MINUTES

North Dakota State Water Commission
Bismarck, North Dakota

October 10, 2019

The North Dakota State Water Commission (SWC or Commission) held a meeting at the State Capitol, Governor's Conference Room via telephone, Bismarck, North Dakota, on October 10, 2019. Lt. Governor Sanford called the meeting to order at 1:00 p.m., and requested Garland Erbele, State Engineer, and Chief Engineer-Secretary to the Commission, call the roll. Lt. Governor Sanford announced a quorum was present.

STATE WATER COMMISSION MEMBERS PRESENT:
Lt. Governor Sanford, Chairman
Doug Goehring, Commissioner, ND Department of Agriculture, Bismarck (1:07 p.m.)
Michael Anderson, Hillsboro
Katie Hemmer, Jamestown
Richard Johnson, Devils Lake
Mark Owan, Williston
Matthew Pedersen, Valley City
Jay Volk, Bismarck
Steven Schneider, Dickinson
Jason Zimmerman, Minot

OTHERS PRESENT:
Garland Erbele, State Engineer, and Chief Engineer-Secretary
SWC Staff
Jennifer Verleger, General Counsel, Attorney General's Office
Public joined meeting via phone

CONSIDERATION OF AGENDA

The agenda for the October 10, 2019, SWC meeting was presented; there were no modifications.

CONSIDERATION OF DRAFT MEETING MINUTES FOR AUGUST 8, 2019

The draft minutes for the August 8, 2019, SWC meeting were reviewed. There were no modifications.

It was moved by Commissioner Johnson, seconded by Commissioner Pedersen, and unanimously carried, that the minutes for August 8, 2019, be approved as presented.

CONSIDERATION OF DRAFT MEETING MINUTES FOR SEPTEMBER 12, 2019, SUBCOMMITTEE MEETINGS

The draft minutes for the September 12, 2019, subcommittee meetings were reviewed. There were no modifications.

> **It was moved by Commissioner Owan, seconded by Commissioner Hemmer, and unanimously carried, that the minutes for the September 12, 2019, subcommittee meetings be approved as presented.**

NORTHWEST AREA WATER SUPPLY (NAWS)

(SWC Project No. 237-04)

Tim Freije, NAWS Project Manager, presented bid information on NAWS' Contract SA No. 80 Raw Water Pipeline Testing and Condition Assessment. The memorandum and supporting documentation for Contract SA No. 80 is attached as **APPENDIX A.**

After Commission review and discussion, the following motion was made and approved:

> **It was moved by Commissioner Owan and seconded by Commissioner Anderson the Commission award NAWS Contract SA No. 80 Raw Water Pipeline Testing and Condition Assessment to Wagner Construction, Inc., in the amount of $169,912.**
>
> **Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.**

SOUTHWEST PIPELINE PROJECT (SWPP)

Sindhuja S.Pillai-Grinolds, SWPP Project Manager, presented bid information on SWPP's Contract 5-9A 2nd Belfield Water Reservoir and Contract 5-13A 2nd Davis Buttes Water Reservoir. The memorandums and supporting documentation are attached as **APPENDIX B.**

After Commission review and discussion, the following motions were made and approved:

CONTRACT 5-9A 2ND BELFIELD WATER RESERVOIR

> **It was moved by Commissioner Goehring and seconded by Commissioner Johnson the Commission authorize Chief Engineer**

and Secretary to award SWPP Contract 5-9A to Landmark Structures I, LP., in the amount of $1,180,000 based on Bid Schedule 2. The award of SWPP Contract 5-9A contract will be dependent upon legal review of the contract documents.

Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.

CONTRACT 5-13A 2ND DAVIS BUTTES WATER RESERVOIR

It was moved by Commissioner Goehring and seconded by Commissioner Hemmer the Commission authorize Chief Engineer and Secretary to 1) award SWPP Contract 5-13A to Landmark Structures I, LP., in the amount of $1,448,000 based on Bid Schedule 2. The award of SWPP Contract 5-13A contract will be dependent upon legal review of the contract documents; and 2) approve $2.32 million dollars to the SWPP from the funds appropriated for the 2019-2021 biennium.

Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.

STATE COST-SHARE REQUESTS

FLOOD CONTROL:

TRI-COUNTY WATER RESOURCE DISTRICT, DRAIN NO. 6 - $738,900 (SWC Project No. 1217)

The Tri-County Water Resource District (District) originally requested cost-share for the reconstruction of Tri-County Drain No. 6 Phase II project in February 2018. The project was deferred due to limited funding for conveyance projects in the 2017-2019 biennium.

The estimated eligible total project cost is $1,642,000. The project is eligible for up to 45 percent cost-share as a rural flood control project in the amount of $738,900.

Because this is a water conveyance project with a total cost of $1 million or more, the project sponsor was required to submit an economic analysis (EA). The first EA yielded a benefit-to-cost (BC) ratio of 0.406. However, an error was identified in the model calculations and the new EA resulted in a BC ratio of 1.534.

The project was included in the 2019 Water Development Plan and meets requirements of the Commission's cost-share policy for rural flood control projects. The recommendation was to provide cost-share participation of 45 percent of eligible costs at an amount not to exceed $738,900. The cost-share request is attached as **APPENDIX C.**

It was moved by Commissioner Goehring and seconded by Commissioner Volk the Commission approve the request by Tri-County Water Resource District for state cost-share participation at 45 percent of eligible costs for the reconstruction of Tri-County Drain No. 6 Phase II project at an amount not to exceed $738,900. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.

VALLEY CITY, PERMANENT FLOOD PROTECTION PHASES 4 AND 5 - $11,610,554
(SWC Project No. 1504)

Valley City requested cost-share for the Permanent Flood Protection Phases 4 and 5 projects. Phase 4 covers a portion of the areas required to continue to protect downtown Valley City. The project will connect two segments installed with Phase 2 flood protection. The estimated construction cost for Phase 4 is approximately $13.5 million. Valley City requested 80 percent cost-share for construction engineering and construction costs, which is a cost-share of $10,834,504.

Phase 5 would include earthen levees, floodwalls, utility relocation and storm sewer. The estimated total cost for Phase 5 is approximately $15.2 million. The total cost for design engineering of the project is $913,000. The request is for 85 percent cost-share, in the amount of $776,050.

The project was included in the 2019 Water Development Plan and meets requirements of the Commission's cost-share policy for flood control projects. The recommendation was to provide cost-share participation of $11,610,554 at 85 percent of eligible costs for pre-construction and 80 percent of eligible costs for construction of Permanent Flood Protection Phases 4 and 5. The cost-share request is attached as **APPENDIX D.**

It was moved by Commissioner Owan and seconded by Commissioner Zimmerman the Commission approve the request

by Valley City for state cost-share participation at of $11,610,554 at 85 percent of eligible costs for pre-construction and 80 percent of eligible costs for construction of Permanent Flood Protection Phases 4 and 5. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Hemmer, Johnson, Owan, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Commissioner Pedersen abstained. Lt. Governor Sanford announced the motion carried.

MUNICIPAL WATER SUPPLY:

CAVALIER, WATER TOWER REPLACEMENT - $1,022,500
(SWC Project No. 2050CAV)

Cavalier requested cost-share for construction of a new 250,000-gallon elevated water tower to replace and expand the capacity of their existing 50,000-gallon water tower. The project will meet emergency storage needs and provide greater operational flexibility during future reservoir rehabilitation.

Cavalier serves 1,264 people and had an annual population growth rate of -0.4 percent since 2010. The Commission's Life Cycle Cost Analysis considered three alternatives: rehabilitation of the existing tower, building a new 50,000-gallon tower, or building a new 250,000-gallon tower. The present value cost of the 250,000-gallon tower is $1,238,000 more than the cost of a new 50,000-gallon tower, and $931,000 more than the cost to do rehabilitation of the existing 50,000-gallon tower.

The estimated total cost is $3,094,457. Cavalier has applied for a Drinking Water State Revolving Loan Fund (DWSRF) loan for the total cost of the project of which they were approved for loan forgiveness of $1,390,290. Per Commission policy, the total cost of the project, less DWSRF loan forgiveness, leaves $1,704,167 remaining as eligible for cost-share funding at up to 60 percent, or $1,022,500.

The project was included in the 2019 Water Development Plan and meets requirements of the Commission's cost-share policy for municipal water supply projects. The recommendation was to provide cost-share participation at 60 percent of eligible costs at an amount not to exceed $1,022,500. The cost-share request is attached as **APPENDIX E.**

It was moved by Commissioner Goehring and seconded by Commissioner Pedersen the Commission approve the request by Cavalier for state cost-share participation at 60 percent of eligible costs for the Water Tower Replacement project at an amount not to

exceed $1,022,500. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. Commissioner Hemmer voted nay. Lt. Governor Sanford announced the motion carried.

MAPLETON, GROUND STORAGE TANK - $540,000 (SWC Project No. 2050MAP)

Mapleton submitted a cost-share request for additional construction costs for a new 300,000-gallon ground storage tank to help meet water demands due to growth over the last decade and for future growth. The new tank will replace the existing 50,000-gallon elevated tank.

Mapleton currently serves 1,034 people, but a water system planning study estimated the population would grow to 1,568 by the year 2037. A "Do Nothing" alternative is insufficient in providing water for Mapleton's future growth. The Commission's Life Cycle Cost Analysis considered two alternatives: a ground storage tank and an elevated storage tank. The present value cost is $118,000 more for an elevated storage tank.

The project's total eligible cost increased to $2,300,000, with 60 percent cost-share in the amount of $1,380,000. The Commission previously approved cost-share of $840,000 when the total cost was estimated at $1,400,000.

The project was in the 2019 Water Plan, is a moderate priority, and meets requirements of the Commission's cost-share policy for municipal water supply projects. The current recommendation was to provide additional cost-share at 60 percent, in the amount of $540,000. The cost-share request is attached as **APPENDIX F.**

It was moved by Commissioner Goehring and seconded by Commissioner Anderson the Commission approve the request by Mapleton for state cost-share participation at 60 percent of eligible costs for the Ground Storage Tank project at an additional amount not to exceed $540,000. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.

MINOT, SOUTHWEST WATER TOWER - $2,855,000
(SWC Project No. 2050MIN)

Minot submitted a cost-share request for pre-construction and construction costs for a new 1,500,000-gallon elevated water tower to help meet water demands of the new Trinity Hospital to be completed in 2022, other continued growth, and future growth in southwest Minot.

Minot serves 47,370 people and had an annual population growth rate of 2 percent since 2010. A "Do Nothing" alternative is insufficient in providing water for the Minot's future growth. The Commission's Life Cycle Cost Analysis only considered the alternative of an elevated storage tank because the design for water pressure zones is based on elevated storage and not ground storage.

The local share of the project is programmed into the Minot's capital improvement plan and the rates will cover the bonding for this project. The project's estimated total cost is $4,758,334, with pre-construction costs of $195,060, and construction costs of $4,563,274.

The project was in the 2019 Water Plan, is a moderate priority, and meets requirements of the Commission's cost-share policy for municipal water supply projects. The recommendation was to provide cost-share of 60 percent in the amount of $2,855,000. The cost-share request is attached as **APPENDIX G.**

It was moved by Commissioner Goehring and seconded by Commissioner Johnson the Commission approve the request by Minot for state cost-share participation at 60 percent of eligible costs for the Southwest Water Tower project at an amount not to exceed $2,855,000. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Johnson, Owan, Pedersen, Schneider, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. Commissioners Hemmer and Volk voted nay. Lt. Governor Sanford announced the motion carried.

STREETER, WATER TOWER - $265,000
(SWC Project No. 2050STR)

Streeter submitted a cost-share request for rehabilitation costs to extend the useful life of their existing 50,000-gallon water tower. A "Do Nothing" alternative is insufficient based on a 2018 KLM Engineering study, which found compliance issues with Federal Occupational Safety and Health Administration regulations, and current American Water Works Association standards. The study identified deficiencies with numerous exterior

and interior coating issues throughout the roof and eaves on the water tower built in 1952.

The Commission's Life Cycle Cost Analysis considered two alternatives: rehabilitation of the existing tower or building a new tower. The present value cost is $709,000 more for a new tower over rehabilitation of the existing tower.

The rehabilitation estimated total cost is $751,667. In addition, Streeter will receive a $310,000 Community Development Block Grant. Policy requires ineligible items be excluded from cost-share for funding such as administrative costs, and contributions provided by other state entities that supplant costs. The total eligible cost would be $441,667. The local share of the project would be from the Drinking Water State Revolving Loan Fund.

The project was in the 2019 Water Plan, is a higher low priority project, and meets requirements of the Commission's cost-share policy for municipal water supply projects. The recommendation was to provide cost-share of 60 percent in the amount of $265,000. The cost-share request is attached as **APPENDIX H.**

> **It was moved by Commissioner Johnson and seconded by Commissioner Goehring the Commission approve the request by Streeter for state cost-share participation at 60 percent of eligible costs for the Water Tower project at an amount not to exceed $265,000. The approval is contingent on available funding for the 2019-2021 biennium.**
>
> **Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.**

DAVENPORT, WATER SYSTEM - $466,000
(SWC Project No. 2050DAV)

Davenport requested cost-share for the replacement of a 1971 underground steel storage reservoir for increased capacity, a pumping station, and approximately 800 feet of transmission line to provide redundancy. Inspection and temporary repairs indicate that the existing 25,000-gallon underground reservoir has reached its useful life, and future repairs would not be able to keep the reservoir in service.

A "Do Nothing" alternative is insufficient in providing water for the Davenport's needs. The Commission's Life Cycle Cost Analysis considered three new storage alternatives, with a new booster station and main line included in each. The alternatives included a concrete underground storage reservoir, a metal above-ground reservoir, or an elevated

water reservoir. The present value cost of the underground reservoir is $54,000 less than the next least expensive alternative, which is a new above-ground reservoir. The estimated cost is $784,167, with ineligible legal and administrative costs of $7,500, leaving total eligible costs of $776,667. The local share of the project would be funded from a Drinking Water State Revolving Loan Fund.

The project was in the 2019 Water Plan, is a higher low priority, and meets requirements of the Commission's cost-share policy for municipal water supply projects. The recommendation was to provide cost-share at 60 percent in the amount of $466,000. The cost-share request is attached as **APPENDIX I.**

> **It was moved by Commissioner Johnson and seconded by Commissioner Volk the Commission approve the request by Davenport for state cost-share participation at 60 percent of eligible costs for the Water System project at an amount not to exceed $466,000. The approval is contingent on available funding for the 2019-2021 biennium.**
>
> **Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.**

WEST FARGO, 9TH STREET NORTHWEST WATER MAIN - $594,000 (SWC Project No. 2050WES)

West Fargo submitted a cost-share request for pre-construction and construction costs for the 9th Street Northwest Water Main project intended to provide necessary flow and pressure to address current and future capacity demands.

A "Do Nothing" alternative is insufficient to provide water for West Fargo's growth. The Commission's Life Cycle Cost Analysis was completed for two alternatives to compare two types of pipe materials, polyvinyl chloride (PVC) and ductile iron pipe (DIP). PVC had a $173,000 lower present value cost per user than DIP.

The project's estimated total cost is $990,000. West Fargo can levy special assessments or utilize funds from sales tax revenue, their General Fund, or their Utility Enterprise Fund for repayment of the local share of the project.

This project was included in the 2019 Water Development Plan, is a moderate priority, and meets requirements of the Commission's cost-share policy for municipal water supply projects. The recommendation was to provide cost-share of 60 percent in the amount of $594,000. The cost-share request is attached as **APPENDIX J.**

It was moved by Commissioner Goehring and seconded by Commissioner Johnson the Commission approve the request by West Fargo for state cost-share participation at 60 percent of eligible costs for the 9th Street Northwest Water Main project at an amount not to exceed $594,000. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Johnson, Owan, Pedersen, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. Commissioners Hemmer and Schneider voted nay. Lt. Governor Sanford announced the motion carried.

GRAND FORKS, WATER TREATMENT PLANT - $9,875,000
(SWC Project No. 2050GRF)

Grand Forks submitted a request for additional cost-share towards construction costs for replacing their existing 16.5 million gallons per day water treatment plant with a new 20 million gallons per day plant to help meet water demand projections through 2050.

In 2013, Grand Forks received a 50 percent grant of $4,990,000 for project design. The previous cost estimate was $130,000,000, with total cost-share approved of $64,990,000. The current estimated total cost is $149,750,000, or an additional $19,750,000

Section 13 of the State Water Commission's 2015-2017 biennium appropriation bill (SB 2020), had Legislative intent that the state provide grants for one-half of the cost to construct the Grand Forks water treatment plant. This included a $30,000,000 grant during the 2015-2017 biennium, and a $30,000,000 grant during the 2017-2019 biennium. The Commission provided approval for those two grants. In addition, further review of House floor discussion related to SB 2020 indicated the Legislative Assembly's intent was to provide one-half of the cost for the water treatment plant.

The project was in the 2019 Water Plan, is a moderate priority, and meets requirements of the Commission's cost-share policy for municipal water supply projects. The current recommendation was for cost-share of 50 percent in an additional amount of $9,875,000. The cost-share request is attached as **APPENDIX K.**

It was moved by Commissioner Goehring and seconded by Commissioner Zimmerman the Commission approve the request by Grand Forks for state cost-share participation at 50 percent of eligible costs for the Water Treatment Plant project at an amount not to exceed $9,875,000. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.

WASHBURN, NEW RAW WATER INTAKE - $692,475 (SWC Project No. 2050WAS)

Washburn submitted a cost-share request for additional construction costs for a horizontal collector well intake to address limited capacity at low flows and sediment issues in the Missouri River. The project was bid in August 2019 and received higher than expected bids due to the intake location and current bidding market. The project cost estimate was updated to $4,656,500, using the low bidder information for an increase of $1,061,500.

In 2013, the Commission approved 50 percent cost-share of $1,795,000 on an estimated total project cost of $3,595,000. In 2015, the Legislature approved $11 million to increase 50 percent municipal cost-share approvals that occurred during the 2013-2015 biennium to 65 percent. The result of this was a one-time 15 percent cost-share adjustment/increase of $539,250 resulting in a total cost-share of $2,334,250.

In addition, since the original approval, Washburn received a Federal Emergency Management Agency grant of $1,026,025, which provided overall assistance of $3,360,275, or 72.2 percent. According to the Commission's cost-share policy, funding contributions provided by federal or other state entities that supplant costs are excluded from cost-share, bringing the total eligible cost for the project to $3,630,475. Washburn requested 65 percent cost-share of $3,026,725, or an additional cost-share of $692,475.

The project was not in the 2019 Water Development Plan and is outside of match requirements in the Commission's cost-share policy for municipal water supply projects. The recommendation was to deny Washburn's request because existing funding assistance was already at 72 percent from federal and state sources. The cost-share request is attached as **APPENDIX L.**

It was moved by Commissioner Johnson and seconded by Commissioner Goehring the Commission deny the request by Washburn for additional state cost-share participation in the amount of $692,475.

Commissioners Anderson, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. Commissioner Hemmer voted nay. Lt. Governor Sanford announced the motion carried.

RURAL WATER SUPPLY:

AGASSIZ WATER USERS DISTRICT, 2019 EXPANSION - $273,750
(SWC Project No. 2050AGA)

The Agassiz Water Users District (District) submitted a cost-share request for pre-construction costs for the addition of 19 new users, updates to four reservoirs, and for installation of 42 miles of transmission pipeline to increase capacity to the northern and eastern reaches of the system. The District completed an interconnection with East Central Regional Water District in 2018, and this project will allow the District to decommission their aging water treatment plant. The project's estimated total cost is $3,983,000, with pre-construction costs of $365,000. The local share would be funded from the Drinking Water State Revolving Loan Fund.

The project was in the 2019 Water Development Plan, is a moderate priority, and meets requirements of the Commission's cost-share policy for rural water supply projects. The recommendation was to provide 75 percent cost-share on pre-construction costs in the amount of $273,750. The cost-share request is attached as **APPENDIX M.**

It was moved by Commissioner Goehring and seconded by Commissioner Schneider the Commission approve the request by Agassiz Water Users District for state cost-share participation at 75 percent of eligible costs for the 2019 Expansion project at an amount not to exceed $273,750. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.

EAST CENTRAL REGTIONAL WATER DISTRIT, 2019 EXPANSION PHASE 4 - $375,000
(SWC Project No. 2050EAS)

The East Central Regional Water District (District) submitted a cost-share request for pre-construction costs for adding 20 new users, 32 miles of 16-inch to 8-inch transmission pipeline to provide and receive water from their Traill branch, and to increase capacity to the eastern reaches of the system. The project will increase raw water capacity to their water treatment plant with additional wells and raw water transmission pipeline. The project's estimated total cost is $5,488,161, with pre-construction costs of $500,000.

The local share would be funded from the Drinking Water State Revolving Loan Fund. The project was in the 2019 Water Development Plan, is a moderate priority, and meets

requirements of the Commission's cost-share policy for rural water supply projects. The recommendation was to provide 75 percent cost-share for pre-construction costs in the amount of $375,000. The cost-share request is attached as **APPENDIX N.**

It was moved by Commissioner Owan and seconded by Commissioner Goehring the Commission approve the request by East Central Regional Water District for state cost-share participation at 75 percent of eligible pre-construction costs for the 2019 Phase 4 project at an amount not to exceed $375,000. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Commissioner Anderson abstained. Lt. Governor Sanford announced the motion carried.

GREATER RAMSEY WATER DISTRICT - $1,328,000
(SWC Project No. 2050RAM)

Greater Ramsey Water District (District) requested a 75 percent cost-share for pre-construction and construction costs for approximately 22 miles of 6-inch to 2-inch pipelines. The project is to expand the system to the Oswald's Bay/West Bay Heights area west of Devil's Lake and to the Dayton and Forde Townships southwest of Tolna and Pekin for areas that experience water quality and quantity issues. Water service is to an additional 49 rural users, West Bay Resort campground, and West Bay Heights campground. This expansion would serve 122 annual customers and approximately 522 people during the summer.

The project's estimated total cost is $2,096,550, with approximate cost per connection of $30,400. The project was in the 2019 Water Development Plan, is a moderate priority, and meets requirements of the Commission's cost-share policy for rural water supply projects. The recommendation was to provide cost-share of 75 percent in the amount of $1,328,000. The cost-share request is attached as **APPENDIX O.**

It was moved by Commissioner Goehring and seconded by Commissioner Volk the Commission approve the request by Greater Ramsey Water District for state cost-share participation at 75 percent of eligible costs for the 2019 Expansion Project at an amount not to exceed $1,328,000. The approval is contingent on available funding for the 2019-2021 biennium.

Commissioners Anderson, Hemmer, Johnson, Owan, Pedersen, Schneider, Volk, Zimmerman, Goehring, and Lt. Governor Sanford voted aye. There were no nay votes. Lt. Governor Sanford announced the motion carried.

There being no further business to come before the Commission, Lt. Governor Sanford adjourned the October 10, 2019, meeting at 3:10 p.m.

Doug Burgum, Governor
Chairman, State Water Commission

Garland Erbele, P.E.
North Dakota State Engineer,
and Chief Engineer-Secretary
to the State Water Commission

APPENDIX A

NORTH Dakota | Water Commission
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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer-Secretary
SUBJECT: NAWS – Contract SA No. 80 Raw Water Pipeline Testing and Condition Assessment
DATE: October 3, 2019

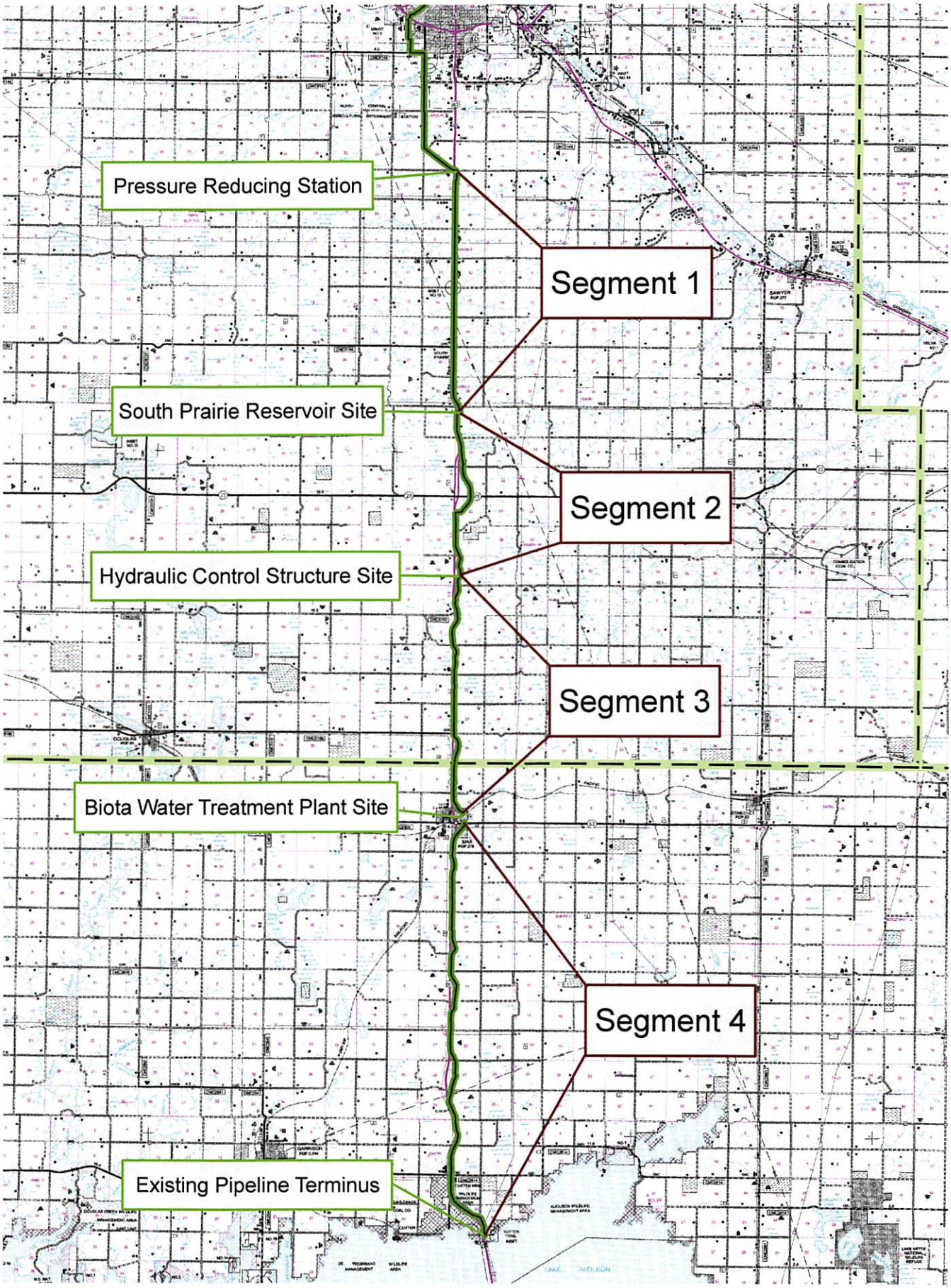
The NAWS raw water pipeline consists of 12 miles of 30-inch ductile iron pipe and 33.3 miles of 36-inch ductile iron pipe. Installation began in 2002 and continued through 2006 (see attached map). The pipeline in encased in poly wrap and impressed current cathodic protection installed, which has been monitored and rebalanced biennially. The northernmost 7.5 miles has been in use since August 2018 as part of the Sundre aquifer supply line reroute and required one repair at a cost of roughly $30,000.

NAWS Contract SA No. 80 generally consists of pumping out all of the vaults, exercising all valves, and filling and pressure testing the existing raw water pipeline from Lake Sakakawea to the pressure reducing station south of Minot. There are 4.5 miles of 30-inch ductile iron pipe, 33.3 miles of 36-inch ductile iron pipe, 58 air release valve vaults, and 53 blowoff vaults on the portion of the raw water pipeline pertaining to this contract. The pipeline is broken up into four segments by gaps in the pipeline at the locations of the future South Prairie Reservoir, hydraulic control structure, and the biota water treatment plant at Max. The bid consists of a lump sum price for the base bid of pumping out all vaults, exercising all valves, and filling and pressure testing the four segments of pipeline. Any repairs found will be addressed on a time and materials basis. A fee schedule was included in the bid package to set the price for personnel and equipment for any necessary repairs and requisite materials will have a 15 percent overhead added to their cost. The substantial completion date is July 31, 2020.

A prebid conference call was held September 18, 2019 and bids were opened September 25, 2019. Three bids were received, opened, and read aloud. The bids received are summarized below and the consultant engineer's bid review and award recommendation letter and an amended recommendation letter are attached. The consultant engineer originally determined Wagner Construction's bid to be non-responsive due to an anomaly of the bid bond form, but upon further review Wagner's bid was found to be in compliance with the instructions to bidder and therefore a responsive bid.

Engineer's Estimate	$ 185,000	$ 15,088 above low bid
Wagner Construction	$ 169,912	$ -
BEK Consulting	$ 270,900	$ 100,988 above low bid
SJ Louis Construction	$ 1,266,500	$ 1,096,588 above low bid

I recommend the State Water Commission award NAWS Contract SA No. 80 Raw Water Pipeline Testing and Condition Assessment to Wagner Construction, Inc. in the amount of $169,912.


Pressure Reducing Station
Segment 1
South Prairie Reservoir Site
Segment 2
Hydraulic Control Structure Site
Segment 3
Biota Water Treatment Plant Site
Segment 4
Existing Pipeline Terminus

HoustonEngineering Inc.

Minot Office | P 701.852.7931 | F 701.858.5655
18 3rd Street SE, Suite 100 | Minot, ND 58701

October 3, 2019

VIA EMAIL & US MAIL

Tim Freije, PE
ND State Water Commission
900 East Boulevard Avenue
Bismarck, ND 58505

Subject: Amended Bid Review of the NAWS Condition Assessment of Raw Water Pipeline Project
Contract SA No. 80
Houston Engineering Project No. 3553-0080

Dear Tim:

This letter is intended to amend the prior bid review recommendation letter sent to you on September 27, 2019 and attached. In the previous letter, it was indicated that Wagner Construction's bid did not include page 2 of the Bid Bond that is required by the Instructions to Bidders and Bid Form to be included with the submitted bid, and the bid was therefore viewed as nonconforming. Upon further review, the 2nd page of the Bid Bond was in fact included with the bid documents, and with no other issues noted, the bid should therefore be deemed responsive.

Due to this finding, the recommendation provided in the original review letter is no longer accurate. The basis for our award recommendation remains focused on bidder "responsiveness" and "responsibility". Thus, with this new information, and in accordance with Article 19 of the Instructions to Bidders, Wagner Construction, Inc. of International Falls, MN submitted the lowest responsive bid. Therefore, HEI recommends award of Contract SA No. 80 to Wagner Construction, Inc. for the bid price of $169,912.00.

After concurrence of the award by the NDSWC, Houston Engineering, Inc. will provide a completed Notice of Award for execution by the Secretary of the State Water Commission. Houston Engineering will then deliver the executed Notice of Award to the Contractor with the proper agreement, bond, and insurance document attachments.

If you have any questions or require additional information, please contact me at (701) 852-7931 or by email at jreiter@houstoneng.com.

Sincerely,

HOUSTON ENGINEERING, INC.

Joseph Reiter, PE
Project Engineer

Attachment

cc: Kevin Martin, PE, HEI – Bismarck

HoustonEngineering Inc.

Minot Office | P 701.852.7931 | F 701.858.5655

18 3rd Street SE, Suite 100 | Minot, ND 58701

September 27, 2019

VIA EMAIL & US MAIL

Tim Freije, PE
ND State Water Commission
900 East Boulevard Avenue
Bismarck, ND 58505

Subject: NAWS Condition Assessment of Raw Water Pipeline Project
Contract SA No. 80
Houston Engineering Project No. 3553-0080

Dear Tim:

We have completed our review of the bids for the NAWS Contract SA 80 Condition Assessment of Raw Water Pipeline Project. Please find attached the bid tabulation for the three bids that were opened and read aloud on September 25, 2019.

The three bids were evaluated for conformance with the bidder requirements listed in the Instructions to Bidders (EJCDC C-200) and the Bid Form (EJCDC C-410). The bids are summarized in the following table:

Contractor	Total Bid	Amount Greater than low bid
Wagner Construction, Inc., International Falls, MN	$169,912.00	$ -
BEK Consulting, LLC Dickinson, ND	$270,900.00	$100,988.00
S.J. Louis Construction, Inc. Rockville, MN	$1,266,500.00	$1,096,588.00
ENGINEER'S OPCC	**$185,000.00**	

Wagner Construction, Inc.

1) The executed Bid Bond was provided, **however page 2 of 2 wasn't included as required by the Instructions to Bidders and Bid Form**.
2) A Corporate Acknowledgement and Acknowledgement of Surety were provided.
3) The Bid Form was properly executed with Acknowledgement of Principal provided.
4) A valid North Dakota Contractor's License was provided.
5) Receipt of Addendum 1 and 2 were acknowledged.
6) Construction Contractor's Dispute History Certification was provided with an entry of "None".
7) Qualifications and project references were provided.
8) Resumes of Wagner's General Superintendent and Superintendent were provided.

9) Wagner provided their labor and equipment rate schedule for any potential repairs or corrections noted during the project.
10) The Affidavit of Non-Collusion and Clean Air and Water Certificate of Compliance were property executed and enclosed.

BEK Consulting, LLC

1) No irregularities were noted in the Bid Bond or Acknowledgement of Surety.
2) The Bid Form was properly executed with Acknowledgement of Principal provided.
3) Receipt of Addendum 1 and 2 were acknowledged.
4) A valid North Dakota Contractor's License was provided.
5) A labor and equipment rate schedule for T&M work was provided.
6) Construction Contractor's Dispute History Certification was provided with an entry of "None".
7) Qualifications and project references were provided.
8) Resumes of BEK's General Superintendent and Superintendent were provided.
9) The Affidavit of Non-Collusion and Clean Air and Water Certificate of Compliance were properly executed and enclosed.

S.J. Louis Construction, Inc.

1) No irregularities were noted in the Bid Bond or Acknowledgement of Surety.
2) A valid North Dakota Contractor's License was provided.
3) The Bid Form was properly executed with Acknowledgement of Principal provided.
4) Receipt of Addendum 1 and 2 were acknowledged.
5) A list of suppliers was provided for any needed materials.
6) The Construction Contractor's Dispute History Certification was provided with one entry provided in an attached document. The dispute was regarding a request for equitable adjustment due to changes in contract work and is pending negotiations.
7) The Affidavit of Non-Collusion and Clean Air and Water Certificate of Compliance were properly executed and enclosed.
8) Qualifications and project references were provided.
9) Resumes of the company President/CEO, Executive VP, CFO, General Counsel and Contracts Director, VP/Project Manager, Operations Manager, General Superintendent, several Crew/Site Superintendents, and Safety Manager were provided.
10) A list of OSHA Citations & Notifications from the past five years was provided.
11) A labor and equipment rate schedule was provided.

The basis for our award recommendation includes criteria for bidder "responsiveness" and "responsibility". Based on our bid review, and in accordance with Article 19 of the Instructions to Bidders, Wagner Construction's submitted bid was nonconforming due to the exclusion of the 2nd page of the Bid Bond that is required to be included as clearly stipulated in Article 8 of the Instructions to Bidders and Article 6 of the Bid Form. Due to this nonconformance, Wagner's bid is nonresponsive and HEI recommends that Wagner's bid should be rejected and that BEK's bid be considered the lowest responsive bid.

However, BEK's bid is 46% higher than Engineer's OPCC. If adequate funding is available, and if it is critical that work begin this fall, award of the contract to BEK Consulting, LLC for the bid price of $270,900.00 is

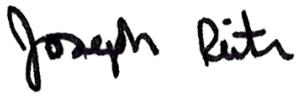
recommended. Article 19 of the Instructions to Bidders also provides that the Owner may reject all bids for any reason and re-advertise, but the fall construction window would likely be lost.

After concurrence of the contract award by the NDSWC, Houston Engineering, Inc. will provide a completed Notice of Award for execution by the Secretary of the State Water Commission. Houston Engineering will then deliver the executed Notice of Award to the Contractor with the proper agreement, bond, and insurance document attachments.

If you have any questions or require additional information, please contact me at (701) 852-7931 or by e-mail at jreiter@houstoneng.com.

Sincerely,

HOUSTON ENGINEERING, INC.



Joseph Reiter, PE
Project Engineer

Attachments

cc: Kevin Martin, PE, HEI – Bismarck

BID TABULATION
Northwest Area Water Supply
NAWS Condition Assessment of Raw Water Pipeline from Lake Sakakawea to NAWS PRS Station
Contract SA 80 HEI Project 3553-0080
North Dakota State Water Commission

Engineer:

Houston Engineering, Inc.
18 3rd Street SE Suite 100
Minot, ND 58701
Phone (701) 852-7931

Bid Opening: September 25, 2019
Time: 2:00 pm

	Lump Sum Bid
Engineer's OPCC	$185,000.00
Wagner Construction, Inc.	$169,912.00
BEK Consulting, LLC	$270,900.00
S.J. Louis Construction, Inc.	$1,266,500.00

APPENDIX B

NORTH Dakota | Water Commission
Be Legendary.™

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Contract 5-9A - 2nd Belfield Water Reservoir
DATE: September 23, 2019

This contract includes furnishing and installing one above ground welded or factory coated glass lined bolted steel raw water storage reservoir, 746,700 gallons (minimum). The 2nd Belfield Reservoir is located in Stark County approximately 1.5 miles east of the City of Belfield, North Dakota. The Substantial Completion Date of the contract is October 30, 2020.

