation. If extended hauling of spoil to disposal sites is necessary, it could have a significant impact to CAPEX.				Spoil disposal responsibility is placed with the contractor under the restrictions that disposal shall comply with all laws. With increased number of active contracts it would be + beneficial to identify locations/parties prior to advertisement that will accept large quantities of spoil for cost certainty and tighter bids.		D	PrM	Thru design	2	3	6	MEDIUM	1/29/2024

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description	Potential Risk Outcome	Probability	Consequence Severity	Risk Score	Risk Rating	Mitigation	Timeframe	Assignment	Target Date	Probability	Consequence Severity	Risk Score	Severity Rating	Latest Review Date
		Brief Summary of Risk Type	Brief Summary of Risk Details					Steps to Mitigate Risk								
10	T-Pipe	Access to Sites during Construction	Wetlands tunneled could preclude drive through access for construction making it necessary to approach sites from two locations.	2	2	4	LOW	Consider construction access in areas where we are tunneling. Make sure access is provided on both sides of the wetland for construction as well as future maintenance activities.	D	ENG	Thru design	1	1	1	Resolved	1/29/2024
11	T-Pipe	Local Aggregate Sourcing	BV standard pipe bedding specs often require import of aggregate in certain areas due to unavailability of locally sourced material. With the large quantities needed for this project, imported material will significantly impact CAPEX.	2	3	6	MEDIUM	Identify local aggregate suppliers and develop bedding specs tailored to local materials and design requirements. Identify sources for each pipeline segment since they are likely to be quite different from one end of the project to the other. Keep in contact with aggregate suppliers on upcoming bids and timing.	D	ENG	Thru design	3	3	9	MEDIUM	1/29/2024
12	T-Pipe	Surface Impacts from Shallow Tunnels	There is potential for wetlands disturbance from tunneling operations given the relatively shallow depth of tunneling beneath the areas.	2	2	4	LOW	Review tunnel designs and examine if increasing depth will have a measurable impact on reducing surface disturbance risk. Write specifications requiring strict limits on surface disturbance.	D	ENG	Thru design	1	1	1	Resolved	1/29/2024
13	U	Local Users do not commit to program by January 1, 2025. Impacts cost allocation to Local Users who have made commitment to program.	If small users do not commit to program, legislature will question need to continue funding in next biennium.	3	4	12	HIGH	Define Local User cost allocation and provide a range of rate impacts based on various funding and cost-share scenarios. Implement aggressive User outreach program in 2023 and 2024.	D	GDCD	1/1/2025	3	2	6	MEDIUM	1/29/2024
13	U	Fargo doesn't sign the PPA by 1/1/2025		2	4	8	MEDIUM		D	GDCD	1/1/2025	2	5	10	MEDIUM	1/29/2024
13	U	Grand Forks doesn't sign the PPA by 1/1/2025		2	4	8	MEDIUM		D	GDCD	1/1/2025	2	5	10	MEDIUM	1/29/2024
14	O&M	Lack of Agreement with USACE on Reservoir Operation	Could impact the pipe sizing and operations	3	3	9	MEDIUM	Burian working with USACE	D	ENG		3	1	3	LOW	1/29/2024
14	O&M	Lack of Agreement with the State on Reservoir Operation	Could impact the pipe sizing and operations	3	1	3	LOW	Burian working with State	D	ENG		3	1	3	LOW	1/29/2024
15	G	GDCD and LAWA role & responsibilities not well defined and understood by all stakeholders.	Impacts decision making, approval authority, communications, etc..	3	5	15	HIGH	Develop and execute memorandum of understanding between the two parties for a clear definition of roles and responsibilities.	D	GDCD	Thru design	2	3	6	MEDIUM	1/29/2024