The 2nd Belfield reservoir will be located adjacent to the existing 750,000 gallons welded steel reservoir (Contract 5-9) on the same property parcel owned by the State Water Commission. The existing SWPP Belfield Reservoir (Contract 5-9) was built in 2003. The attached map shows the area served by the first transmission line reservoirs. The South zone, West Zone, and North/East Zone are served by the New England, Belfield, and Davis Buttes reservoirs, respectively. The Belfield reservoir serves the towns of Belfield, South Heart, Medora, Sentinel Butte and Medora in addition to roughly 1000 rural customers are served from this reservoir. Construction of the 2nd Belfield tank and 2nd Davis Buttes tank has been on the deferred construction list for many years. The 2nd New England tank was built in 2001 while the first New England tank was built in 1992.

Bids for Contract 5-9A were opened on September 17, 2019. Two bid packages were received. All bid packages were in order and were opened. One bid was received for Bid Schedule 1 (Welded steel reservoir) and one bid was received for Bid Schedule 2 (Factory glass –coated bolted steel reservoir)

Summary of bids received is shown in the tables below.

Table 1: Bid Schedule 1 – Welded Steel Reservoir

Bidder	Bid Amount	Comparison to Engineer's Estimate
Maguire Iron, Sioux Falls, SD	$1,427,000.00	+$322,400.00 +29%
Engineer's Estimate	$1,104,600.00	

Table 2: Bid Schedule 2 – Factory Glass-Coated Bolted Steel Reservoir

Bidder	Bid Amount	Comparison to Engineer's Estimate
Landmark Structures I, LP Fort worth, TX	$1,180,000.00	+$243,400 +26%
Engineer's Estimate	$936,600.00	-

One Bid Alternate was included in the Bid Form for each schedule. Bid Alternate 1 for Bid Schedule 1, was to furnish and install aluminum geodesic dome room in lieu of the welded steel dome room. Bid Alternate 1 for Bid Schedule 2 was to furnish and install 8" thick concrete floor slab instead of the 6" thick specified concrete slab.

The bids received were higher than the Engineer's Estimate. Review of the different bid items indicate that the major source of difference is on the foundation and subbase bid item and bid items involving earthwork. One of the bidders, Landmark Structures listed an out of state contractor for earthwork and site piping while the other bidder, Maguire Iron listed a ND contractor who has not worked on SWPP or other Bartlett & West/AECOM (BW/AECOM) jobs. BW/AECOM speculates, the high cost of this bid item could be because of local earthwork and concrete contractors being busy with other projects. Though rebidding would not affect the construction schedule for these tanks, it is difficult to predict if rebidding would result in a lower price.

Life Cycle Cost Analysis (LCCA):

Do Nothing Alternative:

The existing SWPP Belfield Reservoir (Contract 5-9) was built in 2003. Welded steel tanks require periodic painting for maintenance. Repainting the tank would require at least 2 months of this tank being out of service. Repainting of the tank requires warmer temperatures to allow for curing of the paint which will coincide with the higher water usage period. Since the existing Belfield tank is the sole source of supply for municipal needs for 5 towns and around 1000 rural customers, taking this tank out of service for a period of over two months during high water usage period would make the operation of SWPP difficult. Adding storage out in the system also provides for redundancy and resiliency for the SWPP. Construction of 2nd Belfield tank and 2nd Davis Buttes tank has been on the deferred construction list for many years. The construction of the 2nd Belfield and 2nd Davis Buttes tank was included in the 2019-2021 biennium, as the focus of the SWPP is also moving towards increasing distribution capacity for the SWPP.

LCCA between welded steel and glass coated bolted reservoir:

LCCA was completed between the welded steel and glass coated bolted steel reservoir. Both the

tanks are assumed to be replaced in 60 years. The difference in maintenance between the two tanks include repainting the welded steel reservoir and repairing the sealant on the glass coated bolted reservoir. It is expected that the repainting and sealant repair would happen after 30 years of tank being in service. All other maintenance items are expected to be the same for both the tanks. The LCCA show the present value cost of $1,462,000 for the welded steel reservoir and $1,102,000 for the factory glass-coated bolted steel reservoir. Attached are the inputs, and summary information from LCCA model.

BW/AECOM has reviewed all the bids received. The bid received from Landmark Structures I, LP for the Bid Schedule No. 2 - Factory Glass-Coated reservoir, which has the lowest present value cost is in accordance with the invitation for Construction Bids and the Bid Documents and so considered to be a responsive bid. Landmark Structures has constructed two elevated composite tanks for SWPP, however has not constructed a factory glass-coated bolted steel reservoir for SWPP. The steel tank being provided by Landmark Structures is a Permastore tank, which is the one of the two approved tank manufacturers for glass coated bolted steel tank and is currently installed for the 2nd Richardton tank for SWPP. BW/AECOM considers Landmark Structures to be a responsible bidder.

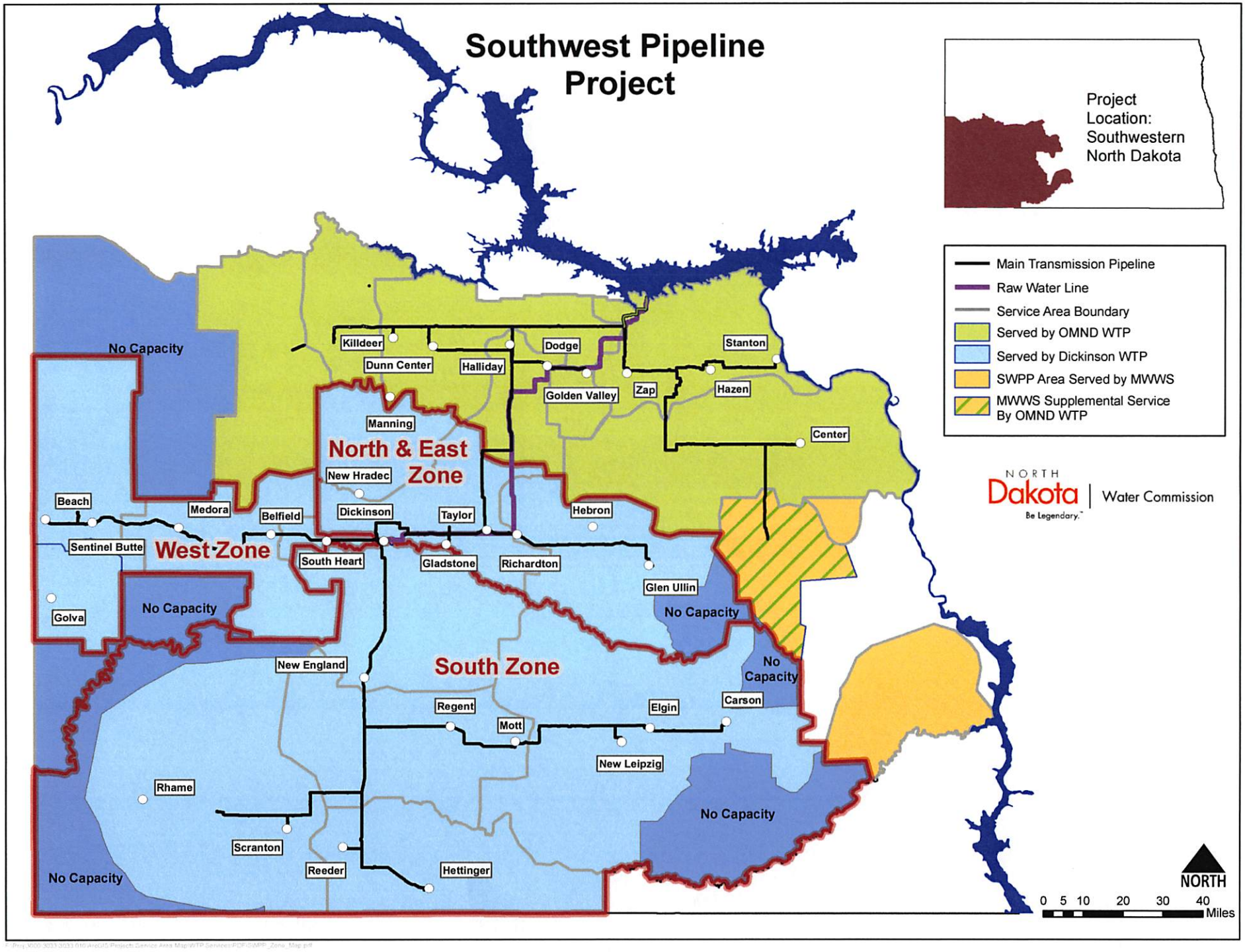
BW/AECOM is not recommending Bid Alternate No.1 included with Bid Schedule 2 at this point. Bid Alternate 1 is for 8" thick concrete floor with two mats of reinforcing steel in lieu of the 6" concrete floor. BW/AECOM's recommendation is to award the SWPP Contract 5-9A, 2nd Belfield Reservoir to Landmark Structures I, LP based on their bid for Bid Schedule 2 in the amount of $1,180,000.

Copies of Bartlett & West/AECOM's review of bids and recommendation letter and bid tab are attached to this memo.

The estimated project cost for this contract is $1,357,000 which includes the bid cost of $1,180,000, construction administration cost at 10 percent for $118,000 and contingency at 5% for $59,000. Engineering design costs were allocated from the 2017-2019 biennium allocation for the SWPP.

I recommend the State Water Commission authorize the Chief Engineer and Secretary to award SWPP Contract 5-9A – to Landmark Structures I, LP., in the amount of $1,180,000 based on Bid Schedule 2. The award of SWPP Contract 5-9A contract will be dependent upon legal review of the contract documents.

GE:SSP:pdh/1736-99
Attachments


Southwest Pipeline Project
Project Location: Southwestern North Dakota
Main Transmission Pipeline
Raw Water Line
Service Area Boundary
Served by OMND WTP
Served by Dickinson WTP
SWPP Area Served by MWWS
MWWS Supplemental Service By OMND WTP
NORTH Dakota Be Legendary. | Water Commission
North & East Zone
West Zone
South Zone
No Capacity
Killdeer
Dunn Center
Halliday
Dodge
Stanton
Golden Valley
Zap
Hazen
Manning
Center
New Hradec
Beach
Medora
Belfield
Dickinson
Taylor
Hebron
Sentinel Butte
South Heart
Gladstone
Richardton
Glen Ullin
Golva
New England
Carson
Regent
Elgin
Mott
New Leipzig
Rhame
Scranton
Reeder
Hettinger
NORTH
0 5 10 20 30 40
Miles

Date: 9/19/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: NDSWC
Project: 2nd Belfield Res.

Poplulation Served by the Project: 4972

Number of Connections Served by Project: 968

1- Inputs

This is the primary data entry worksheet where users provide brief descriptions of the alternative being considered (up to 4) as well as information on annual O&M and length of construction.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Input	Units	Input Value	Definition of Term	Reference
Base Year for LCCA Model Period of Analysis	Year	2019	Beginning of analysis period	
Analysis Duration	Years	50		
End Year for LCCA Model Period of Analysis	Year	2069	Ending year of analysis period	Assumes 50 years of operations
Discount Factor	%	2.875%	Discount factor used for present value calculations	Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, a dollar is worth more today than it would be worth tomorrow. - Source EGM 18-01- https://planning.erdc.dren.mil/toolbox/library/EGMs/EGM18-01.pdf

Name of Alternative	Welded Steel			
Description of Alternative	Welded Steel, self supporting dome roof			
Capital Investment		**Units**	**Alternative 1**	**Notes**
Construction	Total Construction	$	$1,427,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$7,710	recoat at 30 years, PV=$216k spread over 60 year life, replace tank at 60 years and no recoat

Name of Alternative	Factory Glass-Coated Bolted Steel			
Description of Alternative	Bolted Steel with Concrete Floor			
Capital Investment		**Units**	**Alternative 2**	**Notes**
Construction	Total Construction	$	$1,180,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$1,760	sealant replaced at 30 years, $50k PV, replace tank at 60 years

Name of Alternative	Alternative 3			
Description of Alternative	Description of Alternative 3			
Capital Investment		**Units**	**Alternative 3**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$	$0	

Name of Alternative	Alternative 4			
Description of Alternative	Description of Alternative 4			
Capital Investment		**Units**	**Alternative 4**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$		

Date: 9/19/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: NDSWC
Project: 2nd Belfield Res.

3 - Results Summary

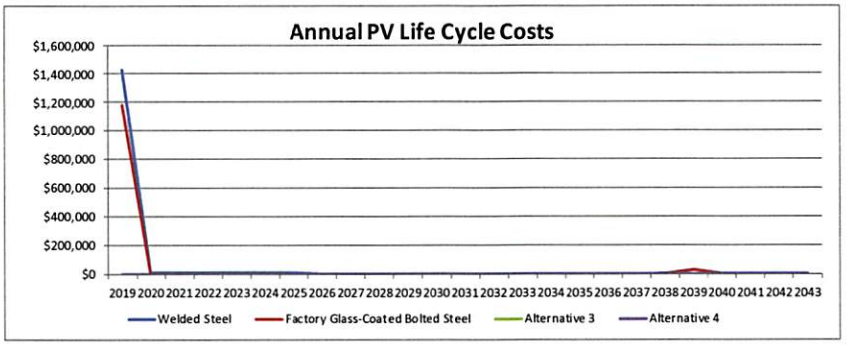
Life Cycle Cost Analysis

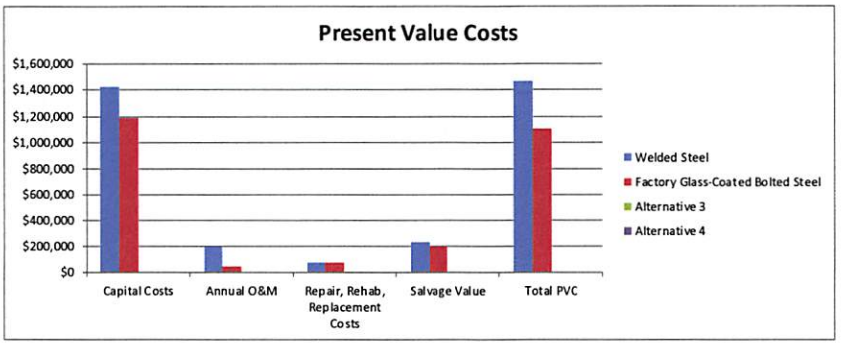
This worksheet serves as the summary for all outputs created in the model. For the given inputs, the Results Summary provides an overview of capital costs; annual O&M; repair, rehab, replacement costs; and salvage value. Under the Results Summary, the user will find a breakdown of the cost for each category and alternative.

Scenario Analysis - Present Value Life Cycle Cost Summary

Cost Summary

Present Value	Welded Steel	Factory Glass-Coated Bolted Steel	Alternative 3	Alternative 4
Capital Costs	$1,427,000	$1,180,000	$0	$0
Annual O&M	$199,000	$49,000	$0	$0
Repair, Rehab, Replacement Costs	$73,000	$76,000	$0	$0
Salvage Value	$237,000	$203,000	$0	$0
Total PVC	**$1,462,000**	**$1,102,000**	**$0**	**$0**





Life Cycle Cost Analysis Review

Version 1.20190905

Sponsor: NDSWC
Project Title: 2nd Belfield Res. **Date:** September 23, 2019

Explanation of Alternatives:

There are two alternatives for the type of tank required to provide maintenance and uninterupted capacity. The simpler welded steel tank requires more long-term maintenance costs than the glass-coated tank. The do nothing alternative will leave the regional system users without water as maintenance and repair of the existing on-site tank are conducted. This tank will then provide for continued growth in the regional system capacity to serve SW North Dakota.

Inputs:

	Welded Steel	Factory Glass-Coated Bolted Steel	Alternative 3	Alternative 4
Users Served	968			
Construction Cost	$1,427,000	$1,180,000	$0	$0
Annual O & M	$7,710	$1,760	$0	$0

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	Welded Steel	Factory Glass-Coated Bolted Steel	Alternative 3	Alternative 4
Capital Costs	$1,427,000	$1,180,000	$0	$0
O&M	$199,000	$49,000	$0	$0
Repair, Rehab,	$73,000	$76,000	$0	$0
Salvage Value	$237,000	$203,000	$0	$0
Total PVC	**$1,462,000**	**$1,102,000**	**$0**	**$0**
PV Cost Per Capita/User	$1,510	$1,138	$0	$0

Explanation of Results:

The glass-coated tank is the lowest cost alternative, $222 per capita and $1,138 per user and $360,000 less than the welded steel alternative, that satisfies the SWPP storage issues addressed in this project.

Other Comments:

Bartlett&West | AECOM

September 20, 2019

North Dakota State Water Commission
Attn: Ms. Sindhuja S.Pillai-Grinolds, P.E., Project Manager
900 E. Boulevard Ave.
Bismarck, ND 58505

SUBJECT: SWPP Contract 5-9A, 2nd Belfield Reservoir
Review of Bids Received
W.O. 3033.A17

Sindhu:

On Tuesday, September 17, 2019, bids were opened for the Southwest Pipeline Project (SWPP) Contract 5-9A, 2nd Belfield Reservoir. The scope of work for this contract consists generally of furnishing and installing one above ground welded steel or factory glass-coated bolted steel potable water storage reservoir, 750,000 gallons (nominal), 52 feet in diameter, 47 feet to overflow, complete with: inlet/outlet, drain, overflow, and underdrain piping; reinforced concrete ring wall foundation; connections to the existing 10" PVC inlet and outlet pipes; cathodic protection system; site work; valves and other appurtenant items as required by the Project Drawings, Specifications, and Contract Documents. The 2nd Belfield Reservoir is located in Stark County approximately 1 ½ miles east of the City of Belfield, ND. The reservoir will complement the existing 750,000-gallon Belfield Reservoir which was constructed in 2003-2004 as a welded steel ground storage reservoir.

The Bid Form included two Bid Schedules Bid Schedule 1 for a welded steel reservoir with self-supporting dome roof; and Bid Schedule 2 for a factory glass-coated bolted steel reservoir with a concrete floor. Both types of ground storage reservoirs have been used with success on the SWPP and are commonly bid against each other. Each bid schedule included a single bid alternate. For Bid Schedule 1 the alternate was for an aluminum geodesic dome roof in lieu of the specified self-supporting dome roof. For Bid Schedule 2 the alternate was for an eight inch (8") thick concrete floor with two mats of reinforcing steel in lieu of the specified six-inch (6") concrete floor with a single mat of reinforcing steel. The concrete floor was specified for Bid Schedule 2 to facilitate cleaning and a concrete floor also presents an advantage with regard to leaks when compared to a bolted steel floor which is what is normally provided with a bolted reservoir. Concrete floors for bolted tanks have been used with success on two previous SWPP projects, Contract 5-1A 2nd Richardton Reservoir, and Contract 5-15B, 2nd Zap Potable Reservoir.

Two bid packages were received for Contract 5-9A. One bid was received for Bid Schedule No. 1 – Welded Steel Reservoir, from Maguire Iron of Sioux Falls, SD. One bid was received for Bid Schedule No. 2 – Factory Glass-Coated Bolted Steel Reservoir from Landmark Structures, I, LP. The lack of bidders for this project is cause for concern but is not unprecedented. The existing Belfield Reservoir had only two bidders in 2003 and was constructed by Advance Tank and Construction of Wellington, CO. When contacted to see if they were interested in this project Advance Tank stated that they were no longer in the municipal water reservoir market. The recently completed SWPP Contract 5-1A, 2nd Richardton Reservoir, had only three bidders. The contractor for 5-1A defaulted on that contract and went out of business. That contract was completed by soliciting contractors for the remaining work. Great Plains Structures (GPS), of Vadnais Heights, MN, declined to bid. GPS is a known factoryglass-coated bolted steel tank contractor that works with CST Industries (Aquastore), one of only two approved factory glass-coated bolted steel tank suppliers.

A tabulation of the bid results and bidders on this contract is attached. A copy of the bid tab has been provided to all bidders and other interested parties. No bid anomalies were noted. A summary of the bids received is shown in the tables below:

SOUTHWEST PIPELINE PROJECT Contract 5-9A, 2nd Belfield Reservoir Bid Schedule 1 - Welded Steel Reservoir				
Bidder	**Bid Amount**	**Amount Higher Than Low Bid**	**Comparison to Engineers Estimate**	**Bid Alternate: Aluminum Geodesic Dome Roof**
Maguire Iron Sioux Falls, SD	$1,427,000.00	-	+ $322,400.00 29.2%	+ $10,000.00
Engineer's Estimate	$1,104,600.00	- $322,400.00 -22.6%	-	+ $20,000.00

SOUTHWEST PIPELINE PROJECT Contract 5-9A, 2nd Belfield Reservoir Bid Schedule 2 - Factory Glass-Coated Bolted Steel Reservoir				
Bidder	**Bid Amount**	**Amount Higher Than Low Bid**	**Comparison to Engineers Estimate**	**Bid Alternate: Eight-Inch Thick Concrete Floor Slab**
Landmark Structures I, LP Fort Worth, TX	$1,180,000.00	-	$243,400.00 26.0%	+ $27,500.00
Engineer's Estimate	$936,600.00	- $243,400.00 -20.6%	-	+ $20,000.00

The bids were high in comparison to the Engineer's Estimate. On review of the bid line items it can be seen that the foundation and subbase bid item and bid items involving earthwork are the major source of the difference. Landmark listed an out of state contractor for the earthwork and site piping while Maguire listed a ND contractor we have no prior experience with. Maguire listed an out of state contractor for concrete work. In Maguire's bid the foundation and subbase bid item was $210,000 higher than the same item in the estimate, and in Landmark's bid this item was $215,000 more than estimated. The foundation and subbase bid item was estimated using bid prices from the most recent SWPP reservoir contracts along with adjustments for inflation and scale. The high costs for this bid item may be due to local earthwork and concrete contractors being busy and other factors such as oil field activity. The SWC may choose to rebid the contract since it is not likely that a substantial amount of work would be completed in 2019 anyway but there is no guarantee that rebidding will result in lower prices. We do not recommend rebidding.

Based on our review the bid received from Landmark Structures I, LP (Landmark) for Bid Schedule No. 2 – Factory Glass-Coated Bolted Steel Reservoir appears to be in accordance with the Invitation for Construction Bids and the Bid Documents. It is thus considered to be a responsive bid. Landmark has constructed two elevated composite tanks for the SWPP, most recently SWPP Contract 5-16, Center Elevated Tank, in 2011-2012. Landmark has not constructed a factory glass-coated bolted steel reservoir for the SWPP. It is our understanding that Landmark has assumed, at least partially, the role that Engineering America Inc., (EAI) as the contractor that will install tanks manufactured by Permastore. EAI is the contractor that defaulted on SWPP Contract 5-1A and went out of business during construction in 2018. Permastore was one of the two approved manufacturers of factory glass-

coated reservoir materials listed in the specifications. Given that EAI went out of business in 2018 Landmark has had limited time to gain experience with glass-fused bolted steel tanks. Schedule B attached to their bid lists only three previous similar projects. One person identified by Landmark as available for this project lists EAI as their previous employer. Other personnel have significant experience. Landmark has no OSHA or state safety citations, notifications of penalty, or violations within the past five years. We have no reason to believe Landmark cannot complete this project successfully. Therefore, we consider Landmark to be a responsible bidder.

Bid Alternate No. 1 for Bid Schedule 2 – Factory Glass-Coated Bolted Steel Reservoir was for an eight-inch (8") thick (minimum) concrete floor with two mats of reinforcing steel in lieu of the six-inch thick floor that was specified. In light of the bids being over the engineer's estimate and the two successfully completed bolted reservoir installations with 6" thick concrete floors and a single mat of reinforcing we do not feel inclined to recommend award based on the alternate. We will engage in further discussions with Commission staff in this regard and if desired could probably include this alternate as a change order item later in the project.

The life cycle cost analysis (LCCA) of the two bids included repainting the welded steel reservoir after 30 years and sealant repairs to the bolted reservoir after 30 years. Both tanks were assumed to be replaced at 60 years. The LCCA results show a total present value cost of $1,462,000 for the welded steel reservoir and $1,102,000 for the factory glass-coated bolted steel reservoir.

Subject to approval by your legal counsel that the bid documents are in order from a legal standpoint, we recommend that the North Dakota State Water Commission award SWPP Contract 5-9A, 2nd Belfield Reservoir to Landmark Structures I, LP based on their bid for Bid Schedule 2 in the amount of $1,180,000.00. The contract documents require that the SWC award the contract, if awarded, within 60 calendar days after the bid opening as stipulated in the Invitation for Construction Bids and on the Bid Form. That date would be November 16, 2019. We understand that funding for this contract may be used to qualify for future federal cost-sharing through the state's Municipal, Rural and Industrial Water Supply Program. Thus, the award of the contract requires concurrence from the Garrison Diversion Conservancy District. The award of the contract and the Notice to Proceed are dependent on the satisfactory completion and submission of the contract documents by Landmark and your legal counsel's review.

Sincerely,

BARTLETT & WEST/AECOM

James Lennington, P.E.
Project Manager

Copy: SWA – Mary Massad

File: SWPP Contract 5-9A: 9.0

Bartlett&West | AECOM

3456 East Century Avenue
BISMARCK, ND 58501

BID TABULATION

CCI = 11,311.24
W.O. 3033.A17
PROJECT: 2nd Belfield Reservoir
Contract 5-9A
DATE: September 17, 2019
LOCATION: ND State Water Commission

Item No.	Description	Unit	ENGINEER'S ESTIMATE	LANDMARK STRUCTURES FORT WORTH, TX	MAGUIRE IRON SIOUX FALLS, SD		
	BID SCHEDULE NO. 1: WELDED STEEL RESERVOIR		**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**
1	Mobilization (may not exceed 5% of Bid).	L.S.	$52,600.00	NO BID	$60,000.00		
2	Furnish and Install Gravel Surfacing, Clearing and Grubbing, Sitework, Disposal of Excavated Material,	L.S.	$40,000.00		$100,000.00		
3	Furnish and Install Type 304 Stainless Steel Inlet, Outlet, and Drain Piping, using Type V Cement and Fly Ash for Encasement Concrete, and Including Connections to the Existing 10" PVC Inlet and Outlet Piping and 8" Overflow Piping	L.S.	$55,000.00		$100,000.00		
4	Furnish and Install 8" Overflow Piping and Tie-In to Existing 8" Overflow/Drain Manhole Connection Pipe.	L.S.	$15,000.00		$25,000.00		
5	Furnish and Install Underdrain System and Connect to Existing Overflow/Drain Manhole	L.S.	$20,000.00		$15,000.00		
6	Furnish and Install Reservoir Foundation and Subbase.	L.S.	$190,000.00		$400,000.00		
7	Design, Furnish, and Install 746,700 Gallon Welded Steel Reservoir with Welded Steel Floor and Self-Supporting Welded Steel Dome Roof.	L.S.	$600,000.00		$548,000.00		
8	Furnish and Install Coating System	L.S.	$110,000.00		$130,000.00		
9	Furnish and Install Impressed Current Cathodic Protection System	L.S.	$15,000.00		$24,000.00		
10	Furnish and Install Valves and Appurtenances	L.S.	$7,000.00		$25,000.00		
	SUBTOTAL, BID ITEMS 1-10		**$1,104,600.00**		**$1,427,000.00**		
	BID ADJUSTMENT (ADDITION OR DEDUCTION)		$0.00		$0.00		
	TOTAL BID, SCHEDULE 1		**$1,104,600.00**		**$1,427,000.00**		
	BID ALTERNATE 1: Furnish and Install Aluminum Geodesic Dome Roof in Lieu of the Welded Steel Dome Roof in Bid Item 7 Above. [Addition] [Deduction]	L.S.	$20,000.00	NO BID	$10,000.00		
	SUBCONTRACTORS:						
	Reservoir Constructor (if different than Bidder)						
	Earthwork				SHEPS WELDING, ND		
	Concrete Foundation				COGI, SD		
	Coatings						
	Site Piping				SHEPS WELDING, ND		
	SUPPLIERS:						
	Reservoir				NORFOLK STEEL, NE		
	Aluminum Geodesic Dome						
	Pipe				CORE & MAIN, SD		
	Valves				CORE & MAIN, SD		

Bartlett&West | AECOM

3456 East Century Avenue
BISMARCK, ND 58501

BID TABULATION

CCI = 11,311.24 W.O. 3033.A17
PROJECT: 2nd Belfield Reservoir
Contract 5-9A
DATE: September 17, 2019
LOCATION: ND State Water Commission

Item No.	Description	Unit	ENGINEER'S ESTIMATE	LANDMARK STRUCTURES FORT WORTH, TX	MAGUIRE IRON SIOUX FALLS, SD		
	BID SCHEDULE NO. 2: FACTORY GLASS-COATED BOLTED STEEL RESERVOIR	**Unit**	**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**
1	Mobilization (may not exceed 5% of Bid).	L.S.	$44,600.00	$55,000.00	NO BID		
2	Furnish and Install Clearing and Grubbing, Sitework, Disposal of Excavated Material, and Sediment and Erosion	L.S.	$40,000.00	$22,000.00			
3	Furnish and Install Type 304 Stainless Steel Inlet, Outlet, and Drain Piping, using Type V Cement and Fly Ash for Encasement Concrete, and Including Connections to the Existing 10" PVC Inlet and Outlet Piping and 8" Overflow Piping	L.S.	$55,000.00	$30,000.00			
4	Furnish and Install 8" Overflow Piping and Tie-In to Existing 8" Overflow/Drain Manhole Connection Pipe.	L.S.	$15,000.00	$10,000.00			
5	Furnish and Install Underdrain System and Connect to Existing Overflow/Drain Manhole	L.S.	$20,000.00	$15,000.00			
6	Furnish, and Install Reservoir Foundation, Concrete Floor and Subbase.	L.S.	$190,000.00	$405,000.00			
7	Design, Furnish, and Install 746,700 Gallon Factory Glass-Coated Bolted Steel Reservoir with Geodesic Dome Roof	L.S.	$550,000.00	$595,000.00			
8	Furnish and Install Galvanic Cathodic Protection System	L.S.	$15,000.00	$28,000.00			
9	Furnish and Install Valves and Appurtenances	L.S.	$7,000.00	$20,000.00			
	SUBTOTAL, BID ITEMS 1-9		**$936,600.00**	**$1,180,000.00**			
	BID ADJUSTMENT (ADDITION OR DEDUCTION)		$0.00	$0.00			
	TOTAL BID, SCHEDULE 2		**$936,600.00**	**$1,180,000.00**			
	BID ALTERNATE 1: Furnish and Install Eight-Inch (8") Thick Minimum Concrete Floor Slab with Two Mats of Reinforcing Steel in Lieu of Six-Inch (6") Slab Specified in the Contract Documents. Minimum Reinforcing Ratio is 0.0018 and Minimum #4 Bars at 24 Inches on Center, Both Directions. [Addition] [Deduction]	L.S.	$20,000.00	$27,500.00	NO BID		
	SUBCONTRACTORS:						
	Reservoir Constructor (if different than Bidder)						
	Earthwork			US SITEWORK ELK RIVER, MN			
	Concrete Foundation			WINN CONSTRUCTION MINOT. ND			
	Coatings						
	Site Piping			US SITEWORK ELK RIVER, MN			
	SUPPLIERS:						
	Reservoir			PERMASTORE TANKS & SILOS UNITED KINGDOM			
	Aluminum Geodesic Dome			PERMASTORE TANKS & SILOS UNITED KINGDOM			
	Pipe			TYLER UNION/CORE & MAIN MINOT, ND			
	Valves			AFC/CORE & MAIN MINOT, ND			

NORTH Dakota | Water Commission
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MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer - Secretary
SUBJECT: SWPP Contract 5-13A - 2nd Davis Buttes Water Reservoir
DATE: September 23, 2019

This contract includes furnishing and installing one above ground welded or factory coated glass lined bolted steel raw water storage reservoir, 994,000 gallons (minimum). The 2nd Davis Buttes Reservoir is located in Stark County approximately 1.5 miles north east of the City of Dickinson, North Dakota. The Substantial Completion Date of the contract is October 30, 2020.

The 2nd Davis Buttes reservoir will be located adjacent to the existing 1,000,000 gallons welded steel reservoir (Contract 5-13) on the same property parcel owned by the State Water Commission. The existing SWPP Davis Buttes Reservoir (Contract 5-13) was built in 1994. The existing Davis Buttes reservoir serves the area from the Dickinson Water Treatment Plants (WTP) designated as the north and east zone in the map attached to the award of the Contract 5-9A memo. The Davis Buttes reservoir serves the towns of Gladstone, Taylor, Richardton, Glen Ullin and Hebron in addition to over 1000 rural customers. Construction of the 2nd Belfield tank and 2nd Davis Buttes tank has been on the deferred construction list of SWPP for many years. The 2nd New England tank was built in 2001 while the first New England tank was built in 1992.

Bids for Contract 5-13A were opened on September 17, 2019. Two bid packages were received. All bid packages were in order and were opened. One bid was received for Bid Schedule 1 (Welded steel reservoir) and one bid was received for Bid Schedule 2 (Factory glass –coated bolted steel reservoir). After opening and the bids were read, it was realized that the bid for Bid Schedule 1 was non-responsive as the wrong bid form was used by the bidder, however their bid information is used for comparison and life cycle cost analysis.

Summary of bids received is shown in the tables below.

Table 1: Bid Schedule 1 – Welded Steel Reservoir

Bidder	Bid Amount	Comparison to Engineer's Estimate
Maguire Iron, Sioux Falls, SD (Non-Responsive Bid)	$1,786,000.00	+$438,800 +33%
Engineer's Estimate	$1,347,200.00	

Table 2: Bid Schedule 2 – Factory Glass-Coated Bolted Steel Reservoir

Bidder	Bid Amount	Comparison to Engineer's Estimate
Landmark Structures, I LP, Fort Worth, TX	$1,448,000.00	+$247,800 +21%
Engineer's Estimate	$1,200,200.00	-

One Bid Alternate was included in the Bid Form for each schedule. Bid Alternate 1 for Bid Schedule 1 was to furnish and install aluminum geodesic dome room in lieu of the welded steel dome room. Bid Alternate 1 for Bid Schedule 2 was to furnish and install 8" thick concrete floor slab instead of the 6" thick specified concrete slab.

The bids received were higher than the Engineer's Estimate. Review of the different bid items indicate that the major source of difference is on the foundation and subbase bid item and bid items involving earthwork. One of the bidders, Landmark Structures listed an out of state contractor for earthwork and site piping while the other bidder, Maguire Iron listed a ND contractor who has not worked on SWPP or other Bartlett & West/AECOM (BW/AECOM) jobs. BW/AECOM speculates, the high cost of this bid item could be because of local earthwork and concrete contractors being busy with other projects. Though rebidding would not affect the construction schedule for these tanks, it is difficult to predict if rebidding would result in a lower price.

Life Cycle Cost Analysis (LCCA):

Do Nothing Alternative:

The existing SWPP Davis Buttes Reservoir (Contract 5-13) was built in 1994. Welded steel tanks require periodic painting for maintenance. Repainting the tank would require at least 2 months of this tank being out of service. Repainting of the tank requires warmer temperatures to allow for curing of the paint which will coincide with the higher water usage period. Since the existing Davis Buttes tank is the sole source of supply for municipal needs for 5 towns and over 1000 rural customers, taking this tank out of service for a period of over two months during high water usage period would make the operation of SWPP difficult. Adding storage out in the system also provides for redundancy and resiliency for the SWPP. Construction of 2nd Belfield tank and 2nd Davis Buttes tank has been on the deferred construction list for many years. The construction of the 2nd Belfield and 2nd Davis Buttes tank was included in the 2019-2021 biennium, as the focus of the SWPP is also moving towards increasing distribution capacity for the SWPP.

LCCA between welded steel and glass coated bolted reservoir:

LCCA was completed between the welded steel and glass coated bolted steel reservoir. Both the

tanks are assumed to be replaced in 60 years. The difference in maintenance between the two tanks include repainting the welded steel reservoir and repairing the sealant on the glass coated bolted reservoir. It is expected that the repainting and sealant repair would happen after 30 years of tank being in service. All other maintenance items are expected to be the same for both the tanks. The LCCA show the present value cost of $1,805,000 for the welded steel reservoir and $1,388,000 for the factory glass-coated bolted steel reservoir. Attached are the inputs, and summary information from LCCA model.

BW/AECOM has reviewed all the bids received. The bid received from Landmark Structures I, LP for the Bid Schedule No. 2 - Factory Glass-Coated reservoir, which has the lowest present value cost is in accordance with the invitation for Construction Bids and the Bid Documents and so considered to be a responsive bid. Landmark Structures has constructed two elevated composite tanks for SWPP, however has not constructed a factory glass-coated bolted steel reservoir for SWPP. The steel tank being provided by Landmark Structures is a Permastore tank, which is the one of the two approved tank manufacturers for glass coated bolted steel tank and is currently installed for the 2nd Richardton tank for SWPP. BW/AECOM considers Landmark Structures to be a responsible bidder.

BW/AECOM is not recommending Bid Alternate No.1 included with Bid Schedule 2 at this point. Bid Alternate 1 is for 8" thick concrete floor with two mats of reinforcing steel in lieu of the 6" concrete floor. BW/AECOM's recommendation is to award the SWPP Contract 5-13A, 2nd Davis Buttes Reservoir to Landmark Structures I, LP based on their bid for Bid Schedule 2 in the amount of $1,448,000.

Copies of Bartlett & West/AECOM's review of bids and recommendation letter and bid tab are attached to this memo.

The estimated project cost for this contract is $1,665,000 which includes the bid cost of $1,448,000, construction administration cost at 10% for $145,000 and contingency at 5% for $72,000. Engineering design costs were allocated from the 2017-2019 biennium allocation for the SWPP.

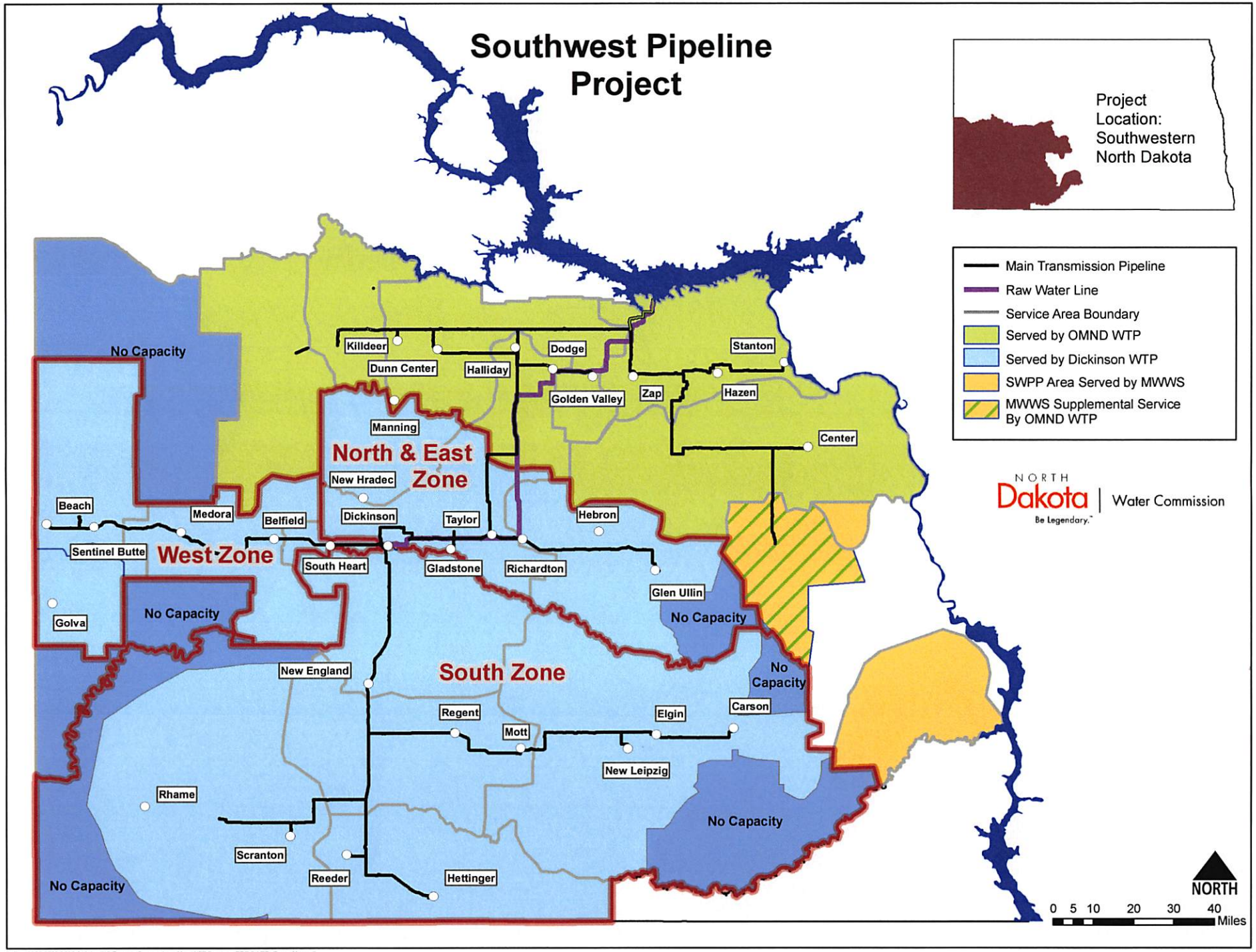
The total funding required for the construction of the 2nd Belfield and 2nd Davis Buttes Tank is $3,022,000. Approximately $700,000 in uncommitted funding is available in carry over funding allocated to SWPP in the 2017-2019 biennium. So, an allocation of an additional $2.32 Million to SWPP from the 2019-2021 biennium funds is recommended.

I recommend the State Water Commission authorize the Chief Engineer and Secretary to award SWPP Contract 5-13A – to Landmark Structures I, LP., in the amount of $1,448,000 based on Bid Schedule 2. The award of SWPP Contract 5-13A contract will be dependent upon legal review of the contract documents.

I recommend the State Water Commission approve $2.32 million dollars to

the Southwest Pipeline Project from the funds appropriated for the 2019-2021 biennium.

GE:SSPP:pdh/1736-99
Attachments


Southwest Pipeline Project
Project Location: Southwestern North Dakota
Main Transmission Pipeline
Raw Water Line
Service Area Boundary
Served by OMND WTP
Served by Dickinson WTP
SWPP Area Served by MWWS
MWWS Supplemental Service By OMND WTP
NORTH Dakota Be Legendary. | Water Commission
North & East Zone
West Zone
South Zone
No Capacity
Killdeer
Dunn Center
Halliday
Dodge
Stanton
Golden Valley
Zap
Hazen
Manning
Center
New Hradec
Beach
Medora
Belfield
Dickinson
Taylor
Hebron
Sentinel Butte
South Heart
Gladstone
Richardton
Glen Ullin
Golva
New England
Carson
Regent
Elgin
Mott
New Leipzig
Rhame
Scranton
Reeder
Hettinger
NORTH
0 5 10 20 30 40
Miles

Date: 9/20/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: NDSWC
Project: 2nd Davis Buttes Res.

Poplulation Served by the Project: 6196

Number of Connections Served by Project: 1001

1- Inputs

This is the primary data entry worksheet where users provide brief descriptions of the alternative being considered (up to 4) as well as information on annual O&M and length of construction.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Input	Units	Input Value	Definition of Term	Reference
Base Year for LCCA Model Period of Analysis	Year	2019	Beginning of analysis period	
Analysis Duration	Years	50		
End Year for LCCA Model Period of Analysis	Year	2069	Ending year of analysis period	Assumes 50 years of operations
Discount Factor	%	2.875%	Discount factor used for present value calculations	Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, a dollar is worth more today than it would be worth tomorrow. - Source EGM 18-01- https://planning.erdc.dren.mil/toolbox/library/EGMs/EGM18-01.pdf

Name of Alternative	Welded Steel			
Description of Alternative	Welded Steel, self supporting dome roof			
Capital Investment		**Units**	**Alternative 1**	**Notes**
Construction	Total Construction	$	$1,786,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$9,310	recoat at 30 years, PV=$260k spread over 60 year life, replace tank at 60 years and no recoat

Name of Alternative	Factory Glass-Coated Bolted Steel			
Description of Alternative	Bolted Steel with Concrete Floor			
Capital Investment		**Units**	**Alternative 2**	**Notes**
Construction	Total Construction	$	$1,448,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$1,760	sealant replaced at 30 years, $50k PV, replace tank at 60 years

Name of Alternative	Alternative 3			
Description of Alternative	Description of Alternative 3			
Capital Investment		**Units**	**Alternative 3**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$	$0	

Name of Alternative	Alternative 4			
Description of Alternative	Description of Alternative 4			
Capital Investment		**Units**	**Alternative 4**	**Notes**
Construction	Total Construction	$	$0	
	Years of Construction	Years		
Annual O&M	Annual O&M	$		9/

Date: 9/20/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: NDSWC
Project: 2nd Davis Buttes Res.

3 - Results Summary

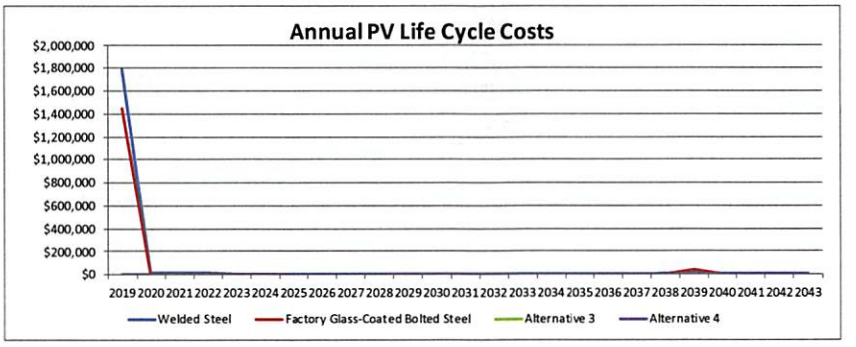
Life Cycle Cost Analysis

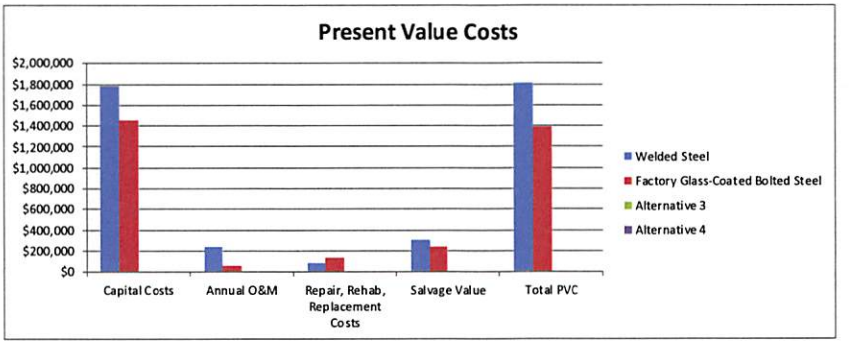
This worksheet serves as the summary for all outputs created in the model. For the given inputs, the Results Summary provides an overview of capital costs; annual O&M; repair, rehab, replacement costs; and salvage value. Under the Results Summary, the user will find a breakdown of the cost for each category and alternative.

Scenario Analysis - Present Value Life Cycle Cost Summary

Cost Summary

Present Value	Welded Steel	Factory Glass-Coated Bolted Steel	Alternative 3	Alternative 4
Capital Costs	$1,786,000	$1,448,000	$0	$0
Annual O&M	$243,000	$49,000	$0	$0
Repair, Rehab, Replacement Costs	$75,000	$133,000	$0	$0
Salvage Value	$299,000	$242,000	$0	$0
Total PVC	**$1,805,000**	**$1,388,000**	**$0**	**$0**





Life Cycle Cost Analysis Review

Version 1.20190905

Sponsor: NDSWC
Project Title: 2nd Davis Buttes Res. **Date:** September 23, 2019

Explanation of Alternatives:

There are two alternatives for the type of tank required to provide maintenance and uninterupted capacity. The simpler welded steel tank requires more long-term maintenance costs than the glass-coated tank. The do nothing alternative will leave the regional system users without water as maintenance and repair of the existing on-site tank are conducted. This tank will then provide for continued growth in the regional system capacity to serve SW North Dakota.

Inputs:

	Welded Steel	Factory Glass-Coated Bolted Steel	Alternative 3	Alternative 4
Users Served	1001			
Construction Cost	$1,786,000	$1,448,000	$0	$0
Annual O & M	$9,310	$1,760	$0	$0

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	Welded Steel	Factory Glass-Coated Bolted Steel	Alternative 3	Alternative 4
Capital Costs	$1,786,000	$1,448,000	$0	$0
O&M	$243,000	$49,000	$0	$0
Repair, Rehab,	$75,000	$133,000	$0	$0
Salvage Value	$299,000	$242,000	$0	$0
Total PVC	**$1,805,000**	**$1,388,000**	$0	$0
PV Cost Per Capita/User	$1,803	$1,387	$0	$0

Explanation of Results:

The glass-coated tank is the lowest cost alternative, $224 per capita and $1,387 per user and $417,000 less than the welded steel alternative, that satisfies the SWPP storage issues addressed in this project.

Other Comments:

Bartlett&West | AECOM

September 20, 2019

North Dakota State Water Commission
Attn: Ms. Sindhuja S.Pillai-Grinolds, P.E., Project Manager
900 E. Boulevard Ave.
Bismarck, ND 58505

SUBJECT: SWPP Contract 5-13A, 2nd Davis Buttes Reservoir
Review of Bids Received
W.O. 3033.A17

Sindhu:

On Tuesday, September 17, 2019, bids were opened for the Southwest Pipeline Project (SWPP) Contract 5-13A, 2nd Davis Buttes Reservoir. The scope of work for this contract consists generally of furnishing and installing one above ground welded steel or factory glass-coated bolted steel potable water storage reservoir, 1,000,000 gallons (nominal), 60 feet in diameter, 47 feet to overflow, complete with: inlet/outlet, drain, overflow, and underdrain piping; reinforced concrete ringwall foundation; connections to the existing 12" PVC inlet and outlet pipes; cathodic protection system; site work; valves and other appurtenant items as required by the Project Drawings, Specifications, and Contract Documents. The 2nd Davis Buttes Reservoir is located in Stark County approximately 1½ miles northeast of the City of Dickinson, ND. The reservoir will complement the existing 1,000,000-gallon Davis Buttes Reservoir which was constructed in 1993-1994 as a welded steel ground storage reservoir.

The Bid Form included two Bid Schedules: Bid Schedule 1 for a welded steel reservoir with self-supporting dome roof; and Bid Schedule 2 for a factory glass-fused bolted steel reservoir with a concrete floor. Both types of ground storage reservoirs have been used with success on the SWPP and are commonly bid against each other. Each bid schedule included a single bid alternate. For Bid Schedule 1 the alternate was for an aluminum geodesic dome roof in lieu of the specified self-supporting dome roof. For Bid Schedule 2 the alternate was for an eight inch (8") thick concrete floor with two mats of reinforcing steel in lieu of the specified six-inch (6") concrete floor with a single mat of reinforcing steel. The concrete floor was specified for Bid Schedule 2 to facilitate cleaning and a concrete floor also presents an advantage with regard to leaks when compared to a bolted steel floor which is what is normally provided with a bolted reservoir. Concrete floors for bolted tanks have been used with success on two previous SWPP projects, Contract 5-1A 2nd Richardton Reservoir, and Contract 5-15B, 2nd Zap Potable Reservoir.

Two bid packages were received for Contract 5-13A. One bid was received for Bid Schedule No. 1 – Welded Steel Reservoir, from Maguire Iron of Sioux Falls, SD. One bid was received for Bid Schedule No. 2 – Factory Glass-Coated Bolted Steel Reservoir from Landmark Structures I, LP. The lack of bidders for this project is cause for concern but is not unprecedented. The existing Davis Buttes Reservoir had five bidders in 1993 and was constructed by Advance Tank and Construction of Wellington, CO. When contacted to see if they were interested in this project Advance Tank stated that they were no longer in the municipal water reservoir market. The recently completed SWPP Contract 5-1A, 2nd Richardton Reservoir, had only three bidders. The contractor for 5-1A defaulted on that contract and went out of business. That contract was completed by soliciting contractors for the remaining work. Great Plains Structures (GPS), of Vadnais Heights, MN, declined to bid. GPS is a known factory glass-coated bolted steel tank contractor that works with CST Industries (Aquastore), one of only two approved factory glass-coated bolted steel tank suppliers.

A tabulation of the bid results and bidders on this contract is attached. A copy of the bid tab has been provided to all bidders and other interested parties. Both bids were read aloud at the bid opening. Upon further review it was noted that Maguire had not used the revised bid form that included a separate line item for fencing provided under Addendum No. 1. Therefore, this bid is considered non-responsive. A summary of the bids received is shown in the tables below. Maguire's non-responsive bid is included in the summary tables so that it can be compared to Landmark's bid.

SOUTHWEST PIPELINE PROJECT
Contract 5-13A, 2nd Davis Buttes Reservoir
Bid Schedule 1 - Welded Steel Reservoir

Bidder	Bid Amount	Amount Higher Than Low Bid	Comparison to Engineers Estimate	Bid Alternate: Aluminum Geodesic Dome Roof
NON-RESPONSIVE BID. INCLUDED FOR COMPARISON ONLY				
Maguire Iron Sioux Falls, SD	$1,786,000.00	-	+ $438,800.00 32.6%	+ $20,000.00
Engineer's Estimate	$1,347,200.00	- $438,800.00 -24.6%	-	+ $30,000.00

SOUTHWEST PIPELINE PROJECT
Contract 5-13A, 2nd Davis Buttes Reservoir
Bid Schedule 2 - Factory Glass-Coated Bolted Steel Reservoir

Bidder	Bid Amount	Amount Higher Than Low Bid	Comparison to Engineers Estimate	Bid Alternate: Eight-Inch Thick Concrete Floor Slab
Landmark Structures I, LP Fort Worth, TX	$1,448,000.00	-	$247,800.00 20.6%	+ $32,500.00
Engineer's Estimate	$1,200,200.00	- $247,800.00 -17.1%	-	+ $25,000.00

The bids were high in comparison to the Engineer's Estimate. On review of the bid line items it can be seen that the foundation and subbase bid item and bid items involving earthwork are the major cause of the difference. Landmark listed an out of state contractor for the earthwork and site piping while Maguire listed a ND contractor we have no prior experience with. Maguire listed an out of state contractor for concrete work. In Maguire's bid the foundation and subbase bid item was $235,000 higher than the same item in the estimate, and in Landmark's bid this item was $300,000 more than estimated. The foundation and subbase bid item was estimated using bid prices from the most recent SWPP reservoir contracts along with adjustments for inflation and scale. The high costs for this bid item may be due to local earthwork and concrete contractors being busy and other factors such as oil field activity. The SWC may choose to rebid the contract since it is not likely that a substantial amount of work would be completed in 2019 anyway but there is no guarantee that rebidding will result in lower prices. We do not recommend rebidding.

Based on our review the bid received from Landmark Structures I, LP (Landmark) for Bid Schedule No. 2 – Factory Glass-Coated Bolted Steel Reservoir appears to be in accordance with the Invitation for Construction Bids and the Bid Documents. It is thus considered to be a responsive bid. Landmark has constructed two elevated composite tanks for the SWPP, most recently SWPP Contract 5-16,

Center Elevated Tank, in 2011-2012. Landmark has not constructed a factory glass-coated bolted steel reservoir for the SWPP. It is our understanding that Landmark has assumed, at least partially, the role that Engineering America Inc., (EAI) as the contractor that will install tanks manufactured by Permastore. EAI is the contractor that defaulted on SWPP Contract 5-1A and went out of business during construction in 2018. Permastore was one of the two approved manufacturers of factory glass-coated reservoir materials listed in the specifications. Given that EAI went out of business in 2018 Landmark has had a limited time to gain experience with glass-coated bolted steel tanks. Schedule B attached to their bid lists only three previous similar projects. One person identified by Landmark as available for this project lists EAI as their previous employer. Other personnel have significant experience. Landmark has no OSHA or state safety citations, notifications of penalty, or violations within the past five years. We have no reason to believe Landmark cannot complete this project successfully. Therefore, we consider Landmark to be a responsible bidder.

Bid Alternate No. 1 for Bid Schedule 2 – Factory Glass-Coated Bolted Steel Reservoir was for an eight-inch (8") thick (minimum) concrete floor with two mats of reinforcing steel in lieu of the six-inch thick floor that was specified. In light of the bids being over the engineer's estimate and the two successfully completed bolted reservoir installations with 6" thick concrete floors and a single mat of reinforcing we do not feel inclined to recommend award based on the alternate. We will engage in further discussions with Commission staff in this regard and if desired could probably include this alternate as a change order item later in the project.

The life cycle cost analysis (LCCA) of the two bids included repainting the welded steel reservoir after 30 years and sealant repairs to the bolted reservoir after 30 years. Both tanks were assumed to be replaced at 60 years. The LCCA results show a total present value cost of $1,805,000 for the welded steel reservoir and $1,388,000 for the factory glass-coated bolted steel reservoir.

Subject to approval by your legal counsel that the bid documents are in order from a legal standpoint, we recommend that the North Dakota State Water Commission award SWPP Contract 5-13A, 2nd Davis Buttes Reservoir to Landmark Structures I, LP based on their bid in the amount of $1,448,000.00. The contract documents require that the SWC award the contract, if awarded, within 60 calendar days after the bid opening as stipulated in the Invitation for Construction Bids and on the Bid Form. That date would be November 16, 2019. We understand that funding for this contract may be used to qualify for future federal cost-sharing through the state's Municipal, Rural and Industrial Water Supply Program. Thus, the award of the contract requires concurrence from the Garrison Diversion Conservancy District. The award of the contract and the Notice to Proceed are dependent on the satisfactory completion and submission of the contract documents by Landmark and your legal counsel's review.

Sincerely,

BARTLETT & WEST/AECOM

James Lennington, P.E.
Project Manager

Copy: SWA – Mary Massad

File: SWPP Contract 5-13A: 9.0

Bartlett&West | AECOM

3456 East Century Avenue
BISMARCK, ND 58501

BID TABULATION

CCI = 11,311.24

W.O. 3033.A17

PROJECT: 2nd Davis Buttes Reservoir
Contract 5-13A
DATE: September 17, 2019
LOCATION: ND State Water Commission

Item No.	Description	Unit	ENGINEER'S ESTIMATE	LANDMARK STRUCTURES FORT WORTH, TX	MAGUIRE IRON SIOUX FALLS, SD		
	BID SCHEDULE NO. 1: WELDED STEEL RESERVOIR		**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**
1	Mobilization (may not exceed 5% of Bid).	L.S.	$64,200.00	NO BID	$80,000.00		
2	Furnish and Install Gravel Surfacing, Clearing and Grubbing, Sitework, and Sediment and Erosion Control	L.S.	$40,000.00		$125,000.00		
3	Furnish and Install Fencing Including Removal of Existing Fence	L.S.	$8,000.00		NA		
4	Furnish and Install Type 304 Stainless Steel Inlet, Outlet, and Drain Piping, using Type V Cement and Fly Ash for Encasement Concrete, and Including Connections to the Existing 12" PVC Inlet and Outlet Piping and 10" PVC Drain Piping	L.S.	$65,000.00		NON RESPONSIVE $150,000.00		
5	Furnish and Install 8" Overflow Piping Including Connection to Existing 10" PVC Drain Piping.	L.S.	$15,000.00		$30,000.00		
6	Furnish and Install Underdrain System	L.S.	$25,000.00		$15,000.00		
7	Furnish and Install Reservoir Foundation and Subbase.	L.S.	$215,000.00		$450,000.00		
8	Design, Furnish, and Install 994,000 Gallon Welded Steel Reservoir with Welded Steel Floor and Self-Supporting Welded Steel Dome Roof.	L.S.	$725,000.00		$746,000.00		
9	Furnish and Install Coating System	L.S.	$130,000.00		$140,000.00		
10	Furnish and Install Impressed Current Cathodic Protection System	L.S.	$15,000.00		$25,000.00		
11	Furnish and Install Valves and Appurtenances	L.S.	$45,000.00		$25,000.00		
	SUBTOTAL, BID ITEMS 1-11		**$1,347,200.00**		**$1,786,000.00**		
	BID ADJUSTMENT (ADDITION OR DEDUCTION)		$0.00		$0.00		
	TOTAL BID, SCHEDULE 1		**$1,347,200.00**		**$1,786,000.00**		
	BID ALTERNATE 1: Furnish and Install Aluminum Geodesic Dome Roof in Lieu of the Welded Steel Dome Roof in Bid Item 8 Above. [Addition] [Deduction]	L.S.	$30,000.00	NO BID	$20,000.00		
	SUBCONTRACTORS:						
	Reservoir Constructor (if different than Bidder)						
	Earthwork				SHEPS WELDING, ND		
	Concrete Foundation				COGI, SD		
	Coatings						
	Site Piping				SHEPS WELDING, ND		
	SUPPLIERS:						
	Reservoir				NORFOLK STEEL, NE		
	Aluminum Geodesic Dome						
	Pipe				CORE & MAIN, SD		
	Valves				CORE & MAIN, SD		

Bartlett&West | AECOM

3456 East Century Avenue
BISMARCK, ND 58501

BID TABULATION

CCI = 11,311.24 W.O. 3033.A17
PROJECT: 2nd Davis Buttes Reservoir
Contract 5-13A
DATE: September 17, 2019
LOCATION: ND State Water Commission

Item No.	Description	Unit	ENGINEER'S ESTIMATE	LANDMARK STRUCTURES FORT WORTH, TX	MAGUIRE IRON SIOUX FALLS, SD		
	BID SCHEDULE NO. 2: FACTORY GLASS-COATED BOLTED STEEL RESERVOIR	**Unit**	**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**	**Bid Price**
1	Mobilization (may not exceed 5% of Bid).	L.S.	$57,200.00	$70,000.00	NO BID		
2	Furnish and Install Gravel Surfacing, Clearing and Grubbing, Sitework, and Sediment and Erosion Control	L.S.	$40,000.00	$25,000.00			
3	Furnish and Install Fencing Including Removal of Existing Fence	L.S.	$8,000.00	$12,000.00			
4	Furnish and Install Type 304 Stainless Steel Inlet, Outlet, and Drain Piping, using Type V Cement and Fly Ash for Encasement Concrete, and Including Connections to the Existing 12" PVC Inlet and Outlet Piping and 10" PVC Drain Piping	L.S.	$65,000.00	$35,000.00			
5	Furnish and Install 8" Overflow Piping Including Connection to Existing 10" PVC Drain Piping.	L.S.	$15,000.00	$10,000.00			
6	Furnish and Install Underdrain System	L.S.	$25,000.00	$15,000.00			
7	Design, Furnish and Install Reservoir Foundation, Concrete Floor, and Subbase.	L.S.	$215,000.00	$515,000.00			
8	Design, Furnish, and Install 1 Million Gallon Nominal Factory Glass-Coated Bolted Steel Reservoir with Geodesic Dome Roof	L.S.	$700,000.00	$668,000.00			
9	Furnish and Install Galvanic Cathodic Protection System	L.S.	$30,000.00	$35,000.00			
10	Furnish and Install Valves and Appurtenances	L.S.	$45,000.00	$63,000.00			
	SUBTOTAL, BID ITEMS 1-10		**$1,200,200.00**	**$1,448,000.00**			
	BID ADJUSTMENT (ADDITION OR DEDUCTION)		$0.00	$0.00			
	TOTAL BID, SCHEDULE 2		**$1,200,200.00**	**$1,448,000.00**			
	BID ALTERNATE 1: Furnish and Install Eight-Inch (8") Thick Minimum Concrete Floor Slab with Two Mats of Reinforcing Steel in Lieu of Six-Inch (6") Slab Specified in the Contract Documents. Minimum Reinforcing Ratio is 0.0018 and Minimum #4 Bars at 24 Inches on Center, Both Directions. [Addition] [Deduction]	L.S.	$25,000.00	$32,500.00	NO BID		
	SUBCONTRACTORS:						
	Reservoir Constructor {if different than Bidder}						
	Earthwork			US SITEWORK ELK RIVER, MN			
	Concrete Foundation			WINN CONSTRUCTION MINOT. ND			
	Coatings						
	Site Piping			US SITEWORK ELK RIVER, MN			
	SUPPLIERS:						
	Reservoir			PERMASTORE TANKS & SILOS UNITED KINGDOM			
	Aluminum Geodesic Dome			PERMASTORE TANKS & SILOS UNITED KINGDOM			
	Pipe			TYLER UNION/CORE & MAIN MINOT, ND			
	Valves			AFC/CORE & MAIN MINOT, ND			

BID ANOMALIES
NORTH DAKOTA STATE WATER COMMISSION
SOUTHWEST PIPELINE PROJECT
2ND DAVIS BUTTES RESERVOIR
CONTACT 5-13A

The Bidder's Proposals for the contractor bidding on the North Dakota State Water Commission Contract 5-13A were checked electronically, and the following were noted:

MAGUIRE IRON – SIOUX FALLS, SD

The Bid was opened and read aloud, upon further review it was discovered that the Bid Form provided in Addendum No. 1 was not used, thus the Bid is considered non-responsive.

APPENDIX C

COST-SHARE REQUEST FORM

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (3/2017)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 30 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Reconstruction of Tri-County Drain #6 - Phase II

Sponsor(s)
Tri-County Joint Water Resource District

County	City	Township/Range/Section
Ransom, Sargent, Richland	NE of Milnor	Multiple (see attached)

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Flooding relief for landowners along the drain.

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control ☐ Multi-Purpose ☐ Bank Stabilization ☐ Dam Safety/EAP
☐ Recreation ☐ Water Supply ☐ Snagging & Clearing ☐ Property Acquisition
☐ Irrigation ☐ Water Retention ☑ Rural Flood Control ☐ Other

Jurisdictions/Stakeholders Involved
Tri-County Resource District, Assessed Landowners

Description Of Problem Or Need And How Project Addresses That Problem Or Need
Surface water stands in adjacent fields as the drain attempts to move water into the Wild Rice River. Areas along the drain have actually shown signs of wetland vegetation due to increased soil moisture. Tiling projects are taking subsurface water off of fields away from the drain and feeding it into the system. The spring runoffs of 2009, 2011 and 2013 have also posed problems to the local farming community. Most recently, a 6.5" rain event occurred on June 20, 2013 along the drain and caused flooding in adjacent fields still recovering from the wet spring. With limited drain capacity, water sat on fields into August eventually killing planted crops.
Grading of the channel will allow for more efficient flow to the Wild Rice River. An increased storage capacity of up to 25% from flattened channel slopes will provide additional storage at times of large rain or spring runoff events. These two measures will reduce the time water ponds on adjacent fields ultimately reducing crop damage. The drain would be constructed to provide adequate capacity to convey the 10-year flow event. Structures would be designed according to the Stream Crossing Statutes and Rules provided by the ND State Water Commission and the ND Department of Transportation.

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
US Army Corps of Engineers 404 Permit

Have You Been Approved For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
US Army Corps of Engineers 404 Permit

Have You Applied For Any Local Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
Drain Permit

Have You Been Approved For Any Local Permits?	☑ Yes	☐ No	☐ Not Applicable

If Yes, Please Explain
Drain Permit

Briefly Explain The Level Of Review The Project Or Program Has Undergone
Environmental review and approval is complete. Design and plan preparation is complete.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? Land acquisition is ongoing. Landowner views toward the project are favorable.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2015-2017 7/1/15-6/30/17	2017-2019 7/1/17-6/30/19	Beyond 7/1/19
Federal	$	$	$	$
State Water Commission	$	$	$ 733,300	$
Other State	$	$	$	$
Local	$	$	$ 908,700	$
Total	$	$	$ 1,642,000	$

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
None

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
The project is expected to be bid in the fall of 2018 with construction complete in mid-2019. Preliminary and design engineering began in 2016 and will conclude at the time of bidding. Right of way acquisition is ongoing and is anticipated to be complete in the spring of 2018.

Have Assessment Districts Been Formed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Submitted By Scott Olerud, Chairman (Tri-County Joint Water Resource District)	Date 2-12-18

Address PO Box 388	City Lisbon	State ND	ZIP Code 58054

Telephone Number 701-308-0101	Sponsor Email rcwrd@drtel.net	Engineer Email shawn.mayfield@kljeng.com

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature Scott Olerud	Date 2-12-18

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

Tri COUNTY WATER RESOURCE DISTRICT

Jim Haugen, Water Manager 640-3701
Korey Martinson, Water Manager 680-1918
Scott Olerud, Water Manager 308-0101
Heather Edison, Secretary 683-5920

P.O. Box 388
Lisbon, ND 58054
Phone (701) 683-5920; Fax (701) 683-3259

February 12, 2018

Ms. Beth Nangare
ND State Water Commission
900 E Boulevard Ave. Dept. 770
Bismarck, ND 58505-0850

Re: Tri-County Drain Reconstruction – Phase II
Ransom, Sargent, Richland Counties

Dear Ms. Nangare:

The Tri-County Drain was constructed in the early 1900's and continues to function as a rural flood control measure for the local farming community. During recent spring runoffs, the drain flowed at or near capacity, increasing the need for better flow characteristics and additional storage capacity. Tiling of adjacent farmland has also increased flows into the drain.

The project would flatten channel slopes, re-grade the drain flow line and increase opening sizes at roadway crossings. The project would reconstruct approximately 7 miles along the center section of the drain (see included project location map).

The preliminary and design phase of the project is nearly complete. The Tri-County Water Resource District respectfully requests cost share of $733,300 for construction and construction engineering costs associated with this project. Enclosed please find the completed cost share request application along with current engineered plans and opinion of cost detailing the project. The project is anticipated to be completed in early 2019.

The District has acquired needed permits for the project. A US Army Corps of Engineers Permit has been obtained along with a local drainage permit. Landowner discussions have been favorable for the project and acquisition of needed easements are nearly complete. Remaining easements are anticipated to be in place by the spring of 2018.

The Tri-County Water Resource District through assessment monies will continue to facilitate and maintain all aspects of the Tri-County Drain. The district has the highest regard for residents utilizing the drain and will address needed repairs and improvements as they arise.

If you should have any questions regarding this project or need additional information for this cost share request, please contact me at 701-308-0101. Thank you for your consideration.

Sincerely,

Scott Olerud

Scott Olerud, Chairman
Tri-County Water Resource District

Enclosures

cc. Shawn Mayfield, KLJ Valley City

TRI-COUNTY DRAIN NO. 6 RECONSTRUCTION

PRELIMINARY OPINION OF COST

South Branch Reconstruction ~ Phase II

Date: Februaury 9, 2018

ITEM	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	CONTRACT BOND	1	L SUM	$ 12,500.00	$ 12,500.00
2	COMMON EXCAVATION	157,270	CY	$ 2.25	$ 353,857.50
3	CLEARING & GRUBBING	1	L SUM	$ 17,500.00	$ 17,500.00
4	DEWATERING	1	L SUM	$ 25,000.00	$ 25,000.00
5	REMOVAL OF PIPE ALL TYPES AND SIZES	838	LF	$ 20.00	$ 16,760.00
6	TOPSOIL REMOVE & REPLACE	373.7	STA	$ 500.00	$ 186,850.00
7	LEVELING	373.7	STA	$ 100.00	$ 37,370.00
8	BOX CULVERT EXCAVATION	1	EA	$ 5,000.00	$ 5,000.00
9	FOUNDATION PREPARATION	1	EA	$ 7,500.00	$ 7,500.00
10	FOUNDATION FILL	237	CY	$ 35.00	$ 8,295.00
11	AGGREGATE SURFACE COURSE CL13	3,040	TON	$ 20.00	$ 60,800.00
12	PIPE CONC REINF ARCH 73IN X 45IN CL III	70	LF	$ 450.00	$ 31,500.00
13	PIPE CONC REINF ARCH 88IN X 54IN CL III	132	LF	$ 550.00	$ 72,600.00
14	PIPE CONC REINF ARCH 102IN X 62IN CL III	108	LF	$ 650.00	$ 70,200.00
15	10FT X 5FT PRECAST RCB CULVERT	92	LF	$ 900.00	$ 82,800.00
16	END SECT-CONC REINF ARCH 73IN X 45IN	2	EA	$ 3,500.00	$ 7,000.00
17	END SECT-CONC REINF ARCH 88IN X 54IN	6	EA	$ 4,500.00	$ 27,000.00
18	END SECT-CONC REINF ARCH 102IN X 62IN	4	EA	$ 5,500.00	$ 22,000.00
19	10FT X 5FT PRECAST RCB END SECTION	2	EA	$ 17,500.00	$ 35,000.00
20	MOBILIZATION	1	L SUM	$ 60,000.00	$ 60,000.00
21	TRAFFIC CONTROL	1	L SUM	$ 7,500.00	$ 7,500.00
22	RIPRAP GRADE II	408	CY	$ 75.00	$ 30,600.00
23	FIBER ROLLS 12IN	8,500	LF	$ 3.00	$ 25,500.00
24	SEEDING-TYPE B-CL II	75	ACRE	$ 400.00	$ 30,000.00
25	MULCHING	75	ACRE	$ 400.00	$ 30,000.00
26	GEOSYNTHETIC MATERIAL TYPE R1	1,832	SY	$ 3.50	$ 6,412.00
27	GEOSYNTHETIC MATERIAL TYPE RR	716	SY	$ 3.50	$ 2,506.00
28	PIPE CONDUIT 12IN	22	LF	$ 20.00	$ 440.00
29	PIPE CONDUIT 18IN	314	LF	$ 25.00	$ 7,850.00
30	PIPE CONDUIT 24IN	1,486	LF	$ 35.00	$ 52,010.00
31	PIPE CONDUIT 30IN	88	LF	$ 45.00	$ 3,960.00
32	FLAP GATE 18IN	8	EA	$ 500.00	$ 4,000.00
33	FLAP GATE 24IN	31	EA	$ 650.00	$ 20,150.00
34	FLAP GATE 30IN	1	EA	$ 800.00	$ 800.00
35	REMOVE EXISTING FENCE	11,145	LF	$ 0.75	$ 8,358.75
36	FENCE BARBED WIRE 4 STRAND-STEEL POST	12,363	LF	$ 3.00	$ 37,089.00
37	FENCE REMOVE & RESET	2,695	LF	$ 7.50	$ 20,212.50
38	OBJECT MARKERS	4	EA	$ 200.00	$ 800.00

Estimated Total Construction Cost = $ 1,427,720.75

Engineering & Contingency (15%) = $ 214,158.11

Total Project Cost = $ 1,641,878.86

TOTAL DRAIN COST ELIGIBLE FOR 45% SWC FUNDS = $ 1,629,378.86

(SWC Elegible Funds = Total Project Cost minus Contract Bond)

SWC Funding @ 45% = $ 733,220.49

Local Share = $ 908,658.37

Economic Analysis Review

Project Title:	Drain No. 6 Recon - Phase 2	Date:	August 8, 2019
Description:	Clean and reshape existing Drain 6 to reduce agricultural flood damages.		
Project Type:			

Project Overview

Project Area:		T133N R54W & T133N R53W	
County		Ransom	
City		NA	
Agricultural Acres Impacted		715	
Urban			
Population Served		NA	
Cost	Construction	O & M	Total
Nominal	$1,590,389	$25,000/yr	$2,865,389
PV (50 years)	$1,590,389	$654,539	$2,244,927
$ / Capita	NA	NA	NA
$ / Acre	$2,223.77	$915.21	$3,138.99

Inputs

Protection Level:	1:10
Consumptive and Non-Consumptive Benefits:	
NA	
Detours:	
NA	

Results

Project Performance Metrics	Present Value	Average Annual	Notes
Benefit-to-Cost Ratio	1.534		
Net Benefits	$1,199,309	$45,511	
Internal Rate of Return (IRR)	6%		
Payback Year	20		

Average Annual Damages

Rural

	Difference	Without	With
Cropland	$ 131,052	$ 160,770	$ 29,718
Pasture	$ -	$ -	$ -
Total	$ 131,052	$ 160,770	$ 29,718

Urban

	Difference	Without	With
Damage to structures at risk	$0	$0	$0
Value of other flood costs	$0	$0	

Model Function

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor. Benefits mostly reflect avoided crop damages from inundation of additional acres once channel flow is improved.