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description	Potential Risk Outcome	Probability	Consequence Severity	Risk Score	Risk Rating	Mitigation	Timeframe	Assignment	Target Date	Probability	Consequence Severity	Risk Score	Severity Rating	Latest Review Date
		Brief Summary of Risk Type	Brief Summary of Risk Details					Steps to Mitigate Risk								
16	P	Governor/SWC does not approve or support program.	Without financial and political support, program nor sustainable.	3	5	15	HIGH	Timely communication w/ governor's office and SWC by GDCD and LAWA.	D	GDCD	Thru design	1	3	3	LOW	1/29/2024
16	P	Change in Support from State Legislature	Change in support from State Legislatures, Governor's Office, and Local Political Leadership support erodes State funding.	3	5	15	HIGH	State Level Plan	D	Duane	Thru design	1	4	4	LOW	
16	P	Change in Support from Governor	Burgum is not running for re-election in 2024. There will be change in office and appointees.	5	3	15	HIGH	Governors Office Plan	D	Duane	Thru design	1	4	4	LOW	
16	P	Opposition from landowners from construction progress and land impacts	Landowner Direct Impacts on Costs	3	3	9	MEDIUM	Voluntary easements have been obtained for ~75% of the parcels and ~76% of landowners.	D	Duane	Thru design	1	4	4	LOW	
16	P	Impacts and construction fatigue results in landowners complaining to State and Local politicians.	Impacts on funding or cost from Landowner Complaints	5	3	15	HIGH	Landowners have little impact on the direct cost after the easements have been obtained.	D	Duane	Thru design	1	4	4	LOW	
16	P	Ballot Box Measures Defund GDCD	State defunds GDCD and the governance of the Program has to be reevaluated.	1	1	1	LOW		D	Duane				0	LOW	
17	L	Native American Tribes file court proceeding to stop Missouri River intake.	Believe they have sovereignty of Missouri River water.	3	5	15	HIGH	Focus efforts on supporting a favorable discharge permit limits.	D	PrM	1/29/2024	1	3	6	MEDIUM	1/29/2024
18	L	State water sovereignty	Request currently under consideration by SWC			0	LOW							0	Resolved	1/29/2024
19	L	Waters of the United States	Wetlands avoidance strategy currently based on exiting regulations. Should these change, it could impact the strategy.	3	5	15	HIGH	Continue to use wetland avoidance strategy where possible and selectively use non-notification strategy where needed.	C	Tami	Thru design	1	1	1	LOW	1/29/2024
20	U	Financial Plan	Uncertainty in program definition (point of discharge and resulting capacity requirement); State/Local share for CAPEX and OPEX; and ownership of extended pipeline system have impact on cost of water to Local Users.	3	3	9	MEDIUM	Complete affordability analysis and boil down cost of the program to impacts on individual users' water bills under a number of funding alternatives.	D	PrM	1/1/2025	3	3	9	MEDIUM	1/29/2024
21	F	Increasing cost of electricity	Power utilization rates have significant impact on OPEX due to pumping requirements.	3	3	9	MEDIUM	Optimize pipeline CAPEX versus associated pumping cost. Negotiate power supply contract and understand demand and usage charges under maintenance flow and peak demand conditions.	D C	PrM GDCD	3/31/2020 2025	1 1	1 1	1 1	Resolved Resolved	1/29/2024 1/29/2024
22	T-Pipe	Pipeline Wall Design Requirements	Uncertainty in capacity, soil conditions, and operating conditions can impact pipe design.			0	LOW	Geotechnical program to characterize soil conditions. Cathodic protection system for long-term pipeline integrity. Appropriate lining and coating system for long design life. Hydraulic and transient analysis.	D D PrM	PrM PrM PrM	1/1/2023 1/1/2023 1/1/2023	1 1 1	1 1 1	1 1 1	Resolved Resolved Resolved	1/29/2024 1/29/2024 1/29/2024
23	T-P	Contractor Interest and Bid Pool	Lack of competition will impact bid pricing for any construction package.	2	3	6	MEDIUM	Contractor outreach program. Appropriate risk allocation between GDCD and general contractors.	D	PrM	6/30/2023	1	2	2	Relocated	1/29/2024
23	T-P	Contractor Interest and Bid Pool	Lack of competition will impact bid pricing for any construction package.	2	3	6	MEDIUM	Construction package to maximize interest (type of construction and dollar value of packages).	D	PrM	6/30/2023	1	2	2	Relocated	1/29/2024

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description	Potential Risk Outcome				Mitigation	Timeframe	Assignment	Severity				Latest Review Date	
		Brief Summary of Risk Type	Brief Summary of Risk Details				Steps to Mitigate Risk	Mitigate During Design (D), Construction (C), or Future Operation (O)	Responsible Party	Target Date	Probability	Consequence	Risk Score	Severity Rating	
24	T-P	Pumping Station Power Supply	Pumping station sites will have large power requirements that typically exceed capacity of smaller electric utilities. This is a design issue more than a program risk.				Close coordination with power utility.	D	PrM	1/1/2025	1	3	3	LOW	1/29/2024
25	T-Pipe	High Groundwater	Uncertainty in groundwater levels will impact trench design, construction, and operations of pipeline.				Locate borings and piezometers to characterize groundwater conditions.	D	PrM	Thru design	3	3	9	MEDIUM	1/29/2024
26	T-Pipe	Commissioning	Program commissioning will integrate individual projects to function as a single system. Timing of early project construction could be out of warranty prior to commissioning.				Stringent hydrostatic testing program, welder certifications, and welding quality control inspections.	C	PrM	7/24/1905	3	3	9	Resolved	1/29/2024
26	T-Pipe	Commissioning					Established maintenance program during the post-construction and pre-commissioning period.				C	PrM	Thru construction	3	3
27	T-P	Change Orders	Known unknowns and unknown unknowns can result in cost exceeding budget for the program. Could impact participation of local users.				Develop high-quality designs with appropriate definition in plans and specs by implementing and following a disciplined quality control process.	D	ENG	1/1/2025	1	2	2	LOW	1/29/2024
							Provide well-qualified inspection services buttressed with a robust materials testing program.	C	PrM	1/1/2025	1	2	2	LOW	1/29/2024
28	T-P	Construction Delays	Construction delays could impact stakeholder confidence, existing permits, changing regulations, escalation, and program commissioning. Increases probability of severe drought occurring prior to program being operational.				Program certainty (e.g. design flow, permitting, source water, and discharge location).	D	PrM	Thru design	2	4	8	MEDIUM	1/29/2024
29	T-P	Material Flaws	Poor materials will impact construction completion or operational reliability.				Proper specifications, detailed submittal reviews, witness factory testing, qualified field inspections.	D	PrM	Thru design	1	2	2	LOW	1/29/2024
30	T-P	State MOD	Assumptions made to identify water loss in stream beds significantly different than actual water loss during wet and dry conditions may impact water demands.				Review and validate StateMod assumptions with regard to water loss in the Lower Sheyenne and Red Rivers.	D	ENG	1/1/2025	2	2	4	LOW	1/29/2024
31	T-P	Pipe Size and User Demands	Uncertainty is all water requirements (demands, water loss) impacts capacity on program.				Complete hydraulic analysis that incorporates the ENDAWS portion and the constraints and Lake Ashtabula. Need to incorporate results of final 2024 User outreach into final hydraulics.	D	GDCD	12/31/2024	5	3	15	HIGH	1/29/2024
32	O&M	Pipe Leak/Failure. Leakage greater than industry standard and/or pipeline failures will result in unplanned shutdown of entire system until repairs can be made. This will impact ability to deliver water to local users.	Ability to deliver water to Local Users with river intakes downstream of Lake Ashtabula may have minimal impact. Operating procedures and buffering capacity of lake may minimize impact				Follow qualify control procedures during installation and construction. Implement an asset management approach toward maintenance activities.	C	GDCD	1/1/2032	1	1	1	LOW	1/29/2024
32	O&M	Cathodic Protection system failure could lead to pipe failure and unplanned shutdowns	Cathodic Protection system failure could lead to pipe failure and unplanned shutdowns				Follow qualify control procedures during installation and construction. Implement an asset management approach toward maintenance activities.	C	GDCD	1/1/2032	1	1	1	LOW	1/29/2024
33	O&M	Operations error can impact reliability and flexibility of overall system	Garrison will have to keep developing and implementing an overall O&M plan during the design process.				Develop a system operations and maintenance manual to keep treatment plant operating at optimum efficiency. Develop and implement training program for operations staff.	C	PrM	Thru design	1	1	1	LOW	1/29/2024
41	O&M	Poor or minimal maintenance will impact system reliability and ability to meet permit requirements.	Reactive maintenance will increase number of unplanned shutdowns and generally cost 3 to 4 times more than preventative maintenance.				Implement an asset management approach toward maintenance activities.	O	GDCD	Thru design	1	1	1	LOW	1/29/2024