Explanation of Results

This project addresses a prolonged maintenance issue and minor shifting of the channel location, widening the bottom, reducing the grade of the side slopes and increasing culvert sizes where needed. This drain is currently functional but is not operating at peak efficiency. This project will decrease the innundated acres by as many as 715 in large scale (1:100) events. The cumulative benefits of the project over 50 years exceed the cost of the project resulting in a B/C ratio of 1.5, which is greater than the break even value of 1. Average annual benefit is ~$45,500, which is reflected in the 6% internal rate of return. The reason for the B/C ratio is that the drain is already functioning to protect the majority of the acres in the target area and new protected acres and shorter inundations are accumulated as benefits to the project. Previously protected acres cannot be counted as a benefit since they are functioning, however sufficient new acres are protected, with current cropping values, yeild significant benefits to the community.

Population and Trend

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2018		
ND Census: Dept. of Commerce	11,451	11,481	0.0%	4

Other Comments

Population above is Ransom County from ND Department of Commerce 2018 update.

Glossary

PV - Present Value of all future costs or benefits adjusted to the current dollar value using an interest rate factor.

1:100 - The probability of an event. Commonly referred to as a one in one hundred year event, it is more accurately, a one in one hundred chance of an event of a specific magnitude happening each individual year.

Nominal - Refers to the dollars spent or benefitted without adjusting for time value of money or inflation.

Cell for User Input
Locked Cell for Calculations

Contact Information
Analysis Prepared by: Michael Strom
Ph.: 701-845-4923
Email: michael.strom@kljeng.com
Date 6/21/19

North Dakota State Water Commission - Economic Analysis Workbook

1 - Project Overview

This is the first data entry worksheet. Users provide information about the applicant, including a point of contact, a description of the project, project area, construction costs, and annual O&M costs.

Name of the Project Drain No. 6 Recon - Phase 2

Describe the Project **(Please describe the project, the problem, and the need being addressed in the space below.)**

Clean and reshape existing Drain 6 to reduce agricultural flood damages.

Study Area:

Project Sponsor	Tri-County Drain Board	
County:	Ransom	Use drop down list to pick your county.
City:	NA	
Population Served:	NA	
Project Area:	Sections 24 & 25 of T133N R54W and Sections 19, 20, 21, 28, 29, 30, 33 & 34 of T133N R53W	

Project Construction Cost Estimate

Construction	$1,514,656
Real Estate	$0
Planning, Engineering, and Design	$0
Construction Management	$75,733
Contingency	$0
Total Cost	$1,590,389

Annual Operations and Maintenance

O&M Cost	$25,000

Study Area Data

Average Hourly Wage	$26
Hours Per Person	34.4
Persons Per household	2.44
Persons Per Business	37.67
Roadway Repair Costs Per Mile	$528,000

North Dakota State Water Commission - Economic Analysis Workbook

Sponsor: Tri-County Drain Board
Project: Drain No. 6 Recon - Phase 2
Date: 6/21/19

2 - Inputs

This is the second data entry worksheet where users provide specific data necessary to estimate project benefits.

Locked Cell for Calculations

Cell for User Input

Category	Sub Category	Input	Units	Input Value	Definition of Term	Reference
Key Inputs	Base Year		Year	2020	Beginning year of analysis period	
	End Year		Year	2071	Ending year of analysis period	
	Project Life		Years	50	From construction start to end of analysis. Must be 55 years	
	Discount Factor		%	2.875%	Discount factor used for present value calculations	Discounting is the process of determining the present value of
	Years of Construction		Years	1		
Capital Investment	Project Costs		$	1,590,388.54		
	Annual Operations and Maintenance		$	25,000.00		
Flood Return Periods	Recurrence level	Interval 1	Years	2		
		Interval 2	Years	5		
		Interval 3	Years	10		
		Interval 4	Years	25		
		Level of Protection	Years	10		
Base Data	Residential Value Per SQFT		$/SQFT	93.62	Depreciated replacement value	Marshall and Swift, 2018, estimated for Bismarck ND
	Lodging Costs Per Day		$	87.00		
	Meal Costs Per Day		$	35.00		
Other and Recreation	Consumptive Use	Users	#			
		Days	#			
		Value	$	113.00	Applied to User-Days Justification-Source Required	Hunting waterfowl
	Non-Consumptive Use	Users	#			
		Days	#			
		Value	$	35.00	Appied to User-Days Justification-Source Required	Trust for Public Lands - 2009 Measuring the value of a City Park System
Travel Delays	Vehicles Per Day		#/Day			
	Normal Drive Time		Minutes			
	Detour Drive Time		Minutes			
	Duration of Roadway Closure		Interval	Without	With	
			2			Days
			5			Days
			10			Days
			25			Days
Structure Composition	Interval		2	5	10	25
	Pre Damaged Facilities		0	0	0	0
	Post Damaged Facilities		0	0	0	0
Rural Benefits	Cropland Damage Per Acre		$/Acre	$100.00	Justification and source required if changed.	
	Erosion Damage Per Foot		$/Foot	$40.00	Justification and source required if changed.	
	Clearing Cost Per Foot		$/Foot	$7.00	Justification and source required if changed.	
	Sediment Removal Cost Per Ton		$/Foot	$5.00	Justification and source required if changed.	
	Stored Water Cost Per Acre Feet		$/AF	$0.73	Justification and source required if changed.	
	Federal Mileage Rate		$/Mile	$0.545		
Additional Benefits	Rural Flooding Benefit		$	500.00		
	Bank Erosion Benefit		$	-		
	Cleanup Cost Benefit		$	-		
	Sediment Removal Benefit		$	-		
	Stored Water Benefit		$	-		
	Detour Benefit		$	-		
	Total Rural Mitigation Benefits		$	131,052.07		

5 - Results Summary

This worksheet serves as the summary for all outputs created in the model. For the given inputs, the Results Summary provides an overview of present value and average annual benefits and costs. The Results Summary also presents project performance metrics including: Benefit-to-Cost Ratios, Net Benefits, Internal Rate of Return, and Payback Year.

Scenario Analysis - Benefit Summary

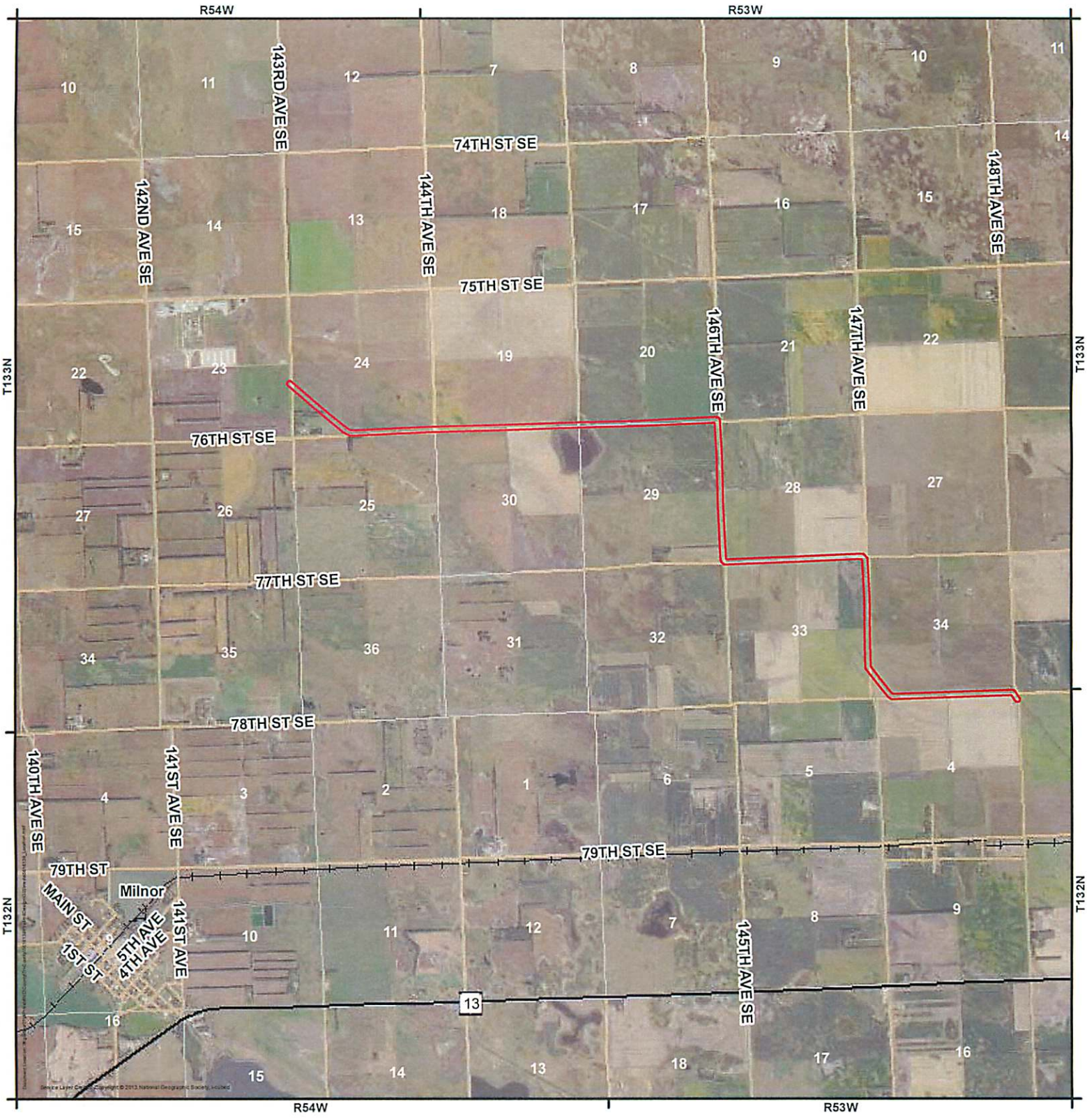
Urban Flood Control Benefits	Present Value ($1K)	Average Annual ($1K)
Flood Mitigation Benefits	$0	$0
Flood Relocation	$0	$0
Travel Time Delays	$0	$0
Flood Fighting	$0	$0
Social Benefits	$0	$0
Subtotal	$0	$0

Other Benefits		
Other Benefits	$0	$0
Consumptive	$0	$0
Non-Consumptive	$0	$0

Rural Flood Conveyance and Other Benefits		
Rural Flooding Benefit	$13	$0
Bank Erosion Benefit	$0	$0
Cleanup Cost Benefit	$0	$0
Sediment Removal Benefit	$0	$0
Stored Water Benefit	$0	$0
Detour Benefit	$0	$0
Total Rural Mitigation Benefits	$3,431	$130
Subtotal	$3,444	$131
Grand Total	$3,444	$131

Project Costs	Present Value ($1K)	Average Annual ($1K)
Capital Costs	$1,590	$60
Annual O&M	$655	$25
Total	$2,245	$85

Project Performance Metrics	Present Value ($1K)	Average Annual ($1K)
Benefit-to-Cost Ratio	1.534	
Net Benefits	$1,199	$46
Internal Rate of Return	6%	
Payback Year	20	



Tri-County Drain No. 6
Reconstruction - Phase II
Ransom County, ND
Project Location Map

Study Area

0 0.5 1 2 Kilometers

0 0.3 0.6 1.2 1.8 Miles

N W E S

KLJ

KLJ Project Number: 5616139

Date Created: 12/8/2016 | Created By: DNP

COST-SHARE REQUEST
NORTH DAKOTA WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (8/2019)

APPENDIX D

This form is to be filled out by the project or program sponsor with Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Valley City Permanent Flood Protection - Phase IV & V

Sponsor(s)
City of Valley City

County	City	Township/Range/Section
Barnes	Valley City	T140N / R58W

Description Of Request ☒ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study And Level Of Study Review Completed
Flood Protection Construction Costs for Phase IV (Design Engineering previously approved) and Design Engineering Costs for Phase V

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Bank Stabilization	☐ Irrigation	☐ Recreation	☐ Snagging & Clearing
☐ Dam Safety/EAP	☐ Multi-Purpose	☐ Ring Dike Program	☐ Water Retention
☐ FEMA Levee Program	☐ Municipal Water Supply	☐ Rural Flood Control	
☒ Flood Protection Program	☐ Property Acquisition Program	☐ Rural Water Supply	

Description Of Problem Or Need And How Project Addresses That Problem Or Need
Valley City sits along the Sheyenne River. During the spring, the river swells from snow melt. During the spring of 2009, Valley City encountered a record flood only to repeat it with a near record flood in the spring of 2011. A considerable amount of resources are expended to combat the rising waters. The proposed project would mitigate these expenses while protecting vital infrastructure. (see attached letter for recent information)

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2019-2021 7/1/19-6/30/21	2021-2023 7/1/21-6/30/23	Beyond 7/1/23
Federal	$	$	$	$
Water Commission	$ 113,000,000.00	$ 11,576,000.00	$ 12,250,000.00	$ 54,500,000.00
Other State	$	$	$	$
Local	$ 30,000,000.00	$ 2,837,000.00	$ 3,015,000.00	$ 13,200,000.00
Total	$ 143,000,000.00	$ 14,413,000.00	$ 15,265,000.00	$ 67,700,000.00

Provide Names And Amounts From All Potential Funding Sources, Including All Other State Of North Dakota Sources				
Source	Amount	Grant Or Loan	Term	Interest
	$			%
	$			%
	$			%
	$			%

What Are The Potential Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local opposition, environmental concerns, etc.)?

CLOMR was submitted to FEMA in April 2019. Updates to initial review are currently in progress.

Explain Timelines For All Phases And Their Current Status (Study, Design, Bid, Construction, Completion, Etc.)

Phase I: Complete; Phase II: Complete; Phase IIA: Under Construction (20% Complete, to be completed June 2020); Phase III: Awaiting permitting, Contractor in place; Phase IV: 2020 Construction; Phase V: 2021 Construction; All Phases: Complete by 2030

Are Connections For New Rural Customers Located Within The Extra-Territorial Jurisdiction Of A Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved In This Project

City of Valley City

Has Economic Analysis Been Completed?	☐ Yes	☐ No	☐ Ongoing	☒ Not Applicable	
Has Life Cycle Cost Analysis Been Completed?	☐ Yes	☐ No	☐ Ongoing	☒ Not Applicable	
Has Feasibility Study Been Completed?	☒ Yes	☐ No	☐ Ongoing	☐ Not Applicable	
Has Engineering Design Been Completed?	☐ Yes	☐ No	☒ Ongoing	☐ Not Applicable	
Have Land Or Easements Been Acquired?	☒ Yes	☐ No	☐ Ongoing	☐ Not Applicable	
Have Assessment Districts Been Formed?	☐ Yes	☐ No	☐ Ongoing	☒ Not Applicable	If Yes, (Date)?
Has Sediment Analysis For Reconstruction Of An Existing Drain Been Completed?	☐ Yes	☐ No			

Have You Applied For Any State Permits?	☒ Yes	☐ No	☐ Not Applicable	Type/Number Sovereign Lands Permit
Have You Been Approved For Any State Permits?	☐ Yes	☒ No	☐ Not Applicable	Type/Number
If Yes, Please Explain Sovereign Lands permit has been submitted. A CLOMR is being processed.				
Have You Applied For Any Local Permits?	☐ Yes	☒ No	☐ Not Applicable	Type/Number
Have You Been Approved For Any Local Permits?	☐ Yes	☒ No	☐ Not Applicable	Type/Number
If Yes, Please Explain				

Submitted By David Schelkoph			Date August 26,2019
Address PO Box 390	City Valley City	State ND	ZIP Code 58072
Sponsor's Telephone Number (701) 845-8120	Sponsor's Email Address dschelkoph@valleycity.us		
Engineer's Name Chad Petersen	Engineer's Telephone Number (701) 845-9446		
Engineer's Company KLJ	Engineer's Email Address chad.petersen@kljeng.com		
I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.			
Signature			Date 08/26/19

E-MAIL TO:
swccostshare@nd.gov

MAIL TO:
ND Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

City Hall
254 2nd Ave NE
PO Box 390
Valley City, ND 58072-0390

Phone: 701-845-1700
Fax: 701-845-4588
www.valleycity.us

August 26, 2019

North Dakota State Water Commission
ATTN: Cost-Share Program
900 E Boulevard Ave
Bismarck, ND 58505-0850

Re: City of Valley City
Permanent Flood Protection
Cost-Share Request

Dear State Water Commission:

The City of Valley City is requesting funding to move forward with bidding the next phase of Permanent Flood Protection (PFP). As discussed in previous meetings and requests, the city of Valley City has experienced numerous flood events in recent years and the proposed flood projects will mitigate these impacts and provide a long-term solution to flooding. The proposed request includes the construction aspects of the project.

The proposed Phase IV project covers a portion of the areas required to continue to protect Downtown Valley City (see Exhibit 1). The project will be connecting two segments installed with Phase II flood protection. The project will include earthen levees, floodwalls, utility relocation, storm sewer, watermain, storm sewer lift station, lighting and street restoration. The estimated construction cost for Phase IV of PFP is approximately $12.3 million. The current funding request includes monies for construction and construction engineering. A previous request in December 2017 included surveying, design engineering, permitting, and geotechnical exploration of the project areas. Attached is a preliminary opinion of cost for the project and the preliminary construction plans. The City is requesting 80% cost-share or $10,834,504 (State) in grant for construction and construction engineering of the project. This is consistent with cost-share requests for construction costs previously established.

Below is a summary of the cost-share request for construction of Phase IV:

Phase IV Flood Protection	*Total*	*State*	*Local*
Construction (80%)	*$11,726,130*	*$ 9,380,904*	*$ 2,345,226*
Construction Contingency (80%)	*$ 586,000*	*$ 468,800*	*$ 117,200*
Construction Engineering (80%)	*$ 1,231,000*	*$ 984,800*	*$ 246,200*
Total	*$13,543,130*	*$10,834,504*	*$ 2,708,626*

In addition to the cost-share request for construction of Phase IV PFP, the City is requesting funding to move forward with the preliminary and design engineering of the next phase of Permanent Flood Protection. The proposed Phase V project will be connecting Phase II and Phase III. The project will include earthen levees, floodwalls, utility relocation, and storm sewer. The estimated cost for Phase V is $13.0 million. The current funding request includes surveying, design engineering, permitting, and geotechnical exploration of the project area. Attached is a preliminary opinion of cost for the project and the associated engineering costs. The City is requesting $913,000 for design engineering of the project. The City is requesting 85% cost-share for design engineering as previously established.

Below is a summary of the cost-share request for design engineering of Phase V:

Phase V Flood Protection	*Total*	*State*	*Local*
Design Engineering (85%)	*$ 913,000*	*$ 776,050*	*$ 136,950*

The City of Valley City is also requesting a waiver from the selection process and to continue utilizing our engineer, KLJ for the continuation of this project.

If you have any questions or concerns, please contact me at 701-845-1700.

Sincerely,

City of Valley City

David Schelkoph
City Administrator

Attachments: Cost Estimate, Cost-Share Form, Preliminary Construction Plans

PRELIMINARY COST ESTIMATE
PERMANENT FLOOD PROTECTION
PHASE IV - 4TH STREET S
VALLEY CITY, NORTH DAKOTA

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	CONTRACT BOND	1	L SUM	$ 75,000.00	$ 75,000.00
2	REMOVAL OF TREES	1	L SUM	$ 50,000.00	$ 50,000.00
3	REMOVAL OF BITUMINOUS SURFACING	5,000	SY	$ 8.00	$ 40,000.00
4	REMOVAL OF CURB & GUTTER	4,500	LF	$ 6.00	$ 27,000.00
5	REMOVAL OF CONCRETE	1,350	SY	$ 10.00	$ 13,500.00
6	TOPSOIL	5,500	CY	$ 16.00	$ 88,000.00
7	COMMON EXCAVATION	6,000	CY	$ 14.00	$ 84,000.00
8	BORROW	20,000	CY	$ 17.50	$ 350,000.00
9	SEEDING/MULCHING	7	ACRE	$ 10,000.00	$ 70,000.00
10	RIPRAP	1200	CY	$ 90.00	$ 108,000.00
11	MOBILIZATION	1	L SUM	$ 400,000.00	$ 400,000.00
12	TRAFFIC CONTROL	1	L SUM	$ 25,000.00	$ 25,000.00
13	STORM DRAIN MODIFICATIONS	3,700	LF	$ 200.00	$ 740,000.00
14	SANITARY SEWER MODIFICATIONS	180	LF	$ 75.00	$ 13,500.00
15	WATERMAIN MODIFICATIONS	1,400	LF	$ 140.00	$ 196,000.00
16	STORM WATER PUMP STATIONS	2	EA	$ 750,000.00	$ 1,500,000.00
17	HOT MIX ASPHALT PAVEMENT	3,000	TON	$ 115.00	$ 345,000.00
18	AGGREGATE BASE COURSE	6,000	TON	$ 25.00	$ 150,000.00
19	CURB & GUTTER	5,000	LF	$ 32.00	$ 160,000.00
20	SIDEWALK CONCRETE	1,000	SY	$ 72.00	$ 72,000.00
21	DRIVEWAY CONCRETE	350	SY	$ 95.00	$ 33,250.00
22	CONCRETE FLOOD WALL APRON	725	SY	$ 140.00	$ 101,500.00
23	CONCRETE FLOOD WALL	19,828	SF	$ 75.00	$ 1,487,100.00
24	FLOOD WALL FOOTING	1,710	LF	$ 1,000.00	$ 1,710,000.00
25	REMOVABLE STOP LOGS	5,800	SF	$ 125.00	$ 725,000.00
26	SMOOTH FORM FINISH AND FORM LINER	17,888	SFF	$ 5.00	$ 89,440.00
27	BRICK VENEER	17,888	SFF	$ 30.00	$ 536,640.00
28	SHEET PILING	22,756	SF	$ 50.00	$ 1,137,800.00
29	13' FLOODWALL	8,320	SF	$ 120.00	$ 998,400.00
30	LIGHTING	1	L SUM	$ 400,000.00	$ 400,000.00

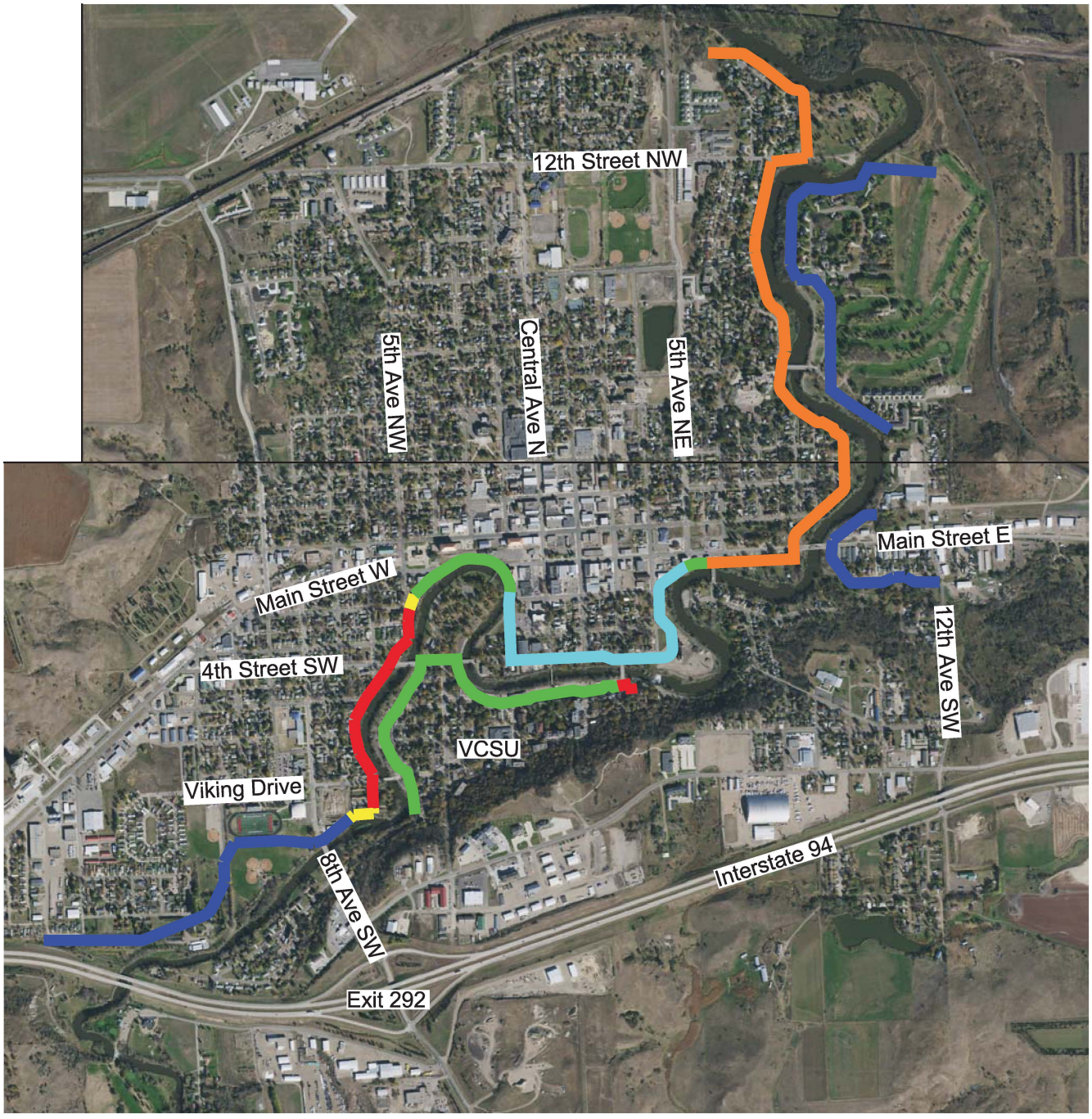
		COST SHARE %	COST SHARE REQUEST
SUBTOTAL =	$ 11,726,130.00	80%	$ 9,380,904.00
CONTINGENCY =	$ 586,000.00	80%	$ 468,800.00
CONSTRUCTION ENGINEERING =	$ 1,231,000.00	80%	$ 984,800.00
TOTAL COST =	$ 13,543,130.00		$ 10,834,504.00

PRELIMINARY COST ESTIMATE
PERMANENT FLOOD PROTECTION
PHASE V - 6TH AVENUE SW
VALLEY CITY, NORTH DAKOTA

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	CONTRACT BOND	1	L SUM	$ 75,000.00	$ 75,000.00
2	REMOVAL OF TREES	1	L SUM	$ 125,000.00	$ 125,000.00
3	REMOVAL OF BITUMINOUS SURFACING	8,250	SY	$ 8.00	$ 66,000.00
4	REMOVAL OF CURB & GUTTER	4,000	LF	$ 6.00	$ 24,000.00
5	REMOVAL OF CONCRETE	350	SY	$ 10.00	$ 3,500.00
6	TOPSOIL	3,000	CY	$ 25.00	$ 75,000.00
7	COMMON EXCAVATION	8,000	CY	$ 14.00	$ 112,000.00
8	BORROW	7,000	CY	$ 17.50	$ 122,500.00
9	SEEDING/MULCHING	4	ACRE	$ 10,000.00	$ 40,000.00
10	RIPRAP	1200	CY	$ 100.00	$ 120,000.00
11	MOBILIZATION	1	L SUM	$ 400,000.00	$ 400,000.00
12	TRAFFIC CONTROL	1	L SUM	$ 25,000.00	$ 25,000.00
13	STORM DRAIN MODIFICATIONS	2,050	LF	$ 200.00	$ 410,000.00
14	SANITARY SEWER MODIFICATIONS	150	LF	$ 100.00	$ 15,000.00
15	WATERMAIN MODIFICATIONS	200	LF	$ 200.00	$ 40,000.00
16	STORM WATER PUMP STATIONS	1	EA	$ 1,000,000.00	$ 1,000,000.00
17	HOT MIX ASPHALT PAVEMENT	2,050	TON	$ 115.00	$ 235,750.00
18	AGGREGATE BASE COURSE	4,400	TON	$ 25.00	$ 110,000.00
19	CURB & GUTTER	4,000	LF	$ 32.00	$ 128,000.00
20	SIDEWALK CONCRETE	400	SY	$ 72.00	$ 28,800.00
21	DRIVEWAY CONCRETE	90	SY	$ 95.00	$ 8,550.00
22	FLOOD WALL ROAD CLOSURE	1,140	SF	$ 150.00	$ 171,000.00
23	FLOOD WALL ROAD CLOSURE FOOTING	180	LF	$ 2,000.00	$ 360,000.00
24	SHEET PILING	95,000	SF	$ 60.00	$ 5,700,000.00
25	SHEET PILING FINISH	43,000	SFF	$ 60.00	$ 2,580,000.00
26	LIGHTING	1	L SUM	$ 450,000.00	$ 450,000.00

		COST SHARE %	COST SHARE REQUEST
SUBTOTAL =	$ 12,425,100.00	80%	$ 9,940,080.00
CONTINGENCY =	$ 621,000.00	80%	$ 496,800.00
DESIGN ENGINEERING =	$ 913,000.00	85%	$ 776,050.00
CONSTRUCTION ENGINEERING =	$ 1,305,000.00	80%	$ 1,044,000.00
TOTAL COST =	$ 15,264,100.00		$ 12,256,930.00

Valley City Flood Protection Planning
2019

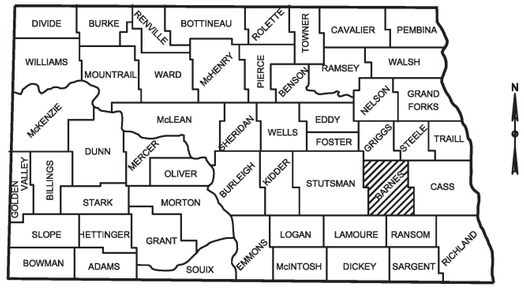


- Previously Completed Projects
- Projects Under Construction
- PFP Phase IV 2020 to 2021
- PFP Phase V 2022 to 2023
- PFP Phase VI 2024 to 2027
- Future PFP projects

N

KLJ

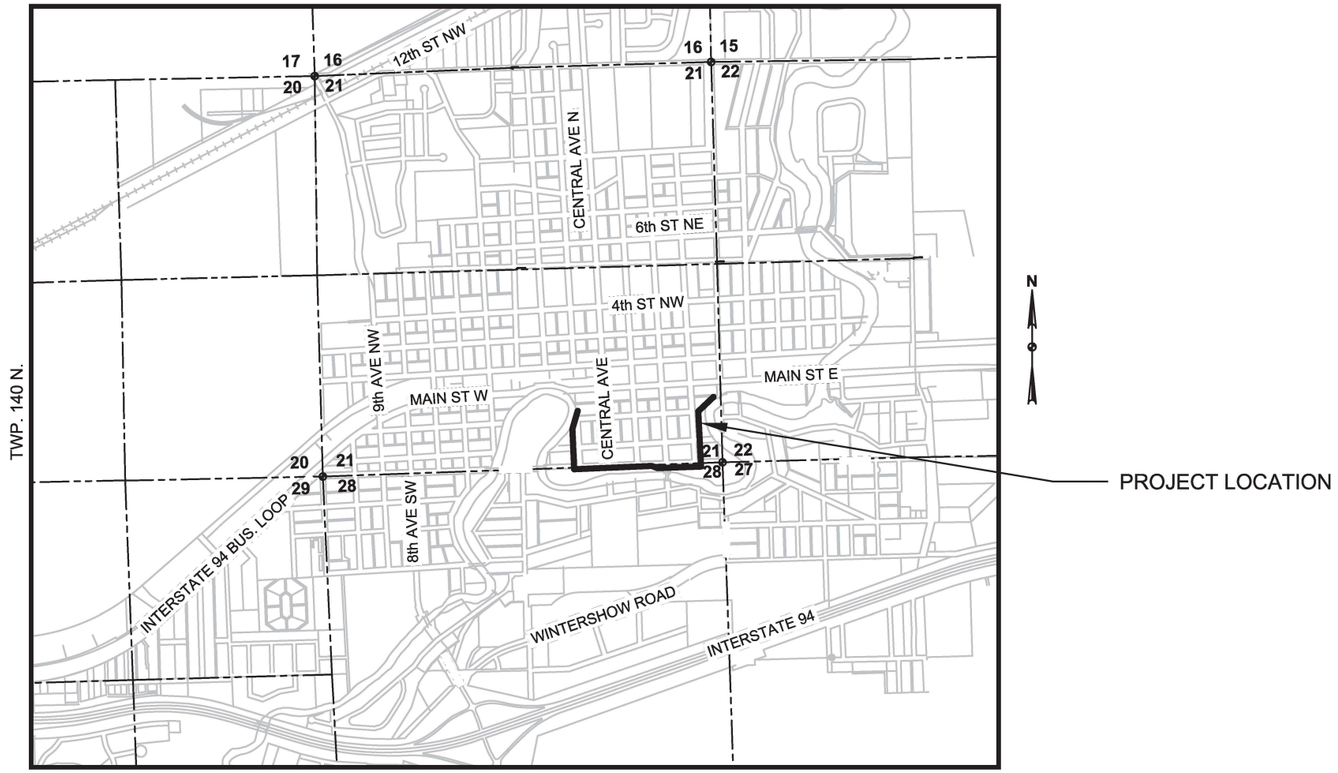
	STATE	PROJECT NUMBER	PCN	SECTION NUMBER	SHEET NUMBER
	ND	PERMANENT FLOOD PROTECTION PHASE 4 - 4TH STREET	-	1	1



STATE OF NORTH DAKOTA
SHOWING COUNTIES

CITY OF VALLEY CITY, NORTH DAKOTA
PERMANENT FLOOD PROTECTION
PHASE 4 - 4TH STREET

Concrete Floodwall, Lift Station, Grading, Aggregate Base, Hot Bituminous Pavement, Curb & Gutter, Watermain, Storm Sewer, and Incidentals.



RGE. 58 W.

This drawing is preliminary and not for recording or implementation purposes.

Preliminary

CERTIFICATION

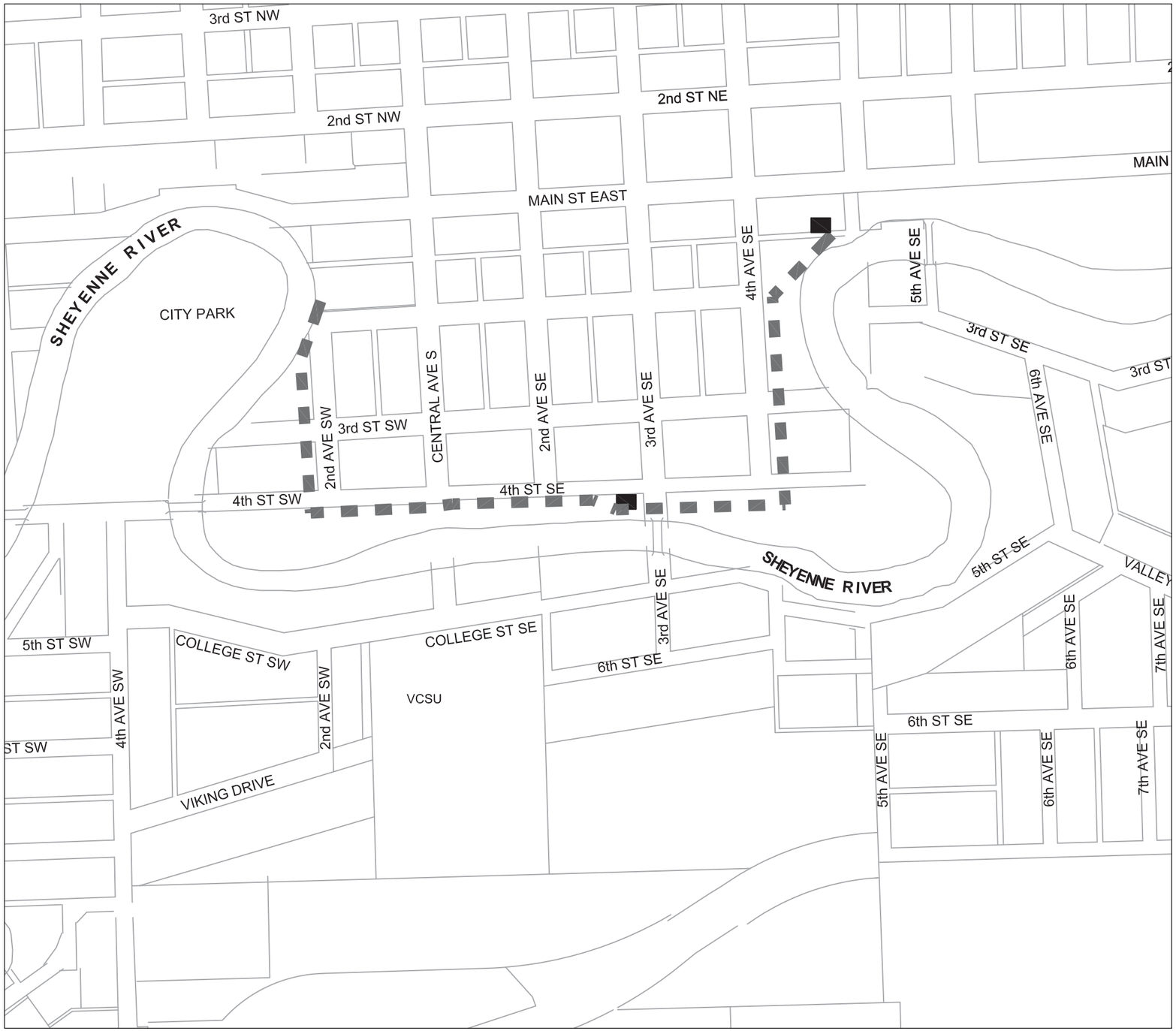
I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF NORTH DAKOTA.

KADRMAS, LEE & JACKSON, INC.

DATE _____ REGISTRATION NUMBER _____

1010 4TH AVENUE SW
P.O. BOX 937
VALLEY CITY, ND 58072-0937
(701) 845-4980, FAX (701) 845-0252

	STATE	PROJECT NO.	SECTION NO.	SHEET NO.
	ND	PERMANENT FLOOD PROTECTION PHASE 4 - 4TH STREET	4	1



PROJECT COMPONENTS

- LIFT STATION
- FLOOD WALL

This drawing is preliminary and not for recording or implementation purposes.

Preliminary

PERMANENT FLOOD PROTECTION
PHASE 4 - 4TH STREET
VALLEY CITY, NORTH DAKOTA

KLJ

SCOPE OF WORK
LIFT STATION & FLOODWALLS

DRWN. BY	CHK'D BY	PROJECT NO.
ZBN	MS	1804-00101

Aug 23, 2019 - 7:54am - P:\City\ND\ValleyCity\1804_00101_VC_PFP_Phase_IV\CAD\ConstDwgs\1804-00101_004SW.dwg

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (5/2019)

APPENDIX E

SWC Date Received : 8/22/19

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Cavalier Water Tower Replacement Project

Sponsor(s)
City of Cavalier

County	City	Township/Range/Section
Pembina	Cavalier	

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Municipal Jurisdiction of the City of Cavalier

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The City of Cavalier's water tower is over 100 years old and well beyond its useful life. Recent inspections revealed severe deterioration. The City reviewed potential remedies and found that the best solution to address structural issues while ensuring adequate capacity for any future system expansion was to replace the entire water tower.

When replacing the water tower, the City is using this opportunity to increase the new water tower's storage from the existing 50,000 to 250,000 gallons. This will provide additional operational flexibility, emergency fire storage, and allow for greater pumping efficiency between the water tower and the City's existing clearwell where they receive water from Northeast Rural Water District.

The City is dedicated to moving forward with this project and has completed the design with plans to bid the project and begin construction this fall.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone (attach additional documents as needed)
Several presentations to City Council have been given, providing updates on the status of the project, information regarding funding opportunities, and information regarding potential alternatives and user impacts. Five public meetings were held on July 10th, 2017, November 5, 2018, and February 4, April 24, and May 6 of 2019.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? No

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 1,663,000.00	$	$ 1,663,000.00	$
Other State	$	$	$	$
Local	$ 1,432,000.00	$	$ 1,432,000.00	$
Total	$ 3,095,000.00	$ 0.00	$ 3,095,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
ND Drinking Water SRF Loan

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
The proposed project will begin construction in the fall of 2019 and be completed in the fall of 2020.

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

Submitted By: Lacey Hinkle			Date: 8/9/19
Address: 301 Division Ave N	City: Cavalier	State: ND	ZIP Code: 58220
Telephone Number: 701-265-8800		Engineer Telephone Number: 701-746-8087	
Sponsor Email Address: laceykh@gmail.com		Engineer Email Address: Donovan.Voeller@AE2S.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: Lacey Hinkle Date: 8/5/19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

AE2S NEXUS
The Financial Link

August 23, 2019

North Dakota State Water Commission
Water Development Division
900 East Boulevard Avenue
Bismarck, ND 58505

Re: The City of Cavalier
SWC Cost Share Request for the City's Water Tower Replacement Project

On behalf of the City of Cavalier, I am pleased to provide the Cost-Share Request package for the City's Water Tower Replacement Project.

The City is excited to see this project moving forward as they have looked to enhance their water system for many years. The replacement of the water tower is the first phase of a project to upgrade both the aging water tower that is well beyond its useful life (at over 100 years old) and the ground storage reservoir where they receive water from Northeast Rural Water District.

While the primary purpose of this project is to ensure the community has adequate emergency storage, it also has afforded the community an opportunity to enhance the operations of the system by constructing a tower that increases the storage capacity of the system and upgrading the infrastructure between the new tower and the clearwell, allowing for greater pumping efficiency.

This project is a priority for the City and they have already undertaken design to ensure it is ready to be bid this year and completed in 2020. This provides the State Water Commission an opportunity to partner with a community to help fund the construction of this critical piece of infrastructure that will be completed this biennium. The City is excited for this partnership and looks forward to successfully implementing this project together.

AE2S greatly appreciates the opportunity to serve the City of Cavalier and work in conjunction with the State to help ensure adequate infrastructure for the community. If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

AE2S

Abby Ritz
Financial Analyst

cc: Kelli Truver, City of Cavalier
Donovan Voeller, AE2S

Alternate 3: New 250,000 gallon Water Tower and Transmission Main
Opinion of Total Probable Project Cost

Project Component	Usefull Life (yr)	Quantity	Unit	Unit Cost	Total Cost	
Single Pedestal Water Tower (structure)	>30	250,000	GAL	$3.00	$750,000	
Paint Coating System	20	1	LS	$175,000	$175,000	
Deep Foundation (pilies, cap, excavation, etc.)	>30	1	LS	$225,000	$225,000	
Site Work (piping, valves, hydrant, grading, tie-in, restoration)	>30	1	LS	$100,000	$100,000	
Control Building, SCADA, Electrical, & Telemetry	20	1	LS	$100,000	$100,000	
10-inch Water Main (including, valves, paving-trench only, and restoration)	>30	2,350	FT	$250	$587,500	
Water Tower Demolition	NA	1	LS	$75,000	$75,000	
Subtotal					$2,012,500	
Mobilization/Demobilization/Insurance/Permits/Bonds	NA	1	LS	6%	$120,750	
Traffic Control	NA	1	LS	$5,000	$5,000	
Erosion Control	NA	1	LS	$5,000	$5,000	
Testing and Construction Surveying	NA	1	LS	$20,000	$20,000	
Subtotal					$150,750.00	
					$2,163,250	**Estimated Construction Costs**
Engineering Design & Bidding	NA	1	LS	8%	$173,060	Ineligible - already completed
Construction Administration and Management (Part Time RPR)	NA	1	LS	7%	$151,427.50	
Water Tower Paint Coating Inspection (Full Time RPR)	NA	1	LS	$95,000	$95,000	
Legal and Administrative	NA	1	LS	5%	$108,162.50	Ineligible
Subtotal					$527,650	
					$527,650	**Estimated Soft Costs**
Total Project Contingency	NA	1	LS	15%	$403,635	Adjust for 10% Eligible Contingency -$163,312
Subtotal					$403,635	
					$403,635	**Project Contingency**
					$3,094,535	**Opinion of Probable Total Project Cost**

Ineligible Eng, Legal and Admin, Contingency -$444,535

Eligible Total Cost $2,650,000

Life Cycle Cost Analysis Review

Project Title: Cavalier Water Tower & Watermain Replacement Project **Date:** September 5, 2019

Explanation of Alternatives:

Alternative 1 would rehabilitate the existing tower. Alternative 2 would be a replacement of the current tower at the current capacity. Alternative 3 (Cavaliers preferred alternative) would replace the existing tower with 5X the current capacity. The City receives water from Northeast Rural Water District. No other storage modes were provided as alternatives.

Inputs:

	Alternative 1: Rehabilitation of Existing Water Tower	Alternative 2: Construct a New Water Tower (50,000 gallons)	Alternative 3: Construct a New Water Tower (250,000 gallons)	Alternative 4
Users Served	691			
Construction Cost	$1,972,000	$2,137,000	$3,094,600	$0
Annual O & M	$26,000	$9,000	$15,000	$0

Details:

No unusual items or useful life entries were identified other than the scale of expansion endorsed by the project sponsors.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

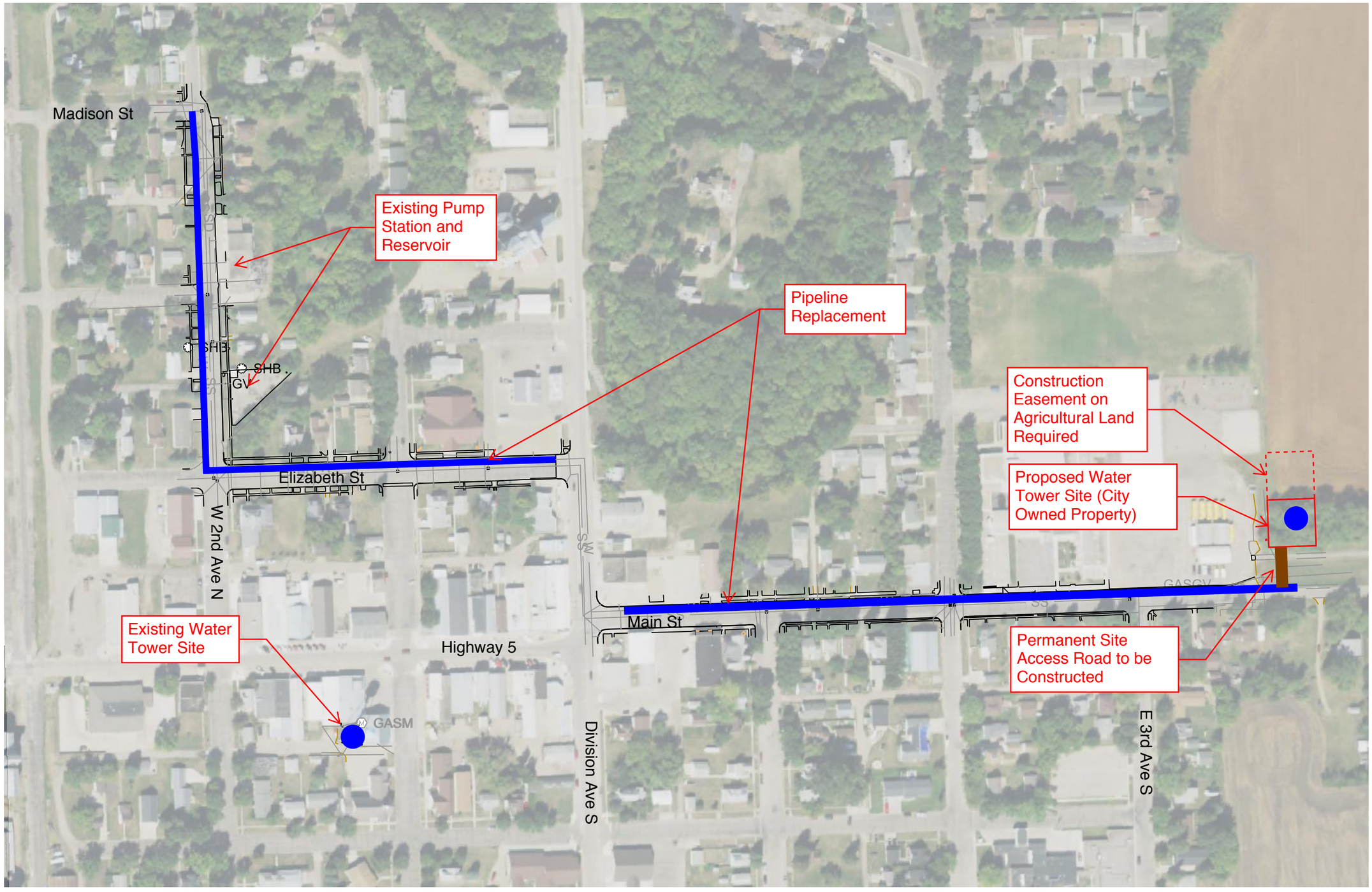
Present Value	Alternative 1: Rehabilitation of Existing Water Tower	Alternative 2: Construct a New Water Tower (50,000 gallons)	**Alternative 3: Construct a New Water Tower (250,000 gallons)**	Alternative 4
Capital Costs	$1,972,000	$2,108,000	$3,051,000	$0
O&M	$679,000	$227,000	$378,000	$0
Repair, Rehab,	$361,000	$351,000	$568,000	$0
Salvage Value	$99,000	$80,000	$153,000	$0
Total PVC	**$2,913,000**	**$2,606,000**	**$3,844,000**	**$0**
PV Cost Per Capita	$4,216	$3,771	$5,563	$0

Explanation of Results:

The present value (PV) cost of the sponsor's preferred altenative (New 250,00 Gallon) over its entire useful life, in todays dollars (2019), is $3,884,000. This alternative costs the community $931,000 and $1,238,000 more than Alternatives 1 and 2 respectively over the 50 year analysis life. This PV includes the construction, maintenance, and operations of the project over the projected 50 year life of the storage tank. It does include salvage values. The PV cost per capita is $5,563 for the preferred alternative.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2018		
Population & Trends	1,302	1,264	-0.4%	-5

Other Comments:



CAVALIER WATER TOWER REPLACEMENT
CITY OF CAVALIER
CAVALIER, ND

DRAWING TYPE	CHECKED / APPROVED	SHEET
EXHIBIT	DV DV	1 1
PREPARED BY	DATE	Figure
JB	6/20/19	1.2
PROJECT NUMBER		
P00122-2012-003		

APPENDIX F

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
300,000 Gallon Ground Storage Tank

Sponsor(s)
City of Mapleton

County	City	Township/Range/Section
Cass	Mapleton	T139N R50W S6

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
The project addresses lack of storage in the city's water system.

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved
City of Mapleton (Owner), Cass Rural Water Users District (supply source)

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The City of Mapleton has been growing at a substantial rate since about 2006. The existing storage is sized for approximately the current population. As the growth continues, the storage will be inadequate for the city.

Furthermore, the City of Mapleton has a tank that has reached the end of its useful life. It needs to be rehabilitated in the near term or corrosion will lead to higher cost repairs. Several options were analyzed and it was determined replacing this tank with a prestressed concrete ground storage tank was in the best interests of the city. The existing pump station will pump out of this storage tank into the system. New pumps will be installed to add pumping capacity to the system.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

A water system study and a facility plan have been been completed documenting the need for the additional storage and analyzing alternatives for replacing the tank. The environmental report has been completed including responses from environmental agencies. The design of the ground storage reservoir is complete

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? Funding will be needed to complete the project. No other obstacles are apparent at this time.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 1,455,000.00	$
Other State	$	$	$	$
Local	$	$	$ 970,000.00	$
Total	$ 0.00	$ 0.00	$ 2,425,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

Drinking Water State Revolving Fund Loan through NDDEQ will be applied for local share during design phase.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

The Study phase was completed in 2018. Design phase has been completed, with Construction phase starting in 2020 and finishing in late 2020.

Have Assessment Districts Been Formed? ☑ Yes ☐ No ☐ Ongoing ☐ Not Applicable

Submitted By: Barry Lund			Date: 8/20/2019
Address: PO Box 9	City: Mapleton	State: ND	ZIP Code: 58059
Telephone Number: 701-282-6992		Engineer Telephone Number: 701-282-4692	
Sponsor Email Address: city.mapletonnd@midconetwork.com		Engineer Email Address: brandon.oye@mooreengineeringinc.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature	Date: 8/26/2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

City of Mapleton

P O Box 9 - 651 2nd Street, Mapleton, ND 58059
701-282-6992 phone 701-282-0080 fax
city.mapletonnd@midconetwork.com
www.mapletonnd.com

August 26, 2019

Jeffrey Mattern, P.E
Attn: Cost-Share Program
North Dakota State Water Commission
900 East Boulevard Avenue

Subject: Updated Cost-Share Request
300,000 gallon Ground Storage Reservoir
Mapleton, North Dakota

Dear Mr. Mattern,

The City of Mapleton was approved for $840,000 (60%) in cost-share towards an estimated $1.4 million Ground Storage Reservoir project at the State Water Commission meeting on June 19, 2019. Our goal was to have the reservoir online for use prior to our high water demand starting around June of next year. Therefore, we had to bid the project as early as possible after we received approval for the SWC funding. Knowing this may be a difficult schedule for contractors to meet, we also requested an Alternate bid to finish the project in August 2020. We opened four prime contract bids for the project on August 6. The lowest bid received was $1,683,715 for the later August 2020 completion date, which was significantly higher than the Construction Estimate of $950,000.00. There were no additions to the scope of the project from the original estimate.

The Estimate for this project utilized prices received during a similar Ground Storage Reservoir project in Harvey that was bid in 2016. This project was a 500,000 gallon reservoir that also included a new pump house. The Construction Cost in Harvey was $1,248,840, compared to smaller reservoir (300,000 gallons) and no pump house structure in our project. Since our Engineer did not have several historical prices to utilize for the Estimate, they also worked closely with a tank manufacturer that would be a potential bidder on the project, to assist in the Estimate. The tank manufacturer provided a $675,000 quote to our Engineer on February 28, 2019 for the tank and foundation, which excluded the site work. Ultimately, the price for the tank and foundation was bid at around $850,000, well above the original prices provided from the tank manufacturer. Part of the increase was due to geotechnical concerns with the foundation system. It was also determined that the site work, included in the overall reservoir lump sum bid price, was around $400,000 to $500,000 based on conversations with the bidders. This is also significantly above the average prices for this type of work, and appears to be a potential trend of underground work getting more expensive based on the availability of underground contractors. Overall, the bid prices appear to be outside of the typical market range for this type of work. We have since rejected all bids, with the plan to rebid the project in late January. There will be no additions in scope to this project when we rebid it. The project would be allowed to start early spring 2020 and be constructed through the

summer. This will require our water system to operate without our existing 50,000 gallon tower, which will be removed to prepare the site for the new reservoir. We will work with residents to reduce water usage throughout the summer to help with the reduced water storage during that time.

We are hopeful that the bidding environment will become more competitive over the winter for securing work next year, resulting in receiving a much better price. But since there is a chance costs may not come down significantly, and the need to proceed with the project is high, we are respectfully requesting the Commission to consider the additional cost-share to cover a total project cost of $2,425,000 at their upcoming meeting on October 10. The requested 60% cost-share would be $1,455,000, or an additional $615,000 in cost-share, since we have already been approved for $840,000. This would allow us to proceed with bidding the project this winter. We have been working closely with staff from the Drinking Water State Revolving Fund (DWSRF) Program to secure funds the remaining local share. They are aware of the status of the previous bids being rejected and have requested us to secure the loan after the project is rebid. This project is of great importance to our community to ensure we have adequate drinking water as we continue to grow. We greatly appreciate your consideration in this request.

Sincerely,

Barry Lund
Mayor

Project #: 20037
Date Updated: August 2019

WATER STORAGE IMPROVEMENT PROJECT
NEW 300,000 GALLON GROUND STORAGE TANK
Mapleton, ND

	ITEM	*UNIT*	*QUANTITY*	*UNIT PRICE*	*TOTAL*
Ground Storage Reservoir					
1.	Mobilization	LS	1	$100,000.00	$100,000.00
2.	New 300,000 Gal Concrete Ground Storage Tank	LS	1	$600,000.00	$600,000.00
3.	Deep Foundation	LS	1	$250,000.00	$250,000.00
4.	Electrical and Controls including generator	LS	1	$175,000.00	$175,000.00
5.	Remove Existing Tower & Foundation - 50,000	LS	1	$50,000.00	$50,000.00
6.	Pumps	EA	2	$25,000.00	$50,000.00
Water Main Improvements					
7.	Water Main - Connect to Existing	LS	3	$5,000.00	$15,000.00
8.	Valves	EA	3	$2,500.00	$7,500.00
9.	Connect into existing wet well (linkseal)	LS	1	$50,000.00	$50,000.00
10.	Yard Piping	LS	1	$50,000.00	$50,000.00
11.	Valve Vault	LS	1	$50,000.00	$50,000.00
Site Work					
12.	Seeding and restoration	LS	1	$25,000.00	$25,000.00
13.	Site work for ground storage tank	LS	1	$186,265.00	$186,265.00
14.	Concrete walk around reservoir	SY	55	$90.00	$4,950.00
15.	Retaining wall	LS	1	$5,000.00	$5,000.00
16.	Fence Demo and Replacement	LS	1	$15,000.00	$15,000.00
17.	Demo Old Pump House	LS	1	$25,000.00	$25,000.00
18.	Cap Pipe to Existing Elevated Tank	LS	1	$5,000.00	$5,000.00
19.	Remove unused piping	LS	1	$20,000.00	$20,000.00
				Total Construction Cost	$1,683,715.00
				Engineering, Legal, Admin, Contingencies	$741,285.00
					$2,425,000.00

Adjust Contingency (-$40,400) and Remove Miscellaneous Costs (-$84,600)— Eligible Total Cost $2,300,000.00

moore engineering, inc.

Life Cycle Cost Analysis Review

Project Title: Mapleton 300,000 Gallon Storage Reservoir **Date:** September 9, 2019

Explanation of Alternatives:

Alternative 1 is a ground storage tank constructed using concrete. Alternative 2 is rebuilding a tower structure and spheriod tank which would be constructed using steel.

Inputs:

	Concrete Ground Storage Reservoir	Water Tower Replacement	Alternative 3	Alternative 4
Users Served (Taps)	452	452		
Construction Cost	$2,425,000	$2,400,000	$0	$0
Annual O & M	$4,000	$16,000	$0	$0

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	Concrete Ground Storage Reservoir	Water Tower Replacement	Alternative 3	Alternative 4
Capital Costs	$2,425,000	$2,400,000	$0	$0
O&M	$103,000	$416,000	$0	$0
Repair, Rehab,	$119,000	$21,000	$0	$0
Salvage Value	$227,000	$299,000	$0	$0
Total PVC	**$2,420,000**	**$2,538,000**	$0	**$0**
PV Cost Per Tap	$5,354	$5,615	$0	$0

Explanation of Results:

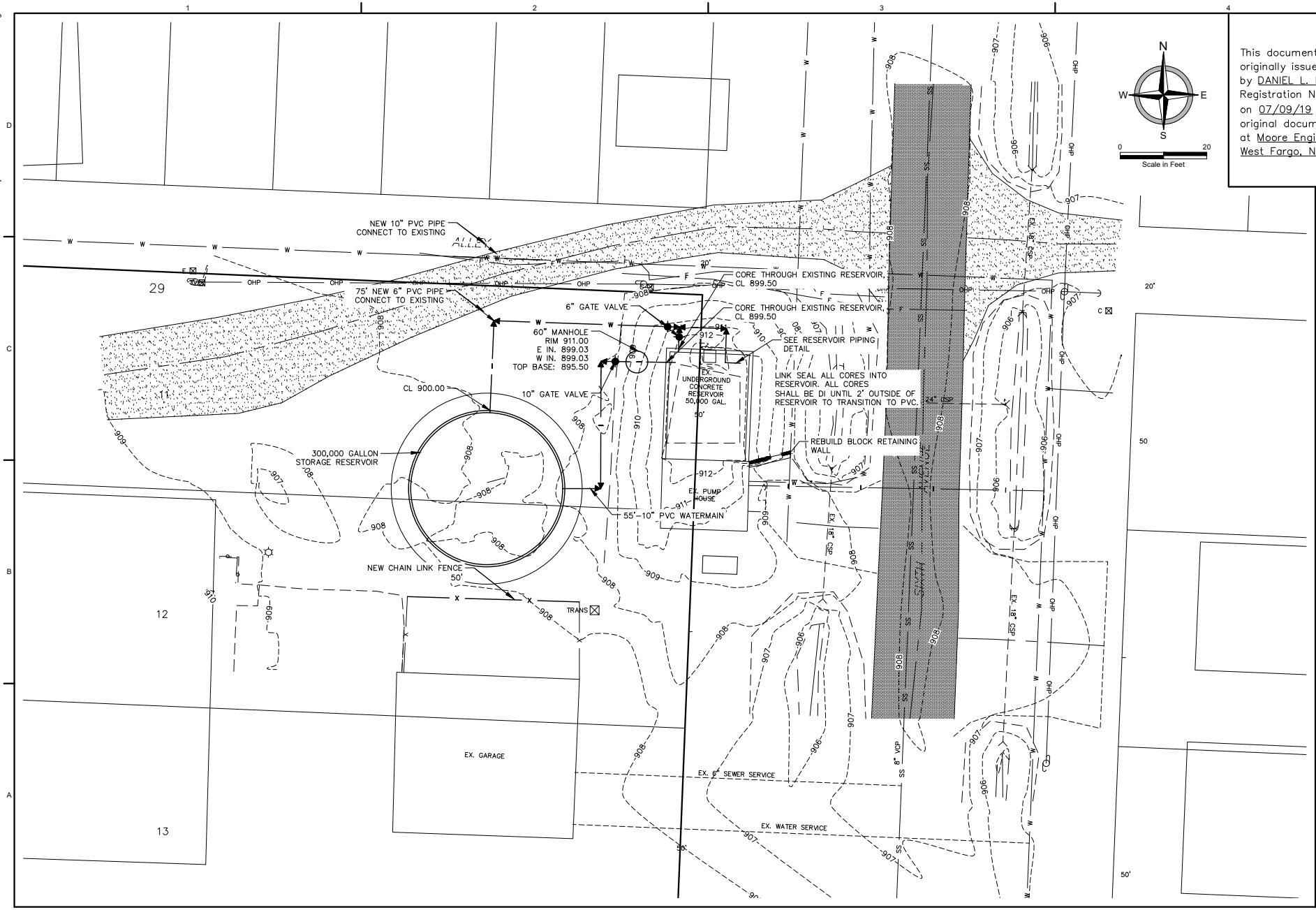
The present value (PV) cost of the sponsor's preferred altenative (concrete ground storage) over its entire useful life, in todays dollars (2019), is $2,420,000. This alternative saves the community $118,000 over the 50 year analysis life. This value includes the construction, maintenance, and operations of the project over the projected 50 year life of the storage tank. It does include salvage values but does not include decommissioning costs. The PV cost per user is $5,354 for the concrete alternative.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2018		
Population & Trends	762	1,112	5.7%	44

Other Comments:

SWC Date Received : 08/26/19

FILE LOCATION: R:\Civil 3D Projects\20037\DRAWINGS\DESIGN\20037-PLAN.dwg



This document was originally issued and sealed by DANIEL L. PORTLOCK, Registration No. PE-9483, on 07/09/19 and the original document is stored at Moore Engineering, Inc., West Fargo, N.D.

moore engineering, inc.

SITE & UTILITY LAYOUT
WATER SYSTEM IMPROVEMENT DISTRICT NO.
GROUND STORAGE RESERVOIR
MAPLETON, NORTH DAKOTA
SITE & UTILITY LAYOUT

DATE:	02.14.19
REVISED:	----
REVISED:	----
REVISED:	----
REVISED:	----
REVISED:	----
RECORD:	----
PROJECT No.	20037
MANAGER:	MTC
DESIGNER:	DLP
DRAFTER:	MPL
REVIEWER:	----

C-103

SHEET 5 OF 14

APPENDIX G

SWC Date Received : 6/20/19

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (5/2019)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
SW Minot Elevated Water Tower

Sponsor(s)
City of Minot

County	City	Township/Range/Section
Ward	Minot	155/83/33

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Water supply capacity and fire flow

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
City of Minot

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Trinity Health is currently constructing a new hospital and clinic that is expected to be open by 2022. Water modeling shows that there is not enough water storage capacity in SW Minot to accommodate the large institutional fire demand that such a facility will require. This project would construct an elevated storage tank in SW Minot to ensure fire flows are available when Trinity is expected to open. This will also ensure adequate supply and pressure for further development in the fast developing SW Minot.

This project was listed in the legislative intent of the State Water Commission budget for municipal water supply for the 2019-2021 Biennium.

This tank will be constructed on existing property owned by the City of Minot.

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone (attach additional documents as needed)

The Minot water system is modeled and kept up to date. Recently when the hospital expansion was discussed additional modeling was performed for this area to determine water supply availability.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? Funding is the major obstacle

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 2,760,000.00	$
Other State	$	$	$	$
Local	$	$	$ 1,840,000.00	$
Total	$ 0.00	$ 0.00	$ 4,600,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

Project would be designed in late 2019 with bidding to follow in early 2020. Construction would commence in spring of 2020 with final completion in 2021

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By Dan Jonasson, Director of Public Works			Date 6/20/19
Address PO Box 5006	City Minot	State ND	ZIP Code 58701
Telephone Number 701-857-4140	Engineer Telephone Number		
Sponsor Email Address dan.jonasson@minotnd.org	Engineer Email Address		

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature Dan Jonasson	Date 6-20-19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

City of Minot

Public Works Department

June 20, 2019

Mr. Garland Erbele, P.E., Chief Engineer
North Dakota State Water Commission
900 East Boulevard Avenue, Dept. 770
Bismarck, ND, 58505-0850

RE: Minot SW Water tower funding

Mr. Erbele:

The City of Minot has been addressing continued growth throughout the city. One example of this growth is the new Trinity Hospital under construction in South West Minot.

This area of Minot continues to see residential and commercial growth and with this growth comes demand for fire protection and water storage to meet fire demands.

The North Dakota State Water Commission has provided funding on prior water related projects and we appreciate the support.

In order to keep up with the fire flow demands in SW Minot, we are in need of additional storage facility

I am attaching the application, along with a general vicinity map showing the proposed tank location and the life cycle cost analysis sheet for the Minot SW water tower.

Sincerely,

Dan Jonasson

Dan Jonasson
Director of Public Works, City of MInot

7/1/19

MINOT SW Minot Elevated Water Storage Tank P4405

Item No.	Description	Unit	Quantity	Unit Cost	Total Cost
1	Mobilization	LS	1	$ 100,000.00	$ 100,000
2	Earthwork and Site Grading	LS	1	$ 60,000.00	$ 60,000
3	Circulator Pump and SCADA Control Room w/ Circulator Pump, Sump Pump, Piping, SCADA Control System, Instrumentation, Electrical and Mechanical Work, and Appertenances	EA	1	$ 50,000.00	$ 50,000
4	6 in C900 DR 18 PVC Tank Drain Line, 8.5' min. bury depth	LF	120	$ 100.00	$ 12,000
5	6 inch Gate Valve w/ Box	EA	2	$ 6,000.00	$ 12,000
6	Tank Overflow Concrete Splash pad	EA	1	$ 4,000.00	$ 4,000
7	Articular Concrete Block	SY	80	$ 80.00	$ 6,400
8	Landscape Crushed Rock, 3" thickness	SY	260	$ 30.00	$ 7,800
9	Class 5 Road Gravel, 6 inch compacted thickness	SY	1000	$ 25.00	$ 25,000
10	Rock Rip Rap (3"-6" size), minimum 6 inch placed thickness	SY	25	$ 120.00	$ 3,000
11	Reinforced Concrete Flatwork, 8" thickness	SY	80	$ 50.00	$ 4,000
12	Reinforced Concrete Flatwork, 6" thickness	SY	200	$ 45.00	$ 9,000
13	Single Phase, 240 Volt, 200 Amp Electrical Power Service and Outdoor Service Disconnect	LS	1	$ 20,000.00	$ 20,000
14	NDDOT Class III Hydro-Mulch Seeding	AC	1	$ 13,000.00	$ 13,000
15	Topsoil for Type C Seedbid, 6" thickness	CY	250	$ 30.00	$ 7,500
16	Silt Fence (Reinforced)	LF	500	$ 15.00	$ 7,500
17	Sediment Logs (Straw Wattles)	LF	75	$ 20.00	$ 1,500
18	1,500,000 Gallon Elevated Water Storage Tank w/ Foundation, Foundation Sump, Pedestal Inlet/Outlet and Overflow Piping,	LS	1	$ 3,550,000.00	$ 3,550,000
19	Painting of "City of Minot" Lettering on the Tank (one side only)	LS	1	$ 8,500.00	$ 8,500
	Total of All ELIGIBLE Bid Items 60% swc funded				**$ 3,901,200**
	Engineering (12%)				
	Design (5%) 35% SWC funded				**$ 195,060**
	Construction (7%) 60% swc funded				**$ 273,084**
	Contingency(10%)				**$ 388,990**
	Total Project Cost				**$ 4,758,334**

Life Cycle Cost Analysis Review

Project Title: City of Minot - SW Water Tower **Date:** July 3, 2019

Explanation of Alternatives:

The new Trinity Hospital construction is expected to be completed by 2022. Water modeling shows that there is not enough water storage capacity in SW Minot to accommodate the required institutional fire demand. This project would construct an elevated storage tank in SW Minot to accomodate fire department volume and pressure requirements when Trinity opens. Since Minot's design of pressure zones are all based on elevated water storage no ground or submerged alternatives were explored. Minot Planning has a site in SW Minot where an elevated tank was planned in conjunction with an extant pump station. The site can accomodate an elevated tank with minor modifications to the pump station and piping system. The "No Build" alternative wasn't considered as it doesn't provide any solutions to the capacity problem.

Inputs:

	Elevated Water Storage T			
Users Served	10000			
Construction Cost	$4,600,000			
Annual O & M	$2,500			

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	SW Elevated Water Storage Tank			
Capital Costs	$4,536,000			
O&M	$65,000			
Repair, Rehab,	$144,000			
Salvage Value	$20,000			
Total PVC	**$4,725,000**			
PVC Per Capita (User)	$472.50			

Explanation of Results:

The present value (PV) cost of the sponsor's sole altenative (tower storage) over its entire useful life, in todays dollars (2019), is $4,725,000. This value includes the construction, maintenance, and operations of the project over the 50 year analysis of the storage tank. It does include salvage values but does not include decommissioning costs. The PV cost per user is $472.50 for the SW Tower.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2018		
Population & Trends	40,888	47,370	2.0%	810

Other Comments:

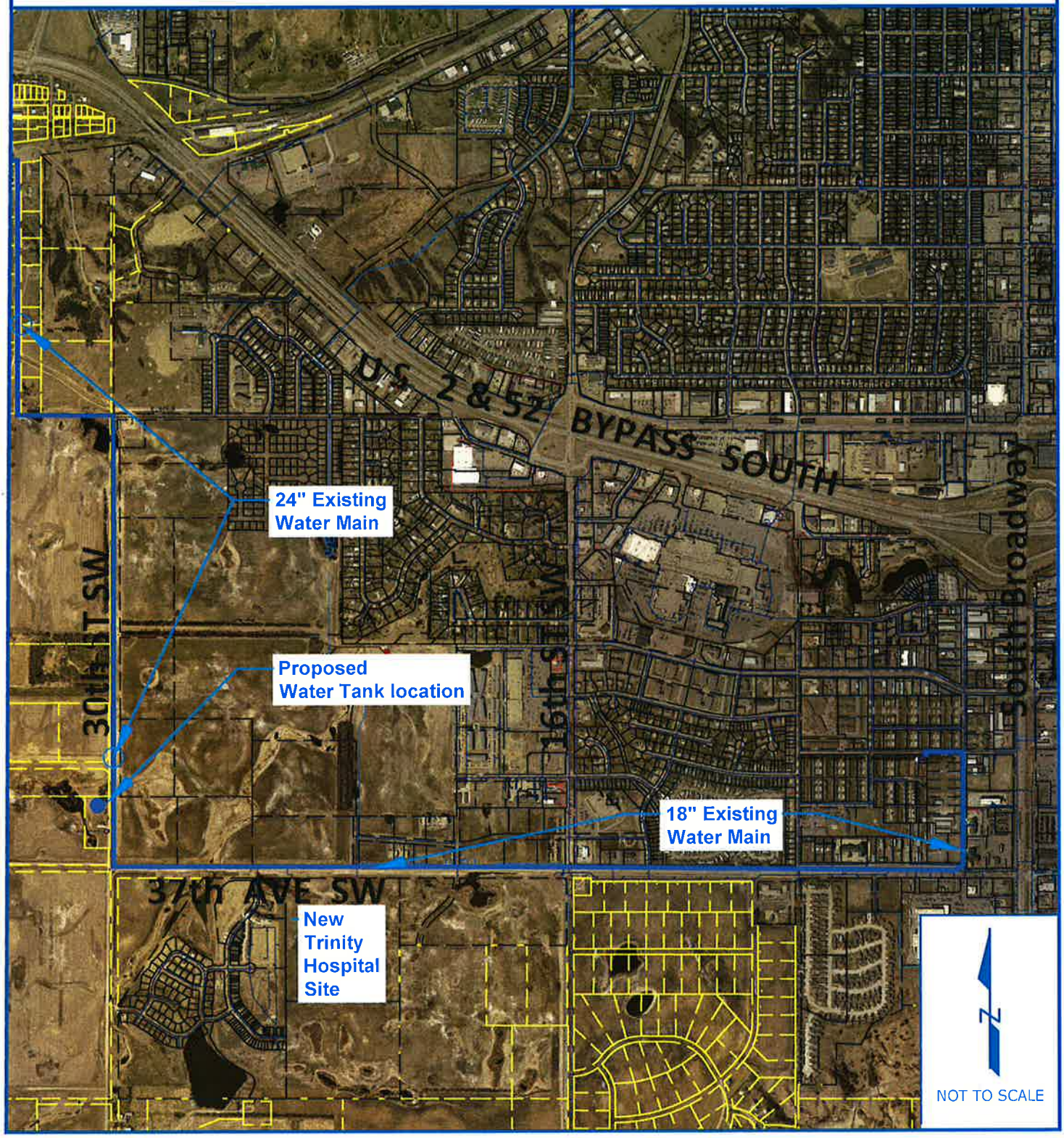
SWC Date Received : 6/20/19

EXHIBIT MAP

CITY OF MINOT, NORTH DAKOTA

Minot South West Water Tower

Project. # 4405



MAP CREATED JUNE 21, 2019

APPENDIX H

RECEIVED
AUG 12 2019
STATE WATER COMMISSION

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Well Installation & Tower Rehabilitation

Sponsor(s)
City of Streeter

County	City	Township/Range/Section
Stutsman	Streeter	137N/69W/26

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Installing a redundant well and rehabilitating the existing tower

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
City of Streeter

Description Of Problem Or Need And How Project Addresses That Problem Or Need

(See attached Project Memorandum)

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain
Plans will be approved by NDDoEQ prior to construction.

Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable

If Yes, Please Explain

Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable

If Yes, Please Explain

Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable

If Yes, Please Explain

Briefly Explain The Level Of Review The Project Or Program Has Undergone
The project has been identified as a critical need for the City of Streeter. It is part of the City's Improvement plan and has been discussed at public meetings and several City Council Meetings.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? The City does not currently expect any implementation obstacles.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 690,000.00	$	$ 690,000.00	$
Other State	$	$	$	$
Local	$ 460,000.00	$	$ 460,000.00	$
Total	$ 1,150,000.00	$ 0.00	$ 1,150,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
City is on the North Dakota Department of Environmental Quality Drinking Water State Revolving Loan Fund (DWSRF) Priority list. City will fund local share with either Community Development or Rural Development funds.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
The City has completed a water supply/water storage study and reviewed the findings. Once funding is approved, the City would move immediately into design, with the hope to bid and begin construction in 2020.

Have Assessment Districts Been Formed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable

Submitted By Jeff Williams			Date
Address PO Box 127	City Streeter	State ND	ZIP Code 58483
Telephone Number 701-424-3372		Engineer Telephone Number 701-499-5834	
Sponsor Email Address jewilli@daktel.com		Engineer Email Address cavin.berube@mooreengineeringinc.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature Jeff Williams	Date 8-7-19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

CITY OF STREETER
PO BOX 127
STREETER, ND 58483

Phone: 701-424-3372
Email: cityofstreeter@yahoo.com

August 7, 2019

Garland Erbele, P.E.
State Engineer
North Dakota State Water Commission
900 East Boulevard Avenue, Dept. 770
Bismarck, North Dakota 58105-0850

Copy via email: Original US Mail

Subject: Request for Municipal Water Supply
Water System Improvements
Well Installation/Water Tower Rehabilitation
Streeter, ND

The City of Streeter currently only has one well that feeds their water storage and distribution system. This is a major concern as they currently do not have a redundant water supply. If their existing well were to break down, they would only have the water stored in their tower as usable water for their water distribution system. The City is requesting funds to install a second well to improve the safety of their water supply system.

Also, the City's water tower was originally constructed in 1952. In September of 2018, the City hired KLM Engineering, Inc. to complete a thorough inspection of the tower. Upon inspection, a number of issues were discovered. The tower has several deficiencies and is not in compliance with OSHA regulations or current AWWA standards. The tower has numerous interior and exterior coating issues throughout the roof and eaves of the tower.

The City is requesting State Water Commission funding for the installation of a second well and rehabilitation of the existing tower. It is our intent to complete the final design, bid the project, and begin construction during the summer of 2020.

Our City engineer has included a detailed opinion of cost totaling $1,150,000 in total project costs for the well installation and water tower rehabilitation. We are respectfully requesting funding on this project for all eligible costs to be a 60% ($690,000) cost share from the State Water Commission. The remaining costs will be covered via community development block grant funds and potentially rural development funds ($460,000).

CITY OF STREETER
PO BOX 127
STREETER, ND 58483

Phone: 701-424-3372
Email: cityofstreeter@yahoo.com

If you have any questions regarding the applications, please contact Cavin Berube (City Engineer) at (701) 499-5834. Your time and efforts with this program are greatly appreciated.

Sincerely,

Jeff Williams
Mayor, City of Streeter
Enclosures

Project #: 20474
Date Created: 9/20/19

Tank Rehabilitation
Improvement District No. 2019-1
Streeter, ND

Preliminary Engineer's Opinion of Cost

BID ITEM NO. & DESCRIPTION	*UNIT*	*QUANTITY*	*UNIT PRICE*	*TOTAL*
Alternative 2 - Tank Rehabilitation				
1. Interior Wet Structural Repairs	LS	1	$76,900.00	$76,900.00
2. Interior Wet Coating Complete Replacement	LS	1	$68,512.00	$68,512.00
3. Exterior Structural Repairs	LS	1	$42,000.00	$42,000.00
4. Exterior Wet Coating Complete Replacement	LS	1	$260,000.00	$260,000.00
5. Mobilization	LS	1	$35,000.00	$35,000.00
6. Contingencies (10%)	LS	1	$48,254.67	$48,254.67
			Total Construction	$530,666.67
			Funding Application/Administration - CDBG/Rural Development	$30,000.00
			Design Engineering	$32,000.00
			Bidding & Negotiating	$7,000.00
			Resident Project Representative	$93,000.00
			Construction Administration	$26,000.00
			Post Construction/Record Drawings	$3,000.00
			Legal	$12,000.00
			Interim Interest	$8,000.00
			Bond Counsel Attorney	$8,000.00
			Publishing & Administration	$2,000.00
			TOTAL PROJECT COST	$751,666.67

moore engineering, inc.

Life Cycle Cost Analysis Review

Project Title: City of Streeter
Tower Rehabilitation

Date: September 9, 2019

Explanation of Alternatives:

Alternative 1 is significant rehabilitation of the existing tank including some structural reinforcements. Alternative 2 is the demolition of the existing tank and construction of a new tank. The community is also considering water supply issues seperately.

Inputs:

	Tank Rehabilitation	Tank Replacement		
Users Served	112	112	112	
Construction Cost	$785,000	$1,385,000	$0	$0
Annual O & M	$4,164	$4,164	$0	$0

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

Present Value	Tank Rehabilitation	Tank Replacement		
Capital Costs	$785,000	$1,385,000	$0	$0
O&M	$108,000	$108,000	$0	$0
Repair, Rehab,	$191,000	$363,000	$0	$0
Salvage Value	$71,000	$134,000	$0	$0
Total PVC	**$1,013,000**	**$1,722,000**	**$0**	**$0**
PV Cost Per Capita	$9,045	$15,375	$0	$0

Explanation of Results:

Alternative 1 costs $1,013,000 to rehabilitate the existing tank versus the construction of a new tank which costs $1,722,000. The preferred choice, Alternative 1, has a net savings of $709,000 over the second alternative. The cost per user (connection) is $9,045. The community has already been approved for a Community Block Development Grant in the amount of $310,000.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2018		
Population & Trends	170	164	-0.4%	-1

Other Comments:

Date: 9/6/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Streeter
Project: Well Installation & Tower Rehabilitation

Poplulation Served by the Project: 164

Number of Connections Served by Project: 112

1- Inputs

This is the primary data entry worksheet where users provide brief descriptions of the alternative being considered (up to 4) as well as information on annual O&M and length of construction.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Input	Units	Input Value	Definition of Term	Reference
Base Year for LCCA Model Period of Analysis	Year	2019	Beginning of analysis period	
Analysis Duration	Years	50		
End Year for LCCA Model Period of Analysis	Year	2069	Ending year of analysis period	Assumes 50 years of operations
Discount Factor	%	2.875%	Discount factor used for present value calculations	Discounting is the process of determining the present value of a payment or a stream of payments that is to be received in the future. Given the time value of money, a dollar is worth more today than it would be worth tomorrow. - Source EGM 18-01- https://planning.erdc.dren.mil/toolbox/library/EGMs/EGM18-01.pdf

Name of Alternative	Tank Rehabilitation			
Description of Alternative	Rehabilitate the existing tank and bring it up to current standards			
Capital Investment		**Units**	**Alternative 1**	**Notes**
Construction	Total Construction	$	$785,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$4,164	

Name of Alternative	Tank Replacement			
Description of Alternative	Remove and replace existing tank with a new tank			
Capital Investment		**Units**	**Alternative 2**	**Notes**
Construction	Total Construction	$	$1,385,000	
	Years of Construction	Years	1	
Annual O&M	Annual O&M	$	$4,164	

Date: 9/6/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Streeter
Project: r Rehabilitation

2 - Detailed Costs

This is the secondary data entry worksheet where users enter itemized costs by specific major categories. The worksheet will assign a standard useful life based on the category selected. Users may override this function and provide a useful life if professional judgement warrants doing so.

Orange cells are for entering project specific data
Yellow cells reference data from other worksheets

Tank Rehabilitation

Total Cost $785,000

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
Tower Interior and Exterior Repairs	1	LS	$447,412	$447,400	Reservoir and Storage - Metal	30	
Contingencies	1	LS	$78,588	$78,600	Contingency	N/A	
Mobilization	1	LS	$35,000	$35,000	Mobilization	N/A	
Design Engineering	1	LS	$32,000	$32,000	Engineering - Design	N/A	
Initial Funding applications and administration	1	LS	$30,000	$30,000	Engineering - Planning	N/A	
Bidding, RPR & Construction Administration	1	LS	$126,000	$126,000	Engineering - Construction	N/A	
Post Construction/Record Drawings	1	LS	$3,000	$3,000	Engineering - Post Construction	N/A	
Legal	1	LS	$15,000	$15,000	Other	N/A	
Interim Interest	1	LS	$8,000	$8,000	Other	N/A	
Bond Counsel Attorney	1	LS	$8,000	$8,000	Other	N/A	
Publishing & Administration	1	LS	$2,000	$2,000	Other	N/A	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	
		-		$0	Category	Useful Life	

Tank Replacement

Total Cost $1,385,000

Description	Quantity	Units	Unit Cost	Cost	Cost Category	Useful Life	Notes
Remove existing tower	1	LS	$60,000	$60,000	Demo / Abandonment	N/A	
Install new tower	1	LS	$850,000	$850,000	Reservoir and Storage - Metal	30	
Mobilization	1	LS	$50,000	$50,000	Mobilization	N/A	
Contingencies	1	LS	$101,500	$101,500	Contingency	N/A	
Land Purchase/Easement	1	LS	$15,000	$15,000	Real Estate	N/A	
Initial Funding applications and	1	LS	$30,000	$30,000	Engineering - Planning	N/A	
Design Engineering	1	LS	$82,000	$82,000	Engineering - Design	N/A	
Bidding, RPR & Construction	1	LS	$150,500	$150,500	Engineering - Construction	N/A	
Post Construction/Record Drawings	1	LS	$3,000	$3,000	Engineering - Post Construction	N/A	
Legal	1	LS	$15,000	$15,000	Other	N/A	
Interim Interest	1	LS	$18,000	$18,000	Other	N/A	
Bond Counsel Attorney	1	LS	$8,000	$8,000	Other	N/A	
Publishing & Administration	1	LS	$2,000	$2,000	Other	N/A	
				$0	Category	Useful Life	

0

Date: 9/6/19

North Dakota State Water Commission - Life Cycle Cost Analysis

Sponsor: City of Streeter
Project: Well Installation & Tower Rehabilitation

3 - Results Summary

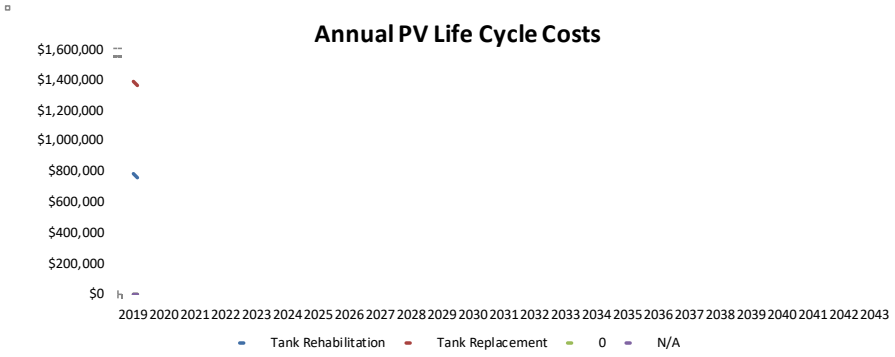
Life Cycle Cost Analysis

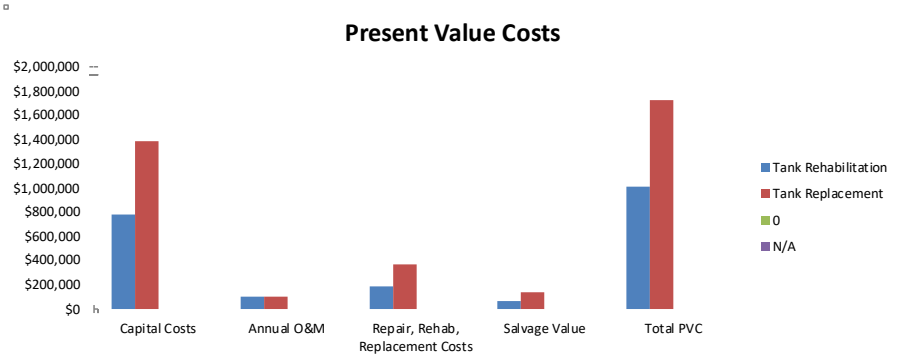
This worksheet serves as the summary for all outputs created in the model. For the given inputs, the Results Summary provides an overview of capital costs; annual O&M; repair, rehab, replacement costs; and salvage value. Under the Results Summary, the user will find a breakdown of the cost for each category and alternative.

Scenario Analysis - Present Value Life Cycle Cost Summary

Cost Summary

Present Value	Tank Rehabilitation	Tank Replacement	0	N/A
Capital Costs	$785,000	$1,385,000	$0	$0
Annual O&M	$108,000	$108,000	$0	$0
Repair, Rehab, Replacement Costs	$191,000	$363,000	$0	$0
Salvage Value	$71,000	$134,000	$0	$0
Total PVC	**$1,013,000**	**$1,722,000**	**$0**	**$0**



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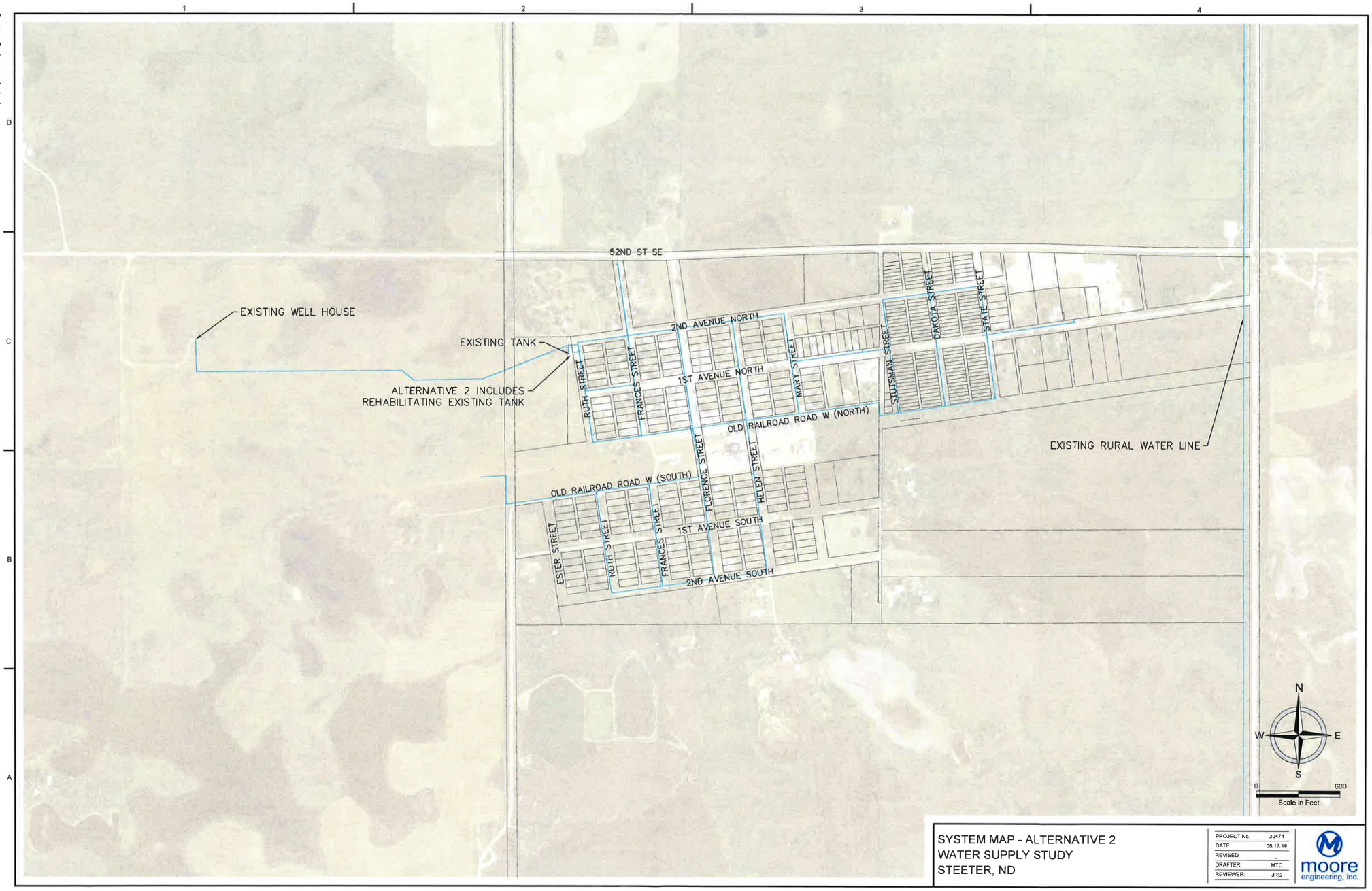
Engineering Inc.



SYSTEM MAP - ALTERNATIVE 2
WATER SUPPLY STUDY
STEETER, ND

PROJECT No.	20474
DATE:	06.17.19
REVISED	–
DRAFTER	MTC
REVIEWER:	JRS

moore engineering, inc.

APPENDIX I
SWC Date Received : 08/27/19
Updated : 09/03/19

COST-SHARE REQUEST
NORTH DAKOTA WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (8/2019)

This form is to be filled out by the project or program sponsor with Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Water storage, booster station and treated water transmission lines.

Sponsor(s)
City of Davenport, North Dakota

County	City	Township/Range/Section
Cass	Davenport	137N 57W 1

Description Of Request ☒ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study And Level Of Study Review Completed
Obsolete and undersized water storage reservoir.
Obsolete and undersized booster station.
Lack of redundancy with a single treated water feed into the distribution system.

If Study, What Type ☒ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Bank Stabilization	☐ Irrigation	☐ Recreation	☐ Snagging & Clearing
☐ Dam Safety/EAP	☐ Multi-Purpose	☐ Ring Dike Program	☐ Water Retention
☐ FEMA Levee Program	☒ Municipal Water Supply	☐ Rural Flood Control	
☐ Flood Protection Program	☐ Property Acquisition Program	☐ Rural Water Supply	

Description Of Problem Or Need And How Project Addresses That Problem Or Need
Davenport receives it's treated water from a rural water system, the amount of water available is limited. the existing storage and booster station is obsolete and undersized. A new reservoir and booster station will address this problem. Currently only one treated water feed goes to the distribution system. An additional transmission line will provide redundancy

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2019-2021 7/1/19-6/30/21	2021-2023 7/1/21-6/30/23	Beyond 7/1/23
Federal	$	$	$	$
Water Commission	$	$628,000.00	$	$
Other State	$	$	$	$
Local	$	$157,000.00	$	$
Total	$0.00	$785,000.00	$0.00	$0.00

Provide Names And Amounts From All Potential Funding Sources, Including All Other State Of North Dakota Sources				
Source	Amount	Grant Or Loan	Term	Interest
DWSRF	$	$157,000.00	20 years	2 %
	$			%
	$			%
	$			%

What Are The Potential Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local opposition, environmental concerns, etc.)?

All concerns have been addressed. The City has procured land for the new facility. The City is currently working with State Department of Environmental Quality on an elevated level of nitrogen at the proposed site.

Explain Timelines For All Phases And Their Current Status (Study, Design, Bid, Construction, Completion, Etc.)

Funding in place by the end of 2019,

Plans and bidding spring of 2020.

Construction summer and Fall of 2020.

Project constructed and in operation by end of 2020.

Are Connections For New Rural Customers Located Within The Extra-Territorial Jurisdiction Of A Municipality? ☒ Yes ☐ No

Jurisdictions/Stakeholders Involved In This Project

City of Davenport

Has Economic Analysis Been Completed?	☒ Yes	☐ No	☐ Ongoing	☐ Not Applicable	
Has Life Cycle Cost Analysis Been Completed?	☒ Yes	☐ No	☐ Ongoing	☐ Not Applicable	
Has Feasibility Study Been Completed?	☒ Yes	☐ No	☐ Ongoing	☐ Not Applicable	
Has Engineering Design Been Completed?	☐ Yes	☐ No	☒ Ongoing	☐ Not Applicable	
Have Land Or Easements Been Acquired?	☒ Yes	☐ No	☐ Ongoing	☐ Not Applicable	
Have Assessment Districts Been Formed?	☒ Yes	☐ No	☐ Ongoing	☐ Not Applicable	If Yes, (Date)?
Has Sediment Analysis For Reconstruction Of An Existing Drain Been Completed?	☐ Yes	☒ No			

Have You Applied For Any State Permits?	☐ Yes	☐ No	☒ Not Applicable	Type/Number
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☒ Not Applicable	Type/Number
If Yes, Please Explain				
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☒ Not Applicable	Type/Number
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☒ Not Applicable	Type/Number
If Yes, Please Explain				

Submitted By Larry Palluck, Mayor			Date 8/27/2019
Address PO Box 217	City Davenport	State ND	ZIP Code 58021-0217
Sponsor's Telephone Number 701 428-0134	Sponsor's Email Address davenportnd@outlook.com		
Engineer's Name James Dahlman, PE	Engineer's Telephone Number 701 640-8491		
Engineer's Company Interstate Engineering	Engineer's Email Address jim.dahlman@interstateeng.com		
I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.			
Signature* Larry Palluck			Date* 8/30/19

E-MAIL TO:
swccostshare@nd.gov

MAIL TO:
ND Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

Storage, Booster Station and Transmission Line Improvements
DWSRF Project No. 0900217-11-01
Davenport, ND
8/15/19
W14-00-121
Alternative No. 1 – Underground Storage Reservoir

ITEM No.	DESCRIPTION	UNIT	No. of UNITS	UNIT PRICE	EXTENDED PRICE
1	Demolition / Site Work / Restoration	LS	1	$122,500	$122,500
2	Control Building General Construction	LS	1	$100,000	$100,000
3	Control Building Equipment & Piping	LS	1	$100,000	$100,000
4	Concrete Underground Reservoir	LS	1	$100,000	$100,000
5	Electrical / Controls / Gen Set	LS	1	$125,000	$125,000
6	6" Watermain PVC C900	LF	500	$27	$13,500
7	6" Watermain PVC C900 (Directionally Drilled)	LF	300	$65	$19,500
8	6" Gate Valve and Box	EA	5	$2,000	$10,000
9	6" Fire Hydrant	EA	2	$2,000	$4,000
10	Contingency	LS	1	$58,667	$58,667
11	Design Engineering	LS	1	$70,000	$70,000
12	Construstion Engineering	LS	1	$53,500	$53,500
13	Legal and Admistrative	LS	1	$7,500	$7,500

Opinion of Probable Project Cost $784,167

Life Cycle Cost Analysis Review

Sponsor: City of Davenport
Project Title: Water Reservoir **Date:** September 9, 2019

Explanation of Alternatives:

Alternative 1 is a below ground concrete water resevior, pumps, and line replacements. Alternative 2 is a metal above ground reservoir with pumps and line replacements. Alternative 3 is an elevated reservior with line replacements. In the report, a 4th alternative of no action was dismissed due to concerns about the integrity of the current reservoir and an inability to effectively maintain it to a satisfactory condition.

Inputs:

	Alternative 1 Underground Concrete	Alternative 2 Metal Above Ground Reservoir	Alternative 3 Elevated Water Reservoir	Alternative 4
Users Served	100	100	100	
Construction Cost	$785,000	$766,000	$1,060,000	$0
Annual O & M	$10,000	$12,000	$6,000	$0

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

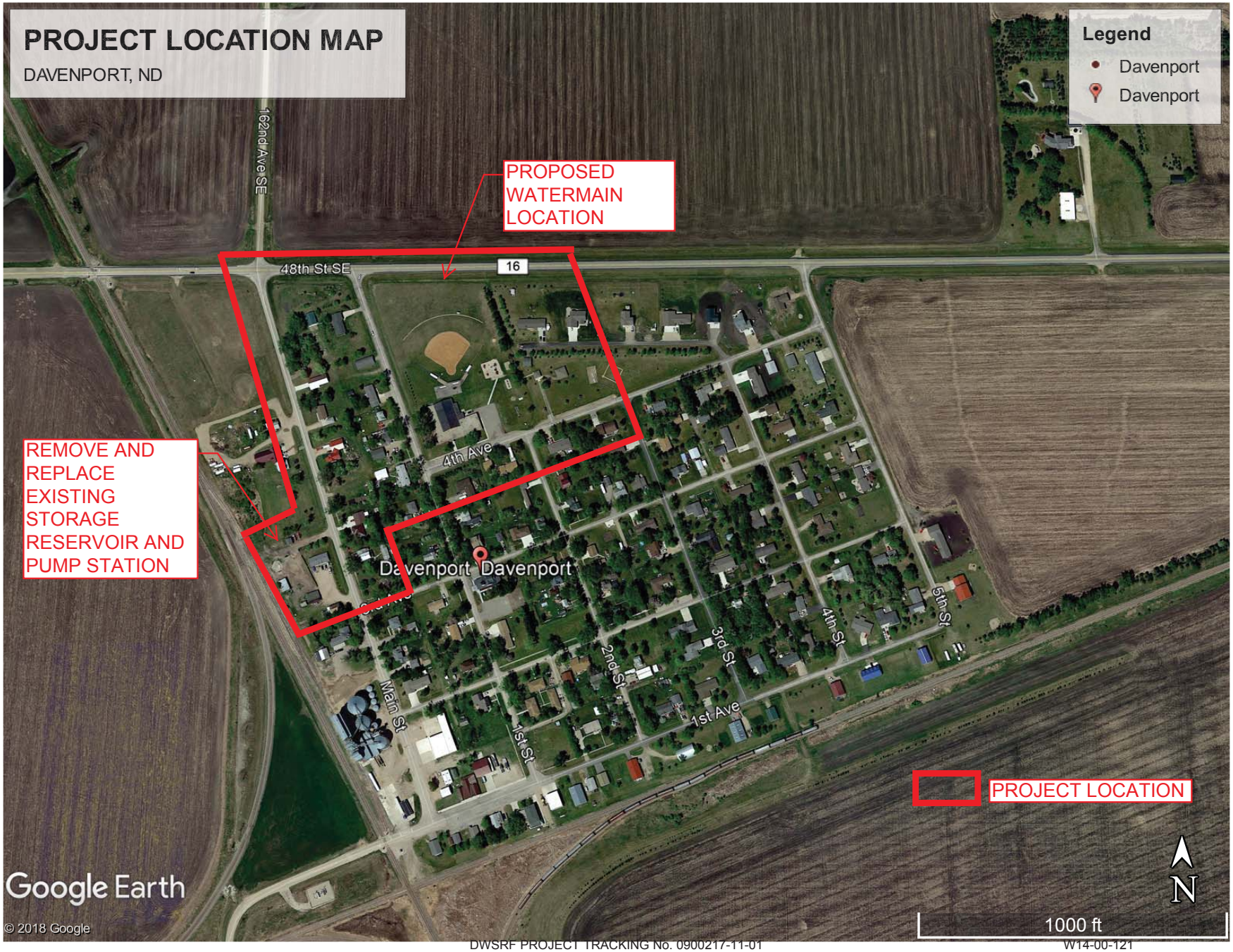
Present Value	Alternative 1 Underground Concrete	Alternative 2 Metal Above Ground Reservoir	Alternative 3 Elevated Water Reservoir	Alternative 4
Capital Costs	$785,000	$766,000	$1,060,000	$0
O&M	$263,000	$313,000	$159,000	$0
Repair, Rehab,	$307,000	$343,000	$351,000	$0
Salvage Value	$37,000	$50,000	$107,000	$0
Total PVC	**$1,318,000**	**$1,372,000**	**$1,463,000**	**$0**
PV Cost Per Capita or User	$13,180	$13,720	$14,630	$0

Explanation of Results:

The present value (PV) cost of the sponsor's preferred altenative 1 (Underground Concrete) over its entire useful life, in todays dollars (2019), is $1,318,000. This alternative saves the community $54,000 over the ground reservior, $145,000 over the elevated tower alternative during the 50 year analysis. This value includes the construction, maintenance, and operations of the project over the projected 50 year life of the storage tank. It does include salvage values. The PV cost per user is $13,180 for the preferred underground concrete alternative.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2018		
Population & Trends	252	265	0.6%	2

Other Comments:


PROJECT LOCATION MAP
DAVENPORT, ND
Legend
Davenport
Davenport
PROPOSED WATERMAIN LOCATION
REMOVE AND REPLACE EXISTING STORAGE RESERVOIR AND PUMP STATION
PROJECT LOCATION
162nd Ave SE
48th St SE
16
4th Ave
Davenport
Main St
1st St
2nd St
3rd St
4th St
5th St
1st Ave
Google Earth
© 2018 Google
1000 ft
N

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (5/2019)

RECEIVED
AUG 2 2 2019
STATE WATER COMMISSION

APPENDIX J

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
9th Street NW Water Main Looping

Sponsor(s)
City of West Fargo

County	City	Township/Range/Section
Cass	West Fargo	T139N/R49W/6

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
The project will allow the City to adequately maintain pressures, fire flows, and address the quality and aging of the system.

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
City of West Fargo

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Since 2010, there has been significant in-fill within the City's commercial and industrial district which is primarily North of Main Avenue extending from the East to West city limits. The proposed project would specifically address increasing demands in the Northwest quadrant of the city where several new facilities have been construction within the commercial and industrial district. Current water models have shown a decrease in fire flows and pressures in this service area due to increase in demand. A new transmission line needs to be extended from Main Avenue to Drain 21 (approximately 1900 feet) to increase the capacity of the water supply system. A portion of this system near Main Ave is also comprised of ACP, which poses a risk to health, safety, and reliability of the system. Implementation of this project will allow the City to adequately maintain pressures, fire flows, and address the aged infrastructure within the local water systems of the Northwest service area.
Local water supply lines have been extended to the commercial and industrial service areas, however the local water mains are not supported by a looped transmission system. The local system will greatly benefit from an additional north-south connection to complete the transmission line looping.

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone (attach additional documents as needed)

The project has been identified as a critical need to ensure adequate service in the growing community. It is part of the City's Capital Improvement Plan and has been reviewed by the public works department and the City Commission.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? The City does not currently expect any obstacles to implementation.

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 594,000.00	$	$ 594,000.00	$
Other State	$	$	$	$
Local	$ 396,000.00	$	$ 396,000.00	$
Total	$ 990,000.00	$ 0.00	$ 990,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

N/A

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

The project is contingent on the receipt of funding, however if funding is secured in 2019, the City will move immediately into the design phase with the intent to award a contract in the spring of 2020 and begin construction in the summer of 2020.

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

Submitted By: Chris Brungardt (chris.brungardt@westfargond.gov)			Date: 8/13/19
Address: 810 12th Ave NW	City: West Fargo	State: ND	ZIP Code: 58078
Telephone Number: 701-433-5400		Engineer Telephone Number: 701-499-5840	
Sponsor Email Address: dustin.scott@westfargond.gov		Engineer Email Address: dan.hanson@mooreengineeringinc.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: Chris Brundardt, Public Works Director — Date: 08/20/2019

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

Project #: 20884
Date Created: 08/09/2019

Water Improvement Project No. 1317
Water Distribution Loop - 9th St. NW
West Fargo, ND

Engineer's Preliminary Opinion of Cost

	BID ITEM NO.	& DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
Base Bid						
1.	107.0100	Railway Protection Insurance	L SUM	1	$5,000.00	$5,000.00
2.	261.0112	Fiber Rolls 12In	LF	500	$5.00	$2,500.00
3.	708.1540	Inlet Protection-Special	EA	4	$250.00	$1,000.00
4.	710.0200	Temporary Bypass	L SUM	1	$25,000.00	$25,000.00
5.	202.0114	Removal of Concrete Pavement	SY	425	$25.00	$10,625.00
6.	202.0130	Removal of Curb & Gutter	LF	30	$15.00	$450.00
7.	202.0132	Removal of Bituminous Surfacing	SY	100	$20.00	$2,000.00
8.	202.0170	Removal of Culverts-All Types & Sizes	LF	335	$20.00	$6,700.00
9.	24200	Removal of Gate Valve	EA	13	$600.00	$7,800.00
10.	24200	Removal of Hydrant	EA	6	$800.00	$4,800.00
11.	24200	Removal of Water Main	LF	2,200	$15.00	$33,000.00
12.	330507	Jacked Pipe - 24"	LF	110	$875.00	$96,250.00
13.	331413	Fittings	LBS	2,500	$5.00	$12,500.00
14.	331413	Tapping Sleeve & Valve - 12" x 12"	EA	1	$15,000.00	$15,000.00
15.	331413	Water Main - 12"	LF	2,200	$75.00	$165,000.00
16.	331413	Water Main - 6"	LF	90	$50.00	$4,500.00
17.	331413	Water Main - 8"	LF	350	$60.00	$21,000.00
18.	331419	Gate Valve & Box - 12"	EA	8	$5,000.00	$40,000.00
19.	331419	Gate Valve & Box - 6"	EA	6	$2,500.00	$15,000.00
20.	331419	Gate Valve & Box - 8"	EA	2	$3,500.00	$7,000.00
21.	331419	Hydrant - 6"	EA	6	$5,500.00	$33,000.00
22.		Sample Station	EA	1	$5,000.00	$5,000.00
23.	714.5015	Pipe Corr Steel .064In 18In	LF	335	$50.00	$16,750.00
24.	714.5810	End Sect Corr Steel .064In 18In	EA	10	$1,500.00	$15,000.00
25.	230.00001	Subgrade Preparation-Type A-12In	SY	815	$5.00	$4,075.00
26.	230.00001	Reshaping Ditch	LF	90	$250.00	$22,500.00
27.	302.0120	Aggregate Base Course Cl 5	TON	400	$30.00	$12,000.00
28.	302.0320	Aggregate Surface Course Cl 5	TON	100	$28.00	$2,800.00
29.	310516	Rock Bedding	CY	500	$50.00	$25,000.00
30.	709.0151	Geosynthetic Material Type R1	SY	815	$2.50	$2,037.50
31.	430.0042	Superpave FAA 42	TON	150	$200.00	$30,000.00
32.	550.0113	8In Reinf Concrete Pavement Cl Ae	SY	150	$130.00	$19,500.00
33.	550.0310	10In Non Reinf Concrete Pvmt Cl Ae-Doweled	SY	50	$160.00	$8,000.00
34.	748.0140	Curb & Gutter-Type I	LF	30	$100.00	$3,000.00
35.	750.00001	Driveway Concrete 7In Reinforced	SY	225	$100.00	$22,500.00
36.	15000	Storm Water Management	L SUM	1	$1,500.00	$1,500.00
37.	251.0300	Seeding Class III	ACRE	2.5	$2,500.00	$6,250.00
38.	253.0201	Hydraulic Mulch	ACRE	2.5	$2,500.00	$6,250.00
39.	754.0593	Reset Sign Support	EA	6	$250.00	$1,500.00
40.	704.1100	Traffic Control	L SUM	1	$20,000.00	$20,000.00
41.	990.0650	Concrete Channel Lining	SY	100	$150.00	$15,000.00

Construction Subtotal	$746,787.50
Contingencies	$114,212.50
Design & Construction Engineering	$129,000.00
TOTAL PROJECT COST	$990,000.00
State Water Commission Cost Share (60%)	$594,000.00
City Share (40%)	$396,000.00

moore engineering, inc.

Life Cycle Cost Analysis Review

Sponsor: City of West Fargo
Project Title: Water Improvement Project No. 1327 **Date:** September 9, 2019

Explanation of Alternatives:

Alternatives in this case are using different materials to accomplish the distribution system improvements. Alternative 1 uses PVC whereas Alternative 2 uses ductile iron for the piping systems.

Inputs:

	Alternative 1 - Installation of new looped transmission main using PVC pipe	Alternative 2 - Installation of a new looped transmission main using ductile iron pipe	Alternative 3	Alternative 4
Users Served	120	120		
Construction Cost	$990,000	$1,163,000	$0	$0
Annual O & M	$1,500	$1,500	$0	$0

Details:

No unusual items or useful life entries were identified.

Model Function:

The economic model appears to have functioned properly. The results are deemed to be reliable and repeatable with the inputs provided by the project sponsor.