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description		Potential Risk Outcome				Mitigation		Timeframe	Assignment		Severity				Latest Review Date
		Brief Summary of Risk Type		Brief Summary of Risk Details				Steps to Mitigate Risk			Responsible Party	Target Date	Probability	Consequence	Risk Score	Severity Rating	
42	O&M	O&M Staffing. Availability of qualified operators can impact staffing levels to properly operate and maintain the system.		Operators and maintenance staff not adequate level to operate system.				Hire qualified staff. Maintain operator certification. On-going training program.		O	GDCD	Thru design	1	1	1	LOW	1/29/2024
43	O&M	Baldhill Dam operations not adequate to meet environmental constraints and/or releases not adequate to meet severe draught demands		Lack of coordination and communication between GDCD and USACE in operation of RRVWSP system and Lake Ashtabula				Develop overall system operating plan.		D	PrM	Thru design	1	3	3	LOW	1/29/2024
44	T-P	Program Definition. Uncertainty in program definition impacts system configuration and schedule and costs.		McClusky Canal supply uncertainty impacts size of facilities upstream of connection point				EPA do conduct environmental study of using McClusky Canal as a water supply		D	GDCD	12/31/2021	1	1	1	Resolved	1/29/2024
45	U	Responsibility for Program OPEX		Understanding and definition of who bears the responsibility of paying O&M costs for pipeline extensions for users to sign PPAs,				Water distribution from backbone to end users will have an associated O&M cost. It will be necessary to account for these costs when and if the distribution system projects move forward.		O	GDCD	Thru design	1	2	2	LOW	1/29/2024

RISK REGISTER

Updated: 2/15/24

Risk / Mitigation Identification	Type	Risk Description	Potential Risk Outcome				Mitigation	Timeframe	Assignment	Target Date	Probability	Consequence Severity	Risk Score	Severity Rating	Latest Review Date
		Brief Summary of Risk Type	Brief Summary of Risk Details				Steps to Mitigate Risk	Mitigate During Design (D), Construction (C), or Future Operation (O)	Responsible Party						
LEGEND (selection items)															
		Type	Responsible Party												
G	Governance	Duane				Duane									
U	Users-Stakeholders	Merri				Merri									
P	Political-Legislative	Kip				Kip									
L	Legal-Permit	Tami				Tami									
R	Real Estate	Paul				Paul									
F	Finance	Kurt				Kurt									
CAPEX	Capital Expnese	Red River Committee				RR									
OPEX	Operational Expenses	LAWA				LAWA									
T-P	Technical-Program	LAWA				TAC									
T-I	Technical-Intake/PS	Engineering Team				ENG									
T-W	Technical-WTP/PS	Contractor				CON									
T-H	Technical-HBT	Open													

Risk Rating					
			Consequence Sever		
			Insignificant	Minor	Moderate
			1	2	3
Probability	Rare	1	1	2	3
	Remote	2	2	4	6
	Possible	3	3	6	9
	Likely	4	4	8	12
	Frequent	5	5	10	15

Risk Rating	Potential Time Impact	Po
Low	< 6 months	
Medium	6 to 24 months	\$
High	> 24 months	

Rules:

1. Evaluate each Probability and Consequence Severity rating as a 1, 3, or 5.
2. During collaboration, if cannot agree on 1, 3, 5 rating, use a 2 or 4 rating.
3. Probability Rating

Rare	1	If it made the list, it's at least a 1.
Remote	2	
Possible	3	A series of events have to take place for risk to hap
Likely	4	
Frequent	5	If not mitigated, risk will happen on a recurring basi

4. Consequence Severity Rating		Time Impact (months)	Cost Impact (million)
Insignificant	1	< 6	< \$10
Minor	2		
Moderate	3	6 to 24	\$10 to \$100
Major	4		
Significant	5	> 24	> \$100

ity	
Major	Significant
4	5
4	5
8	10
12	15
16	20
20	25

Potential Cost Impact
< \$10 million
10 to \$100 million
> \$100 million

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