LCCA Model Results:

Scenario Analysis - Present Value Life Cycle Cost Summary

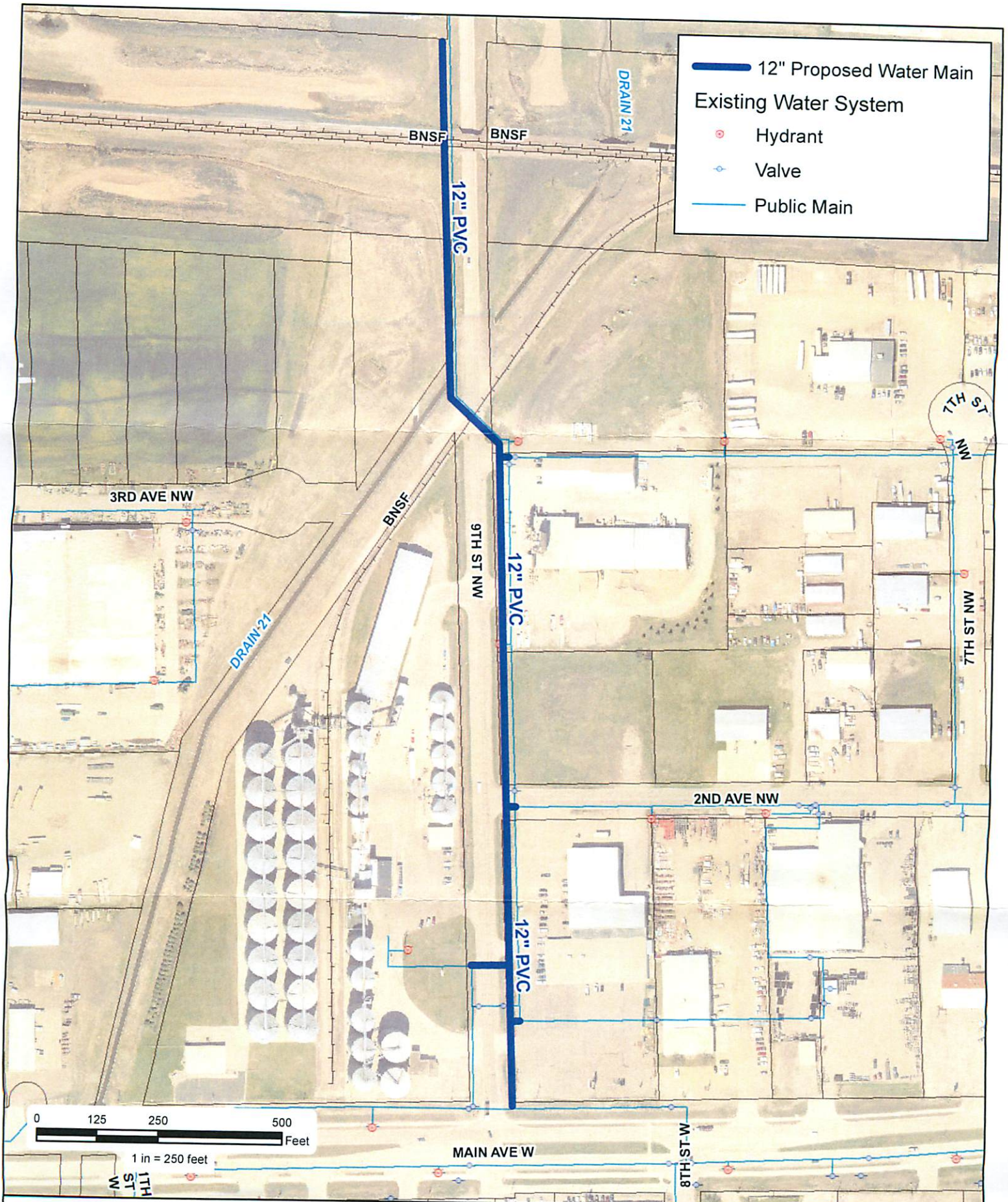
Present Value	Alternative 1 - Installation of new looped transmission main using PVC pipe	Alternative 2 - Installation of a new looped transmission main using ductile iron pipe	Alternative 3	Alternative 4
Capital Costs	$990,000	$1,163,000	$0	$0
O&M	$38,000	$38,000	$0	$0
Repair, Rehab,	$35,000	$35,000	$0	$0
Salvage Value	$33,000	$33,000	$0	$0
Total PVC	**$1,030,000**	**$1,203,000**	**$0**	**$0**
PV Cost Per Capita or User	$8,583	$10,025	$0	$0

Explanation of Results:

Alternative 1 or the poly pipe is $1,030,000 versus the iron pipe alternative of $1,203,000. The preferred choice of Alternative 1 has a net savings of $173,000 over the second alternative. The $8,583 cost per user (connection) is somewhat high for a larger municipal project.

	Year		Annual Population Growth Rate	Average Annual Population Increase/Decrease
	2010	2018		
Population & Trends	25,830	36,566	5.2%	1,342

Other Comments:



PROPOSED WATER MAIN - WATER DISTRIBUTION LOOP
9TH STREET NORTHWEST
WEST FARGO, NORTH DAKOTA

Created By: TJS Date Created: 08/08/19 Date Saved: 08/09/19 Date Plotted: NEVER Date Exported: 08/15/19
Parcel Data: 08/08/19 Aerial Image: 2017 Metro COG Elevation Data: Lidar
Horizontal Datum: NAD 1983 StatePlane North Dakota South FIPS 3302 Feet Vertical Datum: NAVD1988
K:\Projects\20200120884\20884_Proposed_Water_Line.mxd

moore engineering, inc.

APPENDIX K

COST-SHARE REQUEST

NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (10/2018)

SWC Date Received : 5/9/19

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Grand Forks Regional WTP

Sponsor(s)
City of Grand Forks

County	City	Township/Range/Section
Grand Forks	Grand Forks	

Description Of Request ☐ New ☑ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Water Treatment Capacity, Advanced Water Treatment Processes

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control ☐ Multi-Purpose ☐ Bank Stabilization ☐ Dam Safety/EAP
☐ Recreation ☐ Water Supply ☐ Snagging & Clearing ☐ Property Acquisition
☐ Irrigation ☐ Water Retention ☐ Rural Flood Control ☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☒ Yes ☐ No

Jurisdictions/Stakeholders Involved
The City of Grand Forks, Grand Forks Air Force Base, and the Grand Forks Airport Authority

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The City has been closely monitoring and studying the need for a new regional Water Treatment Plant (WTP) since 1995. Over this time, the City has committed resources to determining the most cost-effective time and manner in which to expand water treatment capacity to meet expanding needs while also addressing treatment challenges. The need for the Grand Forks Regional WTP is rooted in three core issues: 1) an increasingly strict regulatory environment and experienced water quality issues requiring advanced treatment processes; 2) increasing demand from regional growth; and, 3) limitations of the current WTP infrastructure and site. The City is planning to construct a new WTP designed around the most prudent treatment technology alternatives currently available for Grand Forks' source water. The new WTP will have an initial buildout capacity to treat up to 20 million gallons of water per day. The initial capacity is designed to serve the City, regional industry, and regional partners, such as the Grand Forks Air Force Base, with clean, potable water through 2050 population and demand projections. While initial buildout capacity is projected to last through 2050, the new WTP and WTP site will be designed with expandability provisions to continue serving the region for the next 100 years.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☑ Yes	☐ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☐ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☑ Yes	☐ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone

This project has gone under extensive review from City leaders, the State Legislature, the SWC, and other entities including the NDDH, US Army Corps of Engineers, ND Game and Fish, ND Historical Society, and the US Soil Conservation Service. The SWC has approved 50 percent cost-share for this project at multiple meetings

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)?

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 74,875,000.00	$ 30,000,000.00	$ 9,875,000.00	$
Other State	$	$	$	$
Local	$ 74,875,000.00	$ 30,000,000.00	$ 9,875,000.00	$
Total	$ 149,750,000.00	$ 60,000,000.00	$ 19,750,000.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied

DWSRF

Please Explain Implementation Timelines, Considering All Phases And Their Current Status

Construction started Dec 2016, 100% completion anticipated June 2020.

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By: Todd Feland, City Administrator			Date: 5/7/19
Address: 255 N 4th St	City: Grand Forks	State: ND	ZIP Code: 58203
Telephone Number: 701-787-3750		Engineer Telephone Number: 701-746-8087	
Sponsor Email Address: tfeland@grandforksgov.com		Engineer Email Address: wayne.gerzewski@ae2s.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: [signature] Date: 5/7/19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

SECTION 11. APPROPRIATION - FARGO INTERIOR FLOOD CONTROL - STATE DISASTER RELIEF FUND - FUNDING REQUIREMENTS. There is appropriated out of any moneys in the state disaster relief fund in the state treasury, the sum of $30,000,000, or so much of the sum as may be necessary, for the purpose of providing funding for flood protection projects within city limits of Fargo, for the period beginning with the effective date of this Act, and ending June 30, 2017. The city of Fargo shall apply for flood protection funding, but the state water commission may not deny an application unless the funds are not intended to be used in accordance with provisions of this section. The city of Fargo may use the funds for costs directly associated with completion of interior flood protection projects within its city limits, including engineering and legal fees, right-of-way acquisition costs, land purchases, home buyouts, and construction costs. No more than ten percent of these funds may be used for engineering and legal fees. Funds may not be used for general operations or administrative costs. Any funds designated by the sixty-fourth legislative assembly for Fargo interior flood control projects may be expended only for Fargo interior flood control projects, including levees and dikes until a federal appropriation is provided for project construction for the Fargo flood control project at which time it may be used for a federally authorized Fargo flood control project.

SECTION 12. FARGO INTERIOR FLOOD CONTROL PROJECT FUNDING - EXEMPTION. Of the funds appropriated in the water and atmospheric resources line item in section 1 of this Act, $30,000,000 is for Fargo interior flood control projects, for the period beginning with the effective date of this Act, and ending June 30, 2017. Any funds not spent by June 30, 2017, are not subject to section 54-44.1-11 and must be continued into the next or subsequent bienniums and may be expended only for Fargo interior flood control projects. The city of Fargo shall apply for flood protection funding, but the state water commission may not deny an application unless the funds are not intended to be used in accordance with provisions of this section. The city of Fargo may use the funds for costs directly associated with completion of interior flood protection projects within its city limits, including engineering and legal fees, right-of-way acquisition costs, land purchases, home buyouts, and construction costs. Funds may not be used for general operations or administrative costs. Any funds designated by the sixty-fourth legislative assembly for Fargo interior flood control projects may be expended only for Fargo interior flood control projects, including levees and dikes until a federal appropriation is provided for project construction for the Fargo flood control project at which time it may be used for a federally authorized Fargo flood control project.

SECTION 13. LEGISLATIVE INTENT - GRAND FORKS WATER TREATMENT PLANT PROJECT FUNDING. It is the intent of the sixty-fourth legislative assembly that the state provide grants for one-half of the cost to construct the Grand Forks water treatment plant project and provide a $30,000,000 grant for the project during the 2015-17 biennium and a $30,000,000 grant for the project during the 2017-19 biennium.

SECTION 14. RED RIVER VALLEY WATER SUPPLY PROJECT FUNDING - REPORT TO WATER TOPICS OVERVIEW COMMITTEE. The 2013-15 unobligated funding of $7,359,000 designated by the state water commission for the Red River valley water supply project in the water and atmospheric resources line item in section 1 of this Act and an additional $5,000,000 in the water and atmospheric resources line item in section 1 of this Act is designated for a grant to the Garrison diversion conservancy district to plan and design the Red River valley water supply project for the biennium beginning July 1, 2015, and ending June 30, 2017. The state water commission shall transfer funds upon request of the Garrison diversion conservancy district. The Garrison diversion conservancy district shall report on a regular basis to the legislative management's water topics overview committee to review its progress in planning and designing the Red River valley water supply project.

SECTION 15. APPROPRIATION - MISSOURI RIVER CORRECTIONAL CENTER LEVEE - FOX ISLAND LEVEE - STATE DISASTER RELIEF FUND. There is appropriated out of any moneys in the state disaster relief fund in the state treasury, the sum of $4,000,000, or so much of the sum as may be necessary, to the state water commission, for the purpose of providing funding for levee projects for the biennium beginning July 1, 2015, and ending June 30, 2017. Of the funds the state water commission shall make available $1,200,000 for a levee for the Missouri River correctional center, and $2,800,000, for a levee for Lincoln township's Fox Island area.

Sixty-fourth Legislative Assembly of North Dakota
In Regular Session Commencing Tuesday, January 6, 2015

SENATE BILL NO. 2020
(Appropriations Committee)
(At the request of the Governor)

AN ACT to provide an appropriation for defraying the expenses of the state water commission; to provide exemptions; to create and enact three new sections to chapter 61-02 of the North Dakota Century Code, relating to a Bank of North Dakota line of credit, to the state water commission cost-share policy, and to North Dakota outdoor heritage fund grants and cost-share; to amend and reenact section 54-35-02.7 of the North Dakota Century Code, relating to the water topics overview committee; to provide legislative intent; to designate funding; to provide contingent allocations; to provide for a report to the legislative assembly; to provide for legislative management reports; to provide for a legislative management study; to provide for a state water commission study; and to declare an emergency.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. APPROPRIATION. The funds provided in this section, or so much of the funds as may be necessary, are appropriated from special funds derived from federal funds and other income, to the state water commission for the purpose of defraying the expenses of the state water commission, for the period beginning with the effective date of this Act, and ending June 30, 2017, as follows:

	Base Level	Adjustments or Enhancements	Appropriation
Accrued leave payments	$325,774	($325,774)	$0
Administrative and support services	4,716,665	818,953	5,535,618
Water and atmospheric resources	822,365,166	297,035,052	1,119,400,218
Total all funds	$827,407,605	$297,528,231	$1,124,935,836
Full-time equivalent positions	90.00	7.00	97.00

SECTION 2. ONE-TIME FUNDING - EFFECT ON BASE BUDGET - REPORT TO SIXTY-FIFTH LEGISLATIVE ASSEMBLY. The following amounts reflect the one-time funding items approved by the sixty-third legislative assembly for the 2013-15 biennium:

One-Time Funding Description	2013-15	2015-17
Excavator	$243,200	$0
Southwest water pipeline project	21,000,000	0
Grants for water	10,350,000	0
Office space renovation	45,000	0
Total all funds	$31,638,200	$0
Total special funds	31,638,200	0
Total general fund	$0	$0

SECTION 3. SOVEREIGN LANDS ENFORCEMENT GRANT. The administrative and support services line item in section 1 of this Act includes $135,000 from the resources trust fund which the state water commission shall provide as a grant to the game and fish department for law enforcement activities on sovereign lands in the state, for the biennium beginning July 1, 2015, and ending June 30, 2017.

SECTION 4. SOVEREIGN LANDS RECREATION USE GRANT. The water and atmospheric resources line item in section 1 of this Act includes $1,000,000 from the resources trust fund which the state water commission shall provide as a grant to the parks and recreation department for developing recreation opportunities on sovereign lands in the state, for the biennium beginning July 1, 2015, and ending June 30, 2017.

NORTH Dakota | Water Commission

Be Legendary.™

Commission Date : 8/8/19
Commission Action : Deferred (cfitzgerald)

Deferred/tabled pending further consideration.

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer–Secretary
SUBJECT: State Cost-Share - Water Supply – Grand Forks Water Treatment Plant
DATE: July 29, 2019

The City of Grand Forks (City) submitted a request for additional cost-share towards construction costs for replacing their existing 16.5 million gallons per day water treatment plant with a new 20 million gallons per day plant to help meet water demands projections through 2050. The design allows for expanding to 40 million gallons per day. The new plant is located approximately one mile south west of the intersection of Interstate 29 and Demers Avenue on South 58th St. The City serves 57,000 people. The City's flat-water rate for ¾ -inch meter is $9.49 per month and $4.42 per 1,000 gallons used. The local share of the project is from the drinking water state revolving loan fund. The plant construction started in December 2016 and final completion by June 30, 2020.

Section 13 of the State Water Commission's 2015 - 2017 biennium appropriation bill, Senate Bill No. 2020, had legislative intent that the state provide grants for one-half of the cost to construct the Grand Forks water treatment plant project and provide a $30,000,000 grant for the project during the 2015-17 biennium and a $30,000,000 grant for the project during the 2017-19 biennium. Also, in 2013 the City received a 50 percent grant of $4,990,000 on project design. The previous cost was $130,000,000 with total cost-share approved of $64,990,000.

The current estimated total cost is $149,750,000 or an additional $19,750,000. The recommendation at this time is to provide cost-share of 50 percent, which equates to an additional $9,875,000.

I recommend the State Water Commission approve cost-share of $9,875,000 at 50 percent, for the City of Grand Forks Water Treatment Plant Project. The funding is in the form of a cost-share towards eligible costs, and contingent on available funding.

GE:JM:/2050GRF

2050-GRF

North Dakota State Water Commission

900 EAST BOULEVARD AVENUE, DEPT 770 • BISMARCK, NORTH DAKOTA 58505-0850
701-328-2750 • TTY 800-366-6888 • FAX 701-328-3696 • INTERNET: http://swc.nd.gov

Agenda #19
October 7, 2013
Approved As Recommended

MEMORANDUM

TO: Governor Jack Dalrymple
Members of the State Water Commission
FROM: Todd Sando, P.E., Chief Engineer–Secretary
SUBJECT: 2013-2015 State Water Supply – Grand Forks Water Treatment Plant Improvements
DATE: September 24, 2013

This funding request is for the City of Grand Forks (City) Water Treatment Plant Improvements Project. This project addresses water service in the City of Grand Forks, the Grand Forks Air Force Base, limitations of the current infrastructure and site, and regulatory and water quality issues. The City is planning to construct a new water treatment plant designed around the most prudent treatment technology alternatives currently available for Grand Forks' source water. The new water treatment plant will expand the City's capacity from 16.5 million gallons per day (MGD) to 20 MGD, and expandable to 40 MGD. The 20 MGD is designed to serve the City, regional industry, regional partners, such as the Grand Forks Air Force Base, with clean potable water through 2040 population and demand projections. The plant will have 2.5 MGD planned to serve industrial users, like J.R. Simplot, potential water needed for a Northern Plains Nitrogen fertilizer plant, and ~~2.6~~ 2.5 MGD for Grand Forks Air Force Base. While initial capacity is projected to last through 2040, the new WTP will be designed for scalability and will accommodate expansion to continue serving the region for the next 100 years. The City made major modifications in 1968, 1984, and 2004, since the plant was built in 1956. The water supply is permitted from the Red River and is sufficient to meet the expansion needs. The City serves 57,130 people, including 14,223 billed users and the Grand Forks Air Force Base.

The City is currently in the process of piloting reverse osmosis membrane technology and it is anticipated the pilot study will be completed by the end of 2013, after which a final determination will be made on the treatment technology approach to be utilized. The facility plan and preliminary design work will begin near the end of 2013, followed by final design in late 2014 and 2015 and project bidding in the first quarter of 2016. Construction is expected to begin in the second quarter of 2016 and be completed by third quarter of 2018. The City's request involved funding over three biennia for a 50% grant of $65,279,230 on an estimate project cost of $130,558,460 on the water treatment plant improvements.

The City requested a 50% grant of request at $4,993,000 on an estimate project cost of $9,986,000 for 2013-2015. Future requests are $38.7 million in 2015-2017 and $21.6 million in 2017-2019. City's current water rate for 6,000 gallons is $25.74 per month and based on monthly minimum of $6.36 and a cost of $3.23 per 1,000 gallons.

Providing Grand Forks $4,990,000, a 50% grant on eligible costs, provides assistance for a system experiencing a growth in users and increase in water treatment plant capacity.

I recommend the State Water Commission approve a 50 percent cost share of eligible costs, not to exceed $4,990,000, to the City of Grand Forks from the funds appropriated to the State Water Commission in the 2011 - 2013 biennium. The funding is contingent on available funding and subject to future revisions.

TS:JM:ph/~~237-03GRF~~ 2050-GRF

JACK DALRYMPLE, GOVERNOR
CHAIRMAN

TODD SANDO, P.E.
CHIEF ENGINEER AND SECRETARY

The estimated total cost of Phase III is $7,230,000. The city requested a 50 percent grant of $2,603,825 on the non-federal share of $5,207,650. The city secured a State and Tribal Assistance grant of $2,022,350, with a deadline to expend the grant funding by the end of 2014. The final design will begin immediately upon securing funding, with construction to begin in 2014.

The city of Grafton's current monthly water rate is $40.47 per 6,000 gallons based on a monthly minimum charge of $14.07, and a water rate of $5.28 per 1,000 gallons of water. Chris Wise, Mayor, City of Grafton, responded to Commissioner Swenson's concerns relating to the city's water rates and affordability to pay.

It was the recommendation of Secretary Sando that the State Water Commission approve a state cost participation grant of 50 percent of the eligible costs, not to exceed an allocation of $2,600,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B.1020), to the city of Grafton to support their water treatment plant rehabilitation project, Phase III. The grant would provide assistance in utilizing the plant capacity, and provide a schedule for the city to expend the State and Tribal Assistance grant funds in 2014.

It was moved by Commissioner Vosper and seconded by Commissioner Foley that the State Water Commission approve a state cost participation grant of 50 percent of the eligible costs, not to exceed an allocation of $2,600,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B.1020), to the city of Grafton to support their water treatment plant rehabilitation project, Phase III. This action is contingent upon the availability of funds, and is subject to future revisions.

Commissioners Foley, Tom Bodine representing Commissioner Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

CITY OF GRAND FORKS, WATER TREATMENT PLANT IMPROVEMENTS PROJECT - APPROVAL OF STATE COST PARTICIPATION GRANT ($4,990,000) (SWC Project File 2050-GRF)

A request from the city of Grand Forks was presented for the State Water Commission's consideration for state cost participation of a 50 percent grant for the city's water treatment plant improvements project. The proposed project addresses water service within the city of Grand Forks, the Grand Forks Air Force Base, limitations of the current infrastructure and site, and regulatory and water quality issues. A new water treatment plant is being designed around the most prudent treat-

ment technology alternatives currently available for the city's source of water supply. The new treatment plant would expand the capacity from 16,500,000 gallons per day (MGD) to 20,000,000 MPG, and expandable to 40,000,000 MGD. The 20,000,000 MGD is designed to serve the city, regional industry and partners with clean potable water through 2040 population and demand projections. The existing water treatment plant was built in 1956, with major modifications in 1968, 1984, and 2004. The city is in the process of piloting reverse osmosis membrane technology. The pilot study is anticipated for completion in late 2013, at which time a determination will be made on the treatment technology approach to be utilized. The city of Grand Forks currently serves 57,130 people including 14,223 billed users and the Grand Forks Air Force Base.

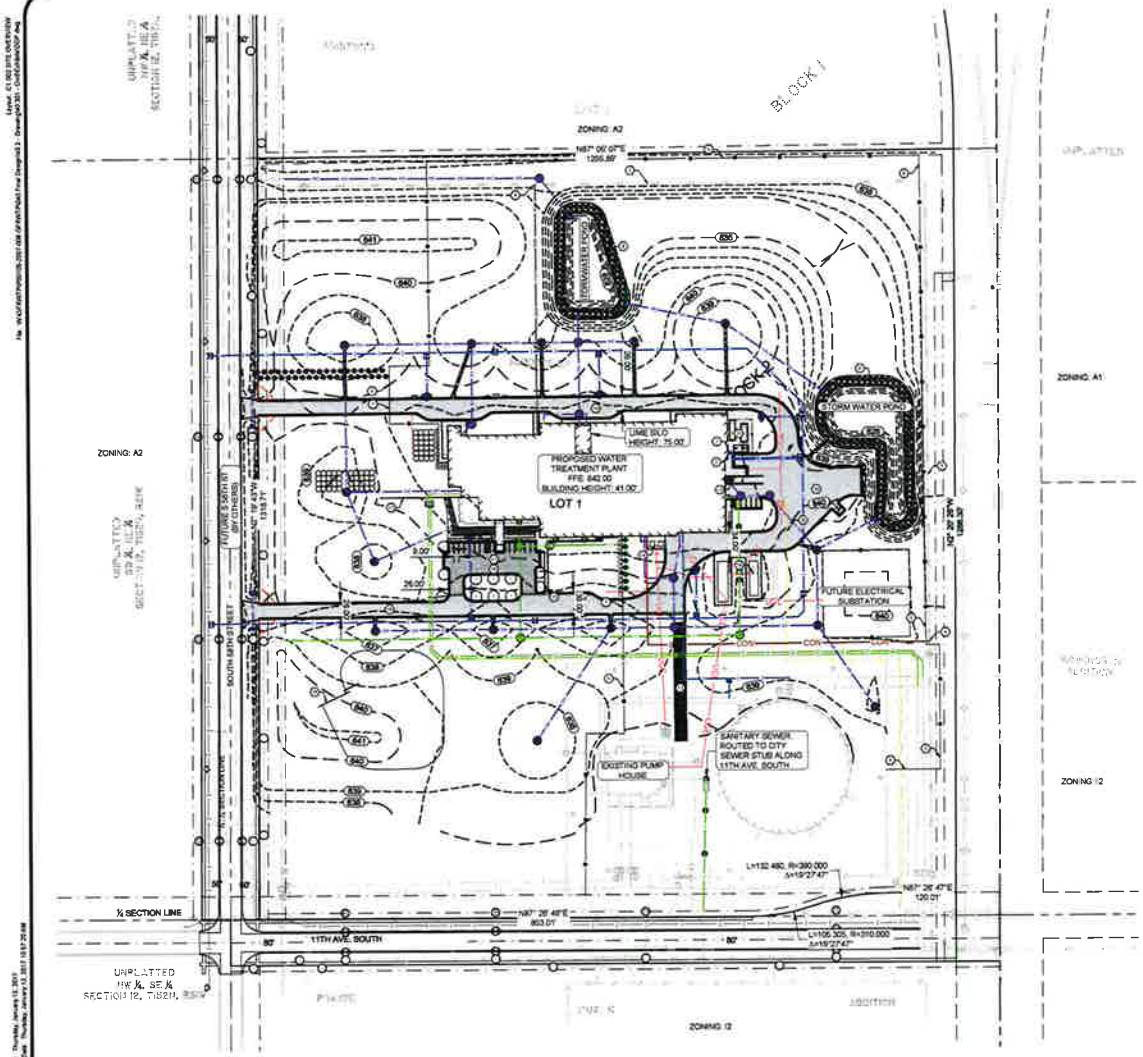
The city of Grand Forks's current monthly water rate is $25.74 per 6,000 gallons based on a monthly minimum charge of $6.36, and a water rate of $3.23 per 1,000 gallons of water. The overall funding request from the city of Grand Forks involves funding over three bienniums for a 50 percent grant of $65,279,230 on an estimated total project cost of $130,558,460. The estimated project cost for the 2013-2015 biennium is $9,986,000.

It was the recommendation of Secretary Sando that the State Water Commission approve a state cost participation grant of 50 percent of the eligible costs, not to exceed an allocation of $4,990,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B.1020), to the city of Grand Forks to support their water treatment plant improvements project. The grant would provide assistance for a system experiencing growth in users and an increase in water treatment plant capacity.

It was moved by Commissioner Vosper and seconded by Commissioner Foley that the State Water Commission approve a state cost participation grant of 50 percent of the eligible costs, not to exceed an allocation of $4,990,000 from the funds appropriated to the State Water Commission in the 2013-2015 biennium (H.B.1020), to the city of Grand Forks to support their water treatment plant improvements project. This action is contingent upon the availability of funds, and is subject to future revisions.

Commissioners Foley, Tom Bodine representing Commissioner Goehring, Hanson, Nodland, Swenson, Thompson, Vosper, and Governor Dalrymple voted aye. There were no nay votes. Governor Dalrymple announced the motion unanimously carried.

SWC Date Received : 4/4/18



GRAND FORKS REGIONAL WATER TREATMENT PLANT	
LEGAL DESCRIPTION	ADDRESS
LOT 1, BLOCK 2, AUDITOR'S SUBDIVISION TO THE CITY OF GRAND FORKS NORTH DAKOTA	950 S 56TH STREET, GRAND FORKS, ND 58201
ZONING: I-2: HEAVY INDUSTRIAL	

PARKING DATA	REQUIRED	PROVIDED
MAIN PARKING LOT (WEST LOT)	14	14
SECONDARY PARKING LOT (EAST LOT)	N/A	5
ADA PARKING	1	1

PARKING REQUIREMENT: ONE (1) SPACE REQUIRED PER EMPLOYEE. GFRWTP OFFICIALS HAVE STATED THAT A MAXIMUM OF 14 EMPLOYEES ARE ON STAFF DURING THE LARGEST SHIFT.

SITE DATA	PROPOSED SQ.FT.	%
TOTAL LOT AREA	1585252.59	N/A
BUILDING AREA	134339.84	8.47%
OTHER IMPERVIOUS AREA (SIDEWALKS, DRIVES & PARKING)	227545.99	14.35%
TOTAL IMPERVIOUS SURFACE AREA	361885.83	22.83%
TOTAL PERVIOUS AREA	1223366.96	77.17%
MAX. IMPERVIOUS SURFACE AREA ALLOWED (85%)	1347464.70	85%

GENERAL NOTES

1. CITY REQUIRED BUFFER YARDS WILL BE A MODIFIED BUFFERYARD D. OWNER WILL PROVIDE ALL PLANTINGS TO BE INSTALLED IN BERM. SEE BUFFERYARD PLAN.
2. FRONT YARD REQUIREMENTS: FRONT YARD SHALL BE NOT LESS THAN TWENTY-FIVE (25) FEET WITH ONE (1) ADDITIONAL FOOT FOR EACH FOOT IN HEIGHT THE BUILDING EXCEEDS TWENTY-FIVE (25) FEET. THE FRONT YARD DEPTH ON CORNER LOTS SHALL BE IN ACCORDANCE WITH THE PREVAILING YARD PATTERN AND A SECOND FRONT YARD OF HALF THE DEPTH REQUIRED GENERALLY FOR FRONT YARDS SHALL BE PROVIDED ON THE OTHER FRONTAGE.
3. SIDE YARD REQUIREMENTS: THERE SHALL BE A SIDE YARD OF FIFTEEN (15) FEET, PROVIDED THERE SHALL BE NO PAVING, PARKING, LOADING, OR STORAGE WITHIN FIVE (5) FEET OF THE LOT LINE. ALL LOTS LOCATED ADJACENT TO OR ADJOINING ANY OTHER DISTRICT SHALL CONFORM TO THE BUFFERYARD REQUIREMENTS IN SECTION 18-0309 OF THE ZONING CODE
4. REAR YARD REQUIREMENTS: THERE SHALL BE A REAR YARD HAVING A MINIMUM DEPTH OF NOT LESS THAN TWENTY (20) FEET.
5. ALL WORK PERFORMED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE CITY OF GRAND FORKS STANDARD CONSTRUCTION SPECIFICATIONS. PRIOR TO DOING ANY WORK IN THE CITY RIGHT-OF-WAY THE CONTRACTOR SHALL CALL THE ENGINEERING DEPARTMENT AT 746-2640.
6. ALL LANDSCAPING SHALL BE PROTECTED FROM VEHICULAR TRAFFIC BY STANDARD CONCRETE CURB AND GUTTER
7. ALL SIGNS TO BE APPROVED BY THE GRAND FORKS INSPECTIONS DEPARTMENT (CONVENTIONAL ZONING) OR PLANNING DEPARTMENT (PLANNED UNIT DEVELOPMENT).
8. ALL DRIVEWAYS LEADING TO REFUSE CONTAINERS SHALL BE CONSTRUCTED OF 8" CONCRETE WITH A MINIMUM 6" COMPACTED BASE, OR EQUIVALENT.
9. WATER SERVICE TO THE PROPERTY SHALL BE CONSTRUCTED OF AWWA C900 DR-18 PVC.
10. SANITARY SEWER PIPE WILL BE ASTM D3034 SDR-35 PVC.
11. ALL STORM SEWER PIPE SHALL BE RCP.
12. COORDINATE NATURAL GAS INSTALLATION WITH NATURAL GAS PROVIDER. COORDINATE BUILDING CONNECTION WITH MECHANICAL.
13. CONTACT CITY ENGINEERING DEPARTMENT FOR STORMWATER RUNOFF PERMIT REQUIREMENT. (701-746-2640) A STORM WATER POLLUTION PREVENTION PLAN MUST BE APPROVED PRIOR TO FINAL SITE PLAN APPROVAL.

APPROVED FOR CONSTRUCTION

APPROVED DATE: _____

ALLEN GRASSER, PE
City Engineer, City of Grand Forks, ND

Accepted & Approved
By City of Grand Forks, ND
Planning & Community
Development Department

Name: _____

Title: PLANNER

Date: February 12, 2017

NORTH

0 100
Scale in Feet

CONSTRUCTION NOTES

1. 8" WATER SERVICE
2. 8" FIRE SERVICE
3. EXISTING RESIDUALS FORCEMAIN (TO BE ABANDONED)
4. CONNECT TO EXISTING RESIDUALS FORCEMAIN
5. CHAIN LINK FENCE
6. CHAIN LINK GATE
7. AUTOMATED GATE
8. RIPRAP
9. SOLID WASTE CONTAINER LOCATION
10. HEAVY DUTY (8") CONCRETE PAVEMENT
11. LIGHT DUTY (6") CONCRETE PAVEMENT
12. GRAVEL SERVICE ROAD
13. DEPRESSED LOADING DOCK
14. ELECTRICAL TRANSFORMERS
15. TRUCK PARKING
16. BUS PARKING
17. SIGNAGE WALL
18. FUTURE CAMPUS SIGNAGE
19. GENERATOR AND PAD
20. NATURAL GAS SERVICE. ROUTING TO BE COORDINATED ON SITE

LEGEND

- BEEHIVE INLET
- STORM SEWER MANHOLE
- FLARED END SECTION
- STORM SEWER
- GATE VALVE
- FIRE HYDRANT
- DOMESTIC WATER MAIN
- TRANSFER WATER
- RAW WATER
- CLEAN OUT
- SANITARY SEWER MANHOLE
- SANITARY SEWER
- NATURAL GAS LINE
- UGE — UNDERGROUND ELECTRIC
- RO CONCENTRATE EFFLUENT
- HIGH SOLIDS EFFLUENT
- PROPOSED TREE
- PROPOSED EVERGREEN SHRUB
- PROPERTY LINE
- EASEMENT LINE
- VISIBILITY TRIANGLE
- EXISTING WATER MAIN
- EXISTING GATE VALVE
- EXISTING FIRE HYDRANT
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER

BY/M	DATE	DESCRIPTION	APPR

AE2S

REGIONAL WATER TREATMENT PLANT
CITY OF GRAND FORKS, NORTH DAKOTA
SITE OVERVIEW

CLIENT PROJECT NO: 7293
DRAWING TYPE: CONST
PREPARED BY: JB JB
CHECKED / APPROVED: ML / BG
DATE: NOV. 2016
PROJECT NUMBER: P00105-2007-006 CAD
SHEET: 5 of 65
DRAWING: C1.002

APPENDIX L

Washburn
... on the Missouri River.

City of Washburn

PO Box 467 • Washburn, ND 58577 • 701-462-8558
washburnnd.com • cityofwashburn@westriv.com

August 29, 2019

Garland Erbele, PE
State Engineer
North Dakota State Water Commission
900 East Boulevard Ave
Bismarck, ND 58505

RE: Washburn Intake Improvements – Funding Increase Request (Grant 2050-15)

Dear Mr. Erbele:

The purpose of this letter is to outline progress on the Washburn Intake Project, changes to project cost, and request an increase of funding provided by the North Dakota State Water Commission (SWC) grant 2050-15 awarded to the City of Washburn.

In 2015, the SWC committed to a 65/35 cost share related to a water intake project for the City of Washburn. The total SWC funding amount was set at $2,334,250, which is 65% of the original estimated project cost of $3,595,000. Since receiving the grant, the City of Washburn selected Advanced Engineering and Environmental Services (AE2S) to aid in taking the necessary steps to complete the intake project. AE2S completed a project study and intake alternatives evaluation in 2016, preliminary design in 2017, and final design in 2018. The project was originally scheduled to start construction in 2018; however, abnormally high river flows throughout the summer of 2018 caused the main river channel to shift substantially. This ultimately led to the project being postponed and the need to reevaluate the intake location. Ultimately, the City selected an alternate location and completed final design this year on a new intake located farther away from the existing Washburn water treatment plant, but on a more stable section of the river. Lastly, when the City opened bids on August 15th, they were higher than expected due to location of the intake and current bidding market. Once the project budget was updated with the lowest qualified bids, the new project budget came to $4,656,500.

The City of Washburn currently has $2,334,250 of funding through the ND State Water Commission and $1,026,025 of funding through the FEMA PDM grant. However, as discussed above, more than $1 million has been added to the project cost. These cost increases were due to updated installation costs, critical design changes, increases in material costs due to market changes, and inflation for constructing in 2019 versus 2018. In addition, it is prudent to point out that the City of Washburn is a regional supplier of water, as it provides water to McLean-Sheridan Rural Water District.

In consideration of everything discussed above, the City of Washburn is respectfully requesting a funding increase of $692,475 to lower the financial burden on the City of Washburn residents. If approved, these additional funds would bring the total SWC grant awarded to the City of Washburn to $3,026,725, which is 65% of the new project cost of $4,656,500. Please find the project budget summary attached.

If possible, I would like to be added to the next SWC meeting agenda on October 10, 2019 to present this funding increase request. If you have any questions, please contact me at (701) 315-0011 or

tlarry122@gmail.com. I look forward to working with the SWC to provide affordable, quality drinking water to residents of the City of Washburn and McLean County.

Sincerely,

Larry Thomas
City of Washburn
Commission President

Attachments:
As Stated

Washburn
NORTH DAKOTA

Washburn 2019 Intake Improvements
Project Budget Summary
Updated: 8/28/2019

Project Cost Summary	2018	2019
	$ 3,595,000	$ 4,656,500

SWC Funding	2018	2019	Proposed
SWC Grant	$ 2,334,250	$ 2,334,250	$ 2,334,250
SWC Grant Increase	$ -	$ -	$ 692,475
Total SWC Funding	$ 2,334,250	$ 2,334,250	$ 3,026,725
Percent of Total Project Cost	65%	50%	65%

Total Funding	2018	2019	Proposed
SWC Grant	$ 2,334,250	$ 2,334,250	$ 3,026,725
FEMA Grant	$ 1,026,025	$ 1,026,025	$ 1,026,025
Local Share: City Funds*	$ 234,725	$ 1,296,225	$ 603,750
Total Funding	$ 3,595,000	$ 4,656,500	$ 4,656,500

City of Washburn
Water Intake
Updated: September 2013

City of Washburn
Horizontal Collector Well Intake
September 2013

Item	**Estimated Cost**
HCW Investigation	$275,000
General Conditions	$250,000
General Construction	
Site Work	$80,000
Wet Well and Pump Station	$1,000,000
Equipment	$180,000
Transmission Piping	$850,000
Mechanical Construction	$60,000
Electrical Construction	$250,000
Subtotal	$2,945,000
Engineering, Administration, Legal, and Contingencies	$650,000
OPINION OF TOTAL PROBABLE PROJECT COST	$3,595,000

Tabulation of Bids
2019 Intake Improvements
Washburn, ND
Project No. P00540-2010-001
Bid Opening 2:00 PM, August 15, 2019

Contractor	Acknowledge Addenda 1-3	Bid Bond	Contractor's License	MBE/WBE Solicitation Info	SRF Debarment Certification	Bid Form	Non-Collusion Affidavit Form	Bidder Qualification Form	Subcontractor Qualification Forms	List of Proposed Suppliers	Desc of Shaft Excavation Method (Contract 1 & 3)	CONTRACT NO. 1 - GENERAL CONSTRUCTION	ALTERNATE NO. 1 SHORELINE RIP RAP	CONTRACT NO. 2 - ELECTRICAL CONSTRUCTION	ALTERNATE NO. 2 BACK-UP GENERATOR	CONTRACT NO. 3 - COMBINED GENERAL AND ELECTRICAL CONSTRUCTION	ALTERNATE NO. 1 SHORELINE RIP RAP	ALTERNATE NO. 2 BACK-UP GENERATOR
Engineering & Construction Innovations, Inc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	$3,061,600.00	$102,000.00	No Bid	No Bid	$3,267,600.00	$102,000.00	$300,000.00
Carstensen Contracting, Inc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	$3,358,800.00 *	$58,000.00	No Bid	No Bid	$3,598,800.00 *	$58,000.00	$348,000.00
John's Refrigeration & Electric, Inc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		No Bid	No Bid	$141,900.00	$261,900.00	No Bid	No Bid	No Bid
Burlington Electric, Inc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		No Bid	No Bid	$171,750.00	$272,600.00	No Bid	No Bid	No Bid
Edling Electric, Inc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		No Bid	No Bid	$188,400.00	$339,000.00	No Bid	No Bid	No Bid
Bergstrom Electric, Inc.	✓	✓	✓	✓	✓	✓	✓	✓	✓			No Bid	No Bid	$204,400.00	$328,700.00	No Bid	No Bid	No Bid
Engineer's Estimate												*$2,520,000.00*	*$60,000.00*	*$165,000.00*	*$270,000.00*			

*Different from "as-read" results due to math error

Advanced Engineering and Environmental Services, Inc.
1815 Schafer Street, Suite 301
Bismarck, ND 58501
Tel: 701-221-0530

True Tabulation of Bids
Respectfully Submitted by:

Eric Lothspeich, PE

Washburn
NORTH DAKOTA

Washburn 2019 Intake Improvements
Project Budget Summary
Updated: 8/28/2019

Project Cost Summary	2018	2019
	$ 3,595,000	$ 4,656,500

SWC Funding	2018	2019	Proposed
SWC Grant	$ 2,334,250	$ 2,334,250	$ 2,334,250
SWC Grant Increase	$ -	$ -	$ 692,475
Total SWC Funding	$ 2,334,250	$ 2,334,250	$ 3,026,725
Percent of Total Project Cost	65%	50%	65%

Total Funding	2018	2019	Proposed
SWC Grant	$ 2,334,250	$ 2,334,250	$ 3,026,725
FEMA Grant	$ 1,026,025	$ 1,026,025	$ 1,026,025
Local Share: City Funds*	$ 234,725	$ 1,296,225	$ 603,750
Total Funding	$ 3,595,000	$ 4,656,500	$ 4,656,500

0 200
Scale in Feet

SYM	DATE	DESCRIPTION	APPR

2019 INTAKE IMPROVEMENTS
CITY OF WASHBURN
WASHBURN, NORTH DAKOTA

SITE OVERVIEW

DRAWING TYPE: CONSTRUCTION
PREPARED BY: RFM
CHECKED / APPROVED: TN / EL
DATE: JUNE 2019
PROJECT NUMBER: P00540-2010-001
SHEET: 01 of 12
DRAWING: C01

APPENDIX M

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (5/2019)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
AWUD: User and System Expansion

Sponsor(s)
Agassiz Water Users District

County	City	Township/Range/Section
Grand Forks and Walsh County		

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Add 20 new users to the system, add new pipeline to bring ECRWD water to the remaining AWUD system.

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
Agassiz Water Users District

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Currently, portions of the system lack pressure during peak spray season. The southern portions of the system have smaller size pipelines and with the change in water practices within agriculture, many of the pipelines are now undersized. Also, 20-users have requested to become members of AWUD.

The project will involve up sizing pipelines throughout the southern corridor of the system. The up-size in pipeline will allow full regionalization with ECRWD, the addition of the proposed project, will allow AWUD to decommission there WTP and purchase all water from ECRWD. The combined system will allow for greater efficiencies.

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone (attach additional documents as needed)
The project has been reviewed by the board of directors, submitted to the ND SWC, added to the DWSRF IUP list.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? None at this time

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 2,987,507.00	$
Other State	$	$	$	$
Local	$	$	$ 995,836.00	$
Total	$ 0.00	$ 0.00	$ 3,983,343.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
AWUD is currently applying for the local share through DWSRF.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Final Design: October 2019 - April 2020
Construction: June 2020 - November 2021

Have Assessment Districts Been Formed? ☐ Yes ☐ No ☐ Ongoing ☑ Not Applicable

Submitted By: John Eaton			Date: 07/19/19
Address: 217 Main Ave	City: Gilby	State: ND	ZIP Code: 58235
Telephone Number: 701-869-2690		Engineer Telephone Number: 701-213-7580	
Sponsor Email Address: John.Eaton@AWUD.org		Engineer Email Address: Geoffrey.slick@ae2s.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: John Eaton Date: 7/26/19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

July 19, 2019

Garland Erbele, P.E.
North Dakota State Water Commission
900 E Boulevard Ave
Bismarck ND 58505-0850

Re: AWUD: User and System Expansion
Agassiz Water User District

Dear Mr. Erbele:

Recently, Agassiz Water Users District (AWUD) regionalized with East Central Regional Water District (ECRWD). The project sponsored by ECRWD was complete in 2018 and supplied the southern half of AWUD with finished water from ECRWD.

With the completion of the ECRWD project, AWUD next phase includes the addition of 20 new users, the addition of transmission pipeline to increase capacity to the Northern and Eastern reaches of the system. The additional pipeline will allow AWUD to decommission there existing aging WTP. The total project cost is estimated at $3,983,343.

With ND SWC approval, AWUD would complete design this winter, being able to award construction contracts for work to take place in the spring of 2020. AWUD is currently requesting $273,750 in matching grant share, which is 75% of the $365,000 total estimated preconstruction project costs of the above referenced project.

AWUD looks forward to working with the State Water Commission in completing this very important project.

Sincerely,

John Eaton
AWUD Manager

cc: Geoffrey Slick, AE2S

AWUD: User and Tranmission Pipeline Expansion

OPINION OF TOTAL PROBABLE PROJECT COSTS

Last Updated: September 6, 2019

Upsize 5" to 12" from Reservoir 5 to Reservoir 4

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
1.0	**12" Pipeline Construction**				
a.	Mobilization	1	l.s.	$50,000.00	$50,000.00
b.	Pipe				
	1. 12-Inch PVC - CL160	51,200	l.f.	$18.00	$921,600.00
c.	Gate Valves				
	1. 12-Inch	3	ea.	$1,500.00	$4,500.00
d.	1-inch Flush/Air Blow-off Valve	2	ea.	$1,000.00	$2,000.00
e.	Special Connections	2	ea.	$2,500.00	$5,000.00
f.	Non-Cased Bores				
	1. 12-Inch	10	ea.	$10,000.00	$100,000.00
g.	Directional Bores				
	1. 12-Inch POLY - SDR11	800	l.f.	$70.00	$56,000.00
h.	Signs	5	ea.	$60.00	$300.00
I.	Seeding	10	acre	$1,000.00	$10,000.00
j.	Gravel	200	ton	$25.00	$5,000.00
	Subtotal				**$1,154,400.00**

Upsize 3.5" to 6" from Reservoir 5 to 6

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
2.0	**6" Pipeline Construction**				
a.	Mobilization	1	l.s.	$15,000.00	$15,000.00
b.	Pipe				
	1. 6-Inch PVC - CL160	42,950	l.f.	$8.00	$343,600.00
c.	Gate Valves				
	1. 6-Inch	4	ea.	$1,500.00	$6,000.00
d.	1-inch Flush/Air Blow-off Valve	2	ea.	$1,000.00	$2,000.00
e.	Special Connections	4	ea.	$2,500.00	$10,000.00
f.	Non-Cased Bores				
	1. 6-Inch	8	ea.	$3,500.00	$28,000.00
g.	Directional Bores				
	1. 6-Inch POLY - SDR11	1,250	l.f.	$30.00	$37,500.00
h.	Signs	6	ea.	$60.00	$360.00
I.	Seeding	10	acre	$1,000.00	$10,000.00
j.	Gravel	200	ton	$25.00	$5,000.00
n.	Pressure Reducing Valve Vaults				
	1. 6-Inch	1	ea.	$75,000.00	$75,000.00
	Subtotal				**$532,460.00**

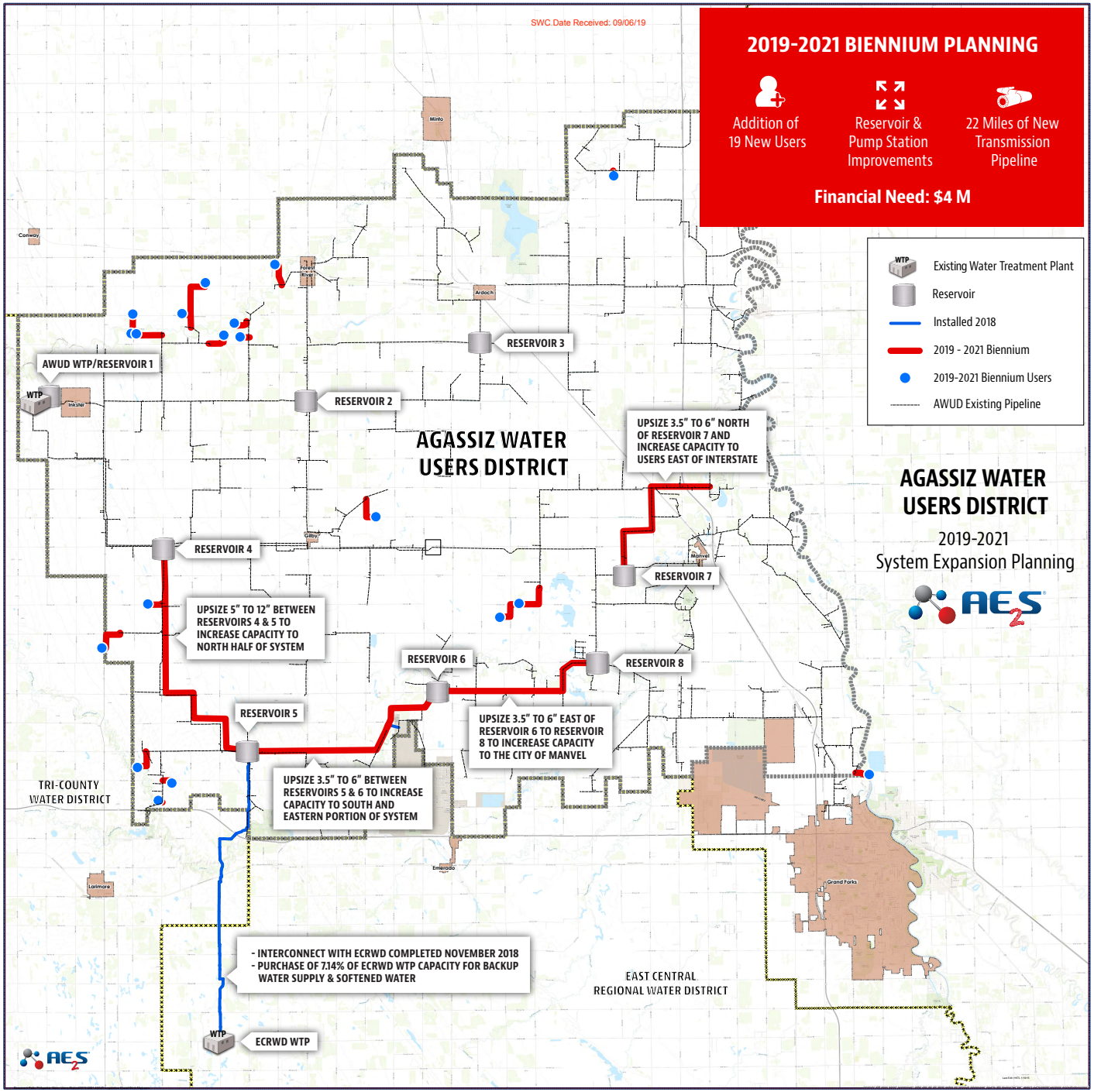
Upsize from East end of 6" East of Reservoir 6 to Reservoir 8

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
3.0	**6" Pipeline Construction**				
a.	Mobilization	1	l.s.	$15,000.00	$15,000.00
b.	Pipe				
	1. 6-Inch PVC - CL160	35,000	l.f.	$8.00	$280,000.00
c.	Gate Valves				
	1. 6-Inch	6	ea.	$1,500.00	$9,000.00
d.	1-inch Flush/Air Blow-off Valve	5	ea.	$1,000.00	$5,000.00
e.	Special Connections	2	ea.	$2,500.00	$5,000.00
f.	Non-Cased Bores				
	1. 6-Inch	8	ea.	$3,500.00	$28,000.00
g.	Directional Bores				
	1. 6-Inch POLY - SDR11	1,250	l.f.	$30.00	$37,500.00
h.	Signs	11	ea.	$60.00	$660.00
I.	Seeding	10	acre	$1,000.00	$10,000.00
j.	Gravel	100	ton	$25.00	$2,500.00
	Base Bid Subtotal				**$392,660.00**

Upsize 3.5" to 6" from Reservoir 7 to North

	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
4.0	**6" Pipeline Construction**				
a.	Mobilization	1	l.s.	$15,000.00	$15,000.00
b.	Pipe				
	1. 6-Inch PVC - CL160	20,000	l.f.	$8.00	$160,000.00
c.	Gate Valves				
	1. 6-Inch	6	ea.	$1,500.00	$9,000.00
d.	1-inch Flush/Air Blow-off Valve	5	ea.	$1,000.00	$5,000.00
e.	Special Connections	2	ea.	$2,500.00	$5,000.00
f.	Non-Cased Bores				
	1. 6-Inch	6	ea.	$3,500.00	$21,000.00
g.	Directional Bores				
	1. 6-Inch POLY - SDR11	400	l.f.	$30.00	$12,000.00
h.	Signs	11	ea.	$60.00	$660.00
I.	Seeding	10	acre	$1,000.00	$10,000.00
j.	Gravel	100	ton	$25.00	$2,500.00
	Base Bid Subtotal				**$240,160.00**

2019-2021 Biennium User Expansion					
				UNIT	TOTAL
	ITEM DESCRIPTION	QUANTITY	UNIT	COST	COST
5.0	**Base Bid Pipeline**				
a.	Mobilization	1	l.s.	$9,000.00	$9,000.00
b.	Pipe				
	1. 2-Inch PVC - CL200	65,000	l.f.	$4.50	$292,500.00
c.	Gate Valves				
	1. 2-Inch	8	ea.	$900.00	$7,200.00
d.	1-inch Flush/Air Blow-off Valve	10	ea.	$1,000.00	$10,000.00
f.	New 2-inch Tie Into Existing System Using a Saddle				
	1. New 2-inch to 1.5 to 4-inch Existing Main	15	ea.	$1,100.00	$16,500.00
g.	Non-Cased Bores				
	1. 2-Inch	17	ea.	$1,200.00	$20,400.00
h.	Directional Bores				
	1. 2-Inch POLY - SDR11	4,835	l.f.	$12.00	$58,020.00
i.	Signs	18	ea.	$60.00	$1,080.00
j.	Seeding	20	acre	$1,000.00	$20,000.00
k.	Gravel	300	ton	$25.00	$7,500.00
l.	1-inch Curb Valve	19	ea.	$1,000.00	$19,000.00
m.	Residential Meter Setters	19	ea.	$1,000.00	$19,000.00
	Sub-Total Probable Construction Costs				**$480,200.00**
	RESERVOIR/PUMPSTATION EXPANSIONS				
	Reservoir 4 (New bypass)			$20,000.00	$20,000.00
	Reservoir 5 (Upsize fill and bypass piping, modify pumps)			$75,000.00	$75,000.00
	Reservoir 6 (Modify pumps)			$30,000.00	$30,000.00
	Reservoir 8 (Upsize fill and bypass piping, modify pumps)			$75,000.00	$75,000.00
	Sub-Total Probable Construction Costs				**$200,000.00**
	Total Probable Construction Costs				**$2,999,880.00**
	ADMINISTRATIVE COSTS				
	Archelogical				$20,000.00
	Crop Reimbursement				$80,000.00
	ENGINEERING				
	Feasibility				$25,000.00
	Design				$299,988.00
	Bidding				$20,000.00
	Construction				$358,482.60
	Post Construction (.5%)				$29,998.80
	CONTINGENCIES (5%)				$149,984.00
	Total Probable Construction Costs				**$983,453.40**
			TOTAL PROJECT COSTS:		**$3,983,333.40**



APPENDIX N

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (5/2019)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
ECRWD: 2019 System Expansion and District Interconnect

Sponsor(s)
East Central Regional Water District

County	City	Township/Range/Section
Grand Forks and Traill County		

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Interconnect with TRWD, provide more water to the eastern side of the system, additional of well capacity

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☒ No

Jurisdictions/Stakeholders Involved
East Central Regional Water District

Description Of Problem Or Need And How Project Addresses That Problem Or Need

Addition of approximately 20 users to East Central Regional Water District. Addition of wellfield/wells/raw water transmission pipeline to ECRWD system to increase raw water permit capacity. The regionalization with neighboring systems has increased raw water usage. The addition of new wells and obtaining water from neighboring water districts is needed to meet demands. Addition of pipeline to interconnect the GFTWD Branch to the TRWD branch on the eastern side of the ECRWD. Addition of transmission pipeline south of the ECRWD WTP to increase capacity from the WTP area of the system to the eastern side of the system. Currently, during spray season, GFTWD does not have adequate distribution capacity. Several times the existing reservoirs have went dry during heavy spray days.

Has Feasibility Study Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone (attach additional documents as needed)
The project has been reviewed by the board of directors, submitted to the ND SWC, added to the DWSRF IUP list, and has been presented at the ECRWD annual meeting.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? None at this time

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$	$	$ 4,116,121.00	$
Other State	$	$	$	$
Local	$	$	$ 1,372,040.00	$
Total	$ 0.00	$ 0.00	$ 5,488,161.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
ECRWD is currently on the ND DWSRF IUP list.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Final Design: October 2019 - April 2020
Construction: June 2020 - November 2021

Have Assessment Districts Been Formed?	☐ Yes	☐ No	☐ Ongoing	☑ Not Applicable

Submitted By Neil Breidenbach			**Date** 07/11/19
Address 1401 7th Ave NE	**City** Thompson	**State** ND	**ZIP Code** 58278
Telephone Number 701-599-2963		**Engineer Telephone Number** 701-213-7580	
Sponsor Email Address Neilbre@yahoo.com		**Engineer Email Address** Geoffrey.slick@ae2s.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: Neil Breidenbach	Date: 7-26-19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

East Central Regional Water District

PO Box 287
1401 7th Avenue NE
Thompson, ND 58278

Neil Breidenbach
System Manager

Phone: 701-599-2963
Fax: 701-599-2056
Website: www.ecrwd.com

July 11, 2019

Garland Erbele, P.E.
North Dakota State Water Commission
900 E Boulevard Ave
Bismarck ND 58505-0850

Re: ECRWD: 2019 System Expansion and District Interconnect
East Central Regional Water District

Dear Mr. Erbele:

Recently, East Central Regional Water District (ECRWD) completed the GFTWD: Phase 3 System Expansion Project. The project included the necessary transmission pipelines and required to deliver water from the GFTWD system to the west half of the TRWD system, the City of Larimore, and the south half of Agassiz Water User District.

With the completion of the phase 3 project, the next phase includes the addition of 20 new users, the addition of transmission pipeline to increase capacity to the eastern reaches of the system, the addition of pipelines to provide and receive water from the TRWD branch of ECRWD, and the addition of wells/raw water transmission pipelines to provide more raw water capacity to the ECRWD WTP. The total project cost is estimated at $5,448,161.

With ND SWC approval, ECRWD would complete design this winter, being able to award construction contracts for work to take place in the spring of 2020. ECRWD is currently requesting $375,000 in matching grant share, which is 75% of the $500,000 total estimated preconstruction project costs of the above referenced project.

ECRWD looks forward to working with the State Water Commission in completing this very important project.

Sincerely,

Neil Breidenbach
ECRWD Manager

cc: Geoffrey Slick, AE2S

ECRWD: 2019 System Expansion and District Interconnect

12" PVC TRANSMISSION PIPELINE CONSTRUCTION - RESERVOIR 1 TO HWY 81 & CR10

ITEM	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT COST	EXTENDED COST
A.	**Mobilization**	1	l.s.	$42,000.00	$42,000.00
B.	**Water Main**				
	1. 12-inch PVC SDR 26 CL 160 IPS	51,998	l.f.	$17.00	$883,966.00
C.	**Gate Valves**				
	1. 12-inch **(PE X PE)**	4	ea.	$6,000.00	$24,000.00
D.	**1-Inch Flush/Air Blow-off Valve**				
	1. 1-Inch Flush/Air Blow-off Valve	4	ea.	$1,000.00	$4,000.00
E.	**Air Release Valves**				
	1. Air Release Valves	4	ea.	$7,000.00	$28,000.00
F.	**Non-Cased Bores**				
	1. 12-Inch DR 11 IPS POLY **(100' Length)**	11	ea.	$6,000.00	$66,000.00
G.	**Directional Bores**				
	1. 12-Inch DR 11 IPS POLY	400	l.f.	$60.00	$24,000.00
H.	**Cased Bores**				
	1. 12-Inch DR 11 IPS POLY (16-inch Casing)	1	l.s.	$100,000.00	$100,000.00
I.	**Fittings**				
	1. 12-Inch POLY 90° Bend	8	ea.	$1,000.00	$8,000.00
J.	**Tie-Ins to Existing System**				
	1. New 12-Inch to Ex. 1.5-3-Inch	21	ea.	$1,800.00	$37,800.00
	2. New 12-Inch to Ex. 6-Inch	2	ea.	$4,500.00	$9,000.00
K.	**Signs**	12	ea.	$150.00	$1,800.00
L.	**Seeding**	10	acre	$600.00	$6,000.00
				SUBTOTAL:	**$1,234,566.00**

16" PVC TRANSMISSION PIPELINE CONSTRUCTION - WATER TOWER TO JENSVILLE

ITEM	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT COST	EXTENDED COST
A.	**Mobilization**	1	l.s.	$45,000.00	$45,000.00
B.	**Water Main**				
	1. 8-inch PVC SDR 26 CL 160 IPS	10,586	l.f.	$12.00	$127,032.00
	2. 16-inch PVC SDR 26 CL 160 IPS	46,421	l.f.	$28.00	$1,299,788.00
C.	**Gate Valves**				
	1. 8-inch	2	ea.	$3,000.00	$6,000.00
	2. 16-inch	5	ea.	$8,000.00	$40,000.00
D.	**1-Inch Flush/Air Blow-off Valve**	11	ea.	$1,000.00	$11,000.00
E.	**Air Release Valves**	6	ea.	$9,000.00	$54,000.00
F.	**Non-Cased Bores**				
	1. 8-Inch DR 11 IPS POLY **(100' Length)**	3	ea.	$3,000.00	$9,000.00
	2. 16-Inch DR 11 IPS POLY **(100' Length)**	11	ea.	$11,000.00	$121,000.00
G.	**Poly Bores**				
	1. 8-Inch DR 11 IPS POLY	700	L.F.	$30.00	$21,000.00
	2. 16-Inch DR 11 IPS POLY	1100	L.F.	$90.00	$99,000.00
H.	**Fittings**				
	1. 16-Inch POLY 90° Bend	8	ea.	$2,500.00	$20,000.00
I.	**Tie-Ins to Existing System**				
	1. New 16-Inch to Ex. Pipe	22	ea.	$4,500.00	$99,000.00
J.	**Signs**	21	ea.	$150.00	$3,150.00
K.	**Seeding**	30	acre	$600.00	$18,000.00
				SUBTOTAL:	**$1,972,970.00**

USER EXPANSION - 20 NEW

ITEM	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT COST	EXTENDED COST
A.	**Mobilization**	1	l.s.	$15,000.00	$15,000.00
B.	**Water Main**				
	1. 2-inch PVC SDR 21 CL 200 IPS	53,060	l.f.	$3.75	$198,975.00
C.	**Gate Valves**				
	1. 2-inch **(PE X PE)**	3	ea.	$6,000.00	$18,000.00
D.	**1-Inch Flush/Air Blow-off Valve**				
	1. 1-Inch Flush/Air Blow-off Valve	8	ea.	$1,000.00	$8,000.00
E.	**Non-Cased Bores**				
	1. 2-Inch DR 11 IPS POLY **(100' Length)**	25	ea.	$6,000.00	$150,000.00
F.	**Directional Bores**				
	1. 2-Inch DR 11 IPS POLY	1300	l.f.	$60.00	$78,000.00
G.	**Tie-Ins to Existing System**				
	1. New 2-Inch to Ex. 1.5-3-Inch	7	ea.	$1,800.00	$12,600.00
	2. New 2-Inch to Ex. 4-12-Inch	5	ea.	$2,000.00	$10,000.00
H.	**Signs**	11	ea.	$150.00	$1,650.00
I.	**Seeding**	10	acre	$600.00	$6,000.00
J.	**Curbstop**	20	ea.	$1,000.00	$20,000.00
K.	**Meter Assembly**	20	ea.	$750.00	$15,000.00
				SUBTOTAL:	**$533,225.00**

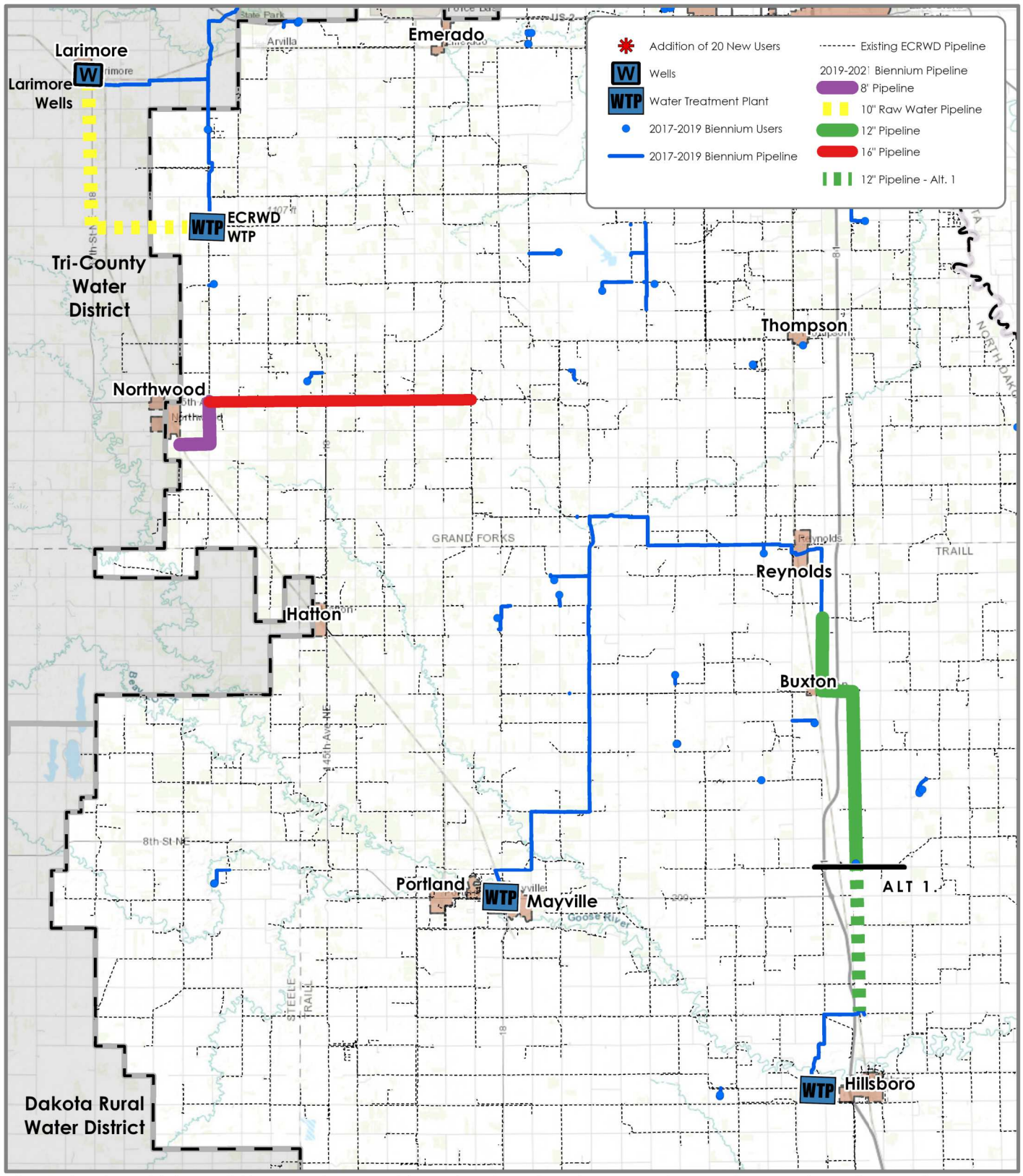
10" PVC TRANSMISSION PIPELINE CONSTRUCTION - WELLFIELD TO WTP

ITEM	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT COST	EXTENDED COST
A.	**Mobilization**	1	l.s.	$17,575.20	$17,575.20
B.	**Water Main**				
	1. 10-inch PVC SDR 26 CL 160 IPS	29,896	l.f.	$15.00	$448,440.00
C.	**Gate Valves**				
	1. 10-inch	2	ea.	$8,000.00	$16,000.00
D.	**1-Inch Flush/Air Blow-off Valve**	2	ea.	$1,000.00	$2,000.00
E.	**Non-Cased Bores**				
	1. 10-Inch DR 11 IPS POLY **(100' Length)**	4	ea.	$4,500.00	$18,000.00
F.	**Poly Bores**				
	1. 10-Inch DR 11 IPS POLY **(100' Length)**	600	l.f.	$50.00	$30,000.00
G.	**Cased Bores**				
	1. 10-Inch DR 11 IPS POLY **(250' Length)**	1	ea.	$45,000.00	$45,000.00
H.	**Fittings**				
	1. 10-Inch POLY 90° Bend	6	ea.	$2,000.00	$12,000.00
I.	**Tie-Ins to Existing System**				
	1. New 12-Inch to Ex. Pipe	2	ea.	$4,500.00	$9,000.00
J.	**Signs**	4	ea.	$150.00	$600.00
K.	**Seeding**	8	acre	$600.00	$4,800.00
				SUBTOTAL:	**$603,415.20**
				TOTAL:	**$4,344,176.20**

	ADMINISTRATIVE COSTS	
	Crop Reimbursement	$98,984.80
	Archeological (Preconstruction)	$30,000.00
	ENGINEERING	
	Preliminary Engineering Report (Preconstruction)	$20,000.00
	Design (Preconstruction)	$430,000.00
	Bidding (Preconstruction)	$20,000.00
	Construction (Construction)	$500,000.00
	Post Construction (Construction)	$45,000.00
	TOTAL PROJECT COSTS:	**$5,488,161.00**

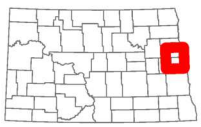
12" PVC TRANSMISSION PIPELINE CONSTRUCTION - CR10 TO TRWD INTERCONNECT - PROPOSED ALTERNATE

ITEM	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT COST	EXTENDED COST
A.	**Mobilization**	1	l.s.	$15,000.00	$15,000.00
B.	**Water Main**				
	1. 12-inch PVC SDR 26 CL 160 IPS	27,828	l.f.	$17.00	$473,076.00
C.	**Gate Valves**				
	1. 12-inch **(PE X PE)**	3	ea.	$6,000.00	$18,000.00
D.	**1-Inch Flush/Air Blow-off Valve**				
	1. 1-Inch Flush/Air Blow-off Valve	3	ea.	$1,000.00	$3,000.00
E.	**Air Release Valves**				
	1. Air Release Valves	1	ea.	$7,000.00	$7,000.00
F.	**Non-Cased Bores**				
	1. 12-Inch DR 11 IPS POLY **(100' Length)**	9	ea.	$6,000.00	$54,000.00
G.	**Directional Bores**				
	1. 12-Inch DR 11 IPS POLY	200	l.f.	$60.00	$12,000.00
H.	**Cased Bores**				
	1. 12-Inch DR 11 IPS POLY (16-inch Casing)	0	l.s.	$100,000.00	$0.00
I.	**Fittings**				
	1. 12-Inch POLY 90° Bend	4	ea.	$1,000.00	$4,000.00
J.	**Tie-Ins to Existing System**				
	1. New 12-Inch to Ex. 1.5-3-Inch	0	ea.	$1,800.00	$0.00
	2. New 12-Inch to Ex. 6-Inch	2	ea.	$4,500.00	$9,000.00
K.	**Signs**	7	ea.	$150.00	$1,050.00
L.	**Seeding**	10	acre	$600.00	$6,000.00
				ALTERNATE 1 SUBTOTAL:	**$602,126.00**



Information depicted may include data unverified by AE2S. Any reliance upon such data is at the user's own risk. AE2S does not warrant this map or its features are either spatially or temporally accurate.

Coordinate System: | Edited by: lrengstorf | P:\East Central Regional Water District\ECRWD.aprx



Locator Map Not to Scale

2019-2021 SYSTEM EXPANSION & INTERCONNECT

EAST CENTRAL REGIONAL WATER DISTRICT
NORTH DAKOTA

N

1:300,000

Date: 9/25/2019

APPENDIX O

RECEIVED
AUG 26 2019
STATE WATER COMMISSION

COST-SHARE REQUEST
NORTH DAKOTA STATE WATER COMMISSION
DEVELOPMENT DIVISION
SFN 60439 (5/2019)

This form is to be filled out by the project or program sponsor with State Water Commission staff assistance as needed. Applications for cost-share are accepted at any time. However, applications received less than 45 days before a State Water Commission meeting will be held for consideration at the next scheduled meeting.

Please answer the following questions as completely as possible. Supporting documents such as maps, detailed cost estimates, and engineering reports should be attached to this form. If additional space is required, please use extra sheets as necessary.

For information regarding cost-share program eligibility see the *State Water Commission Cost-Share Policy, Procedure, and General Requirements* – available upon request or at www.swc.nd.gov.

Project, Program, Or Study Name
Greater Ramsey - Expansion Project -Oswalds Bay/ West Bay Heights; Tolna/Pekin Areas

Sponsor(s)
Greater Ramsey Water District

County	City	Township/Range/Section
Benson;Nelson; Ramsey	N/A	Numerous

Description Of Request ☑ New ☐ Updated (previously submitted)

Specific Needs Addressed By The Project, Program, Or Study
Providing an alternate, higher quality water source to residents not currently served by GRWD

If Study, What Type ☐ Water Supply ☐ Hydrologic ☐ Floodplain Mgmt. ☐ Feasibility ☐ Other

If Project/Program

☐ Flood Control	☐ Multi-Purpose	☐ Bank Stabilization	☐ Dam Safety/EAP
☐ Recreation	☑ Water Supply	☐ Snagging & Clearing	☐ Property Acquisition
☐ Irrigation	☐ Water Retention	☐ Rural Flood Control	☐ Other

Are Connections Of New Rural Customers Located Within The Extra-Territorial Jurisdiction Of Municipality? ☐ Yes ☐ No

Jurisdictions/Stakeholders Involved
Benson/Ramsey/Nelson Counties, residents, campgrounds owners, and developers in Greater Ramsey Water District

Description Of Problem Or Need And How Project Addresses That Problem Or Need

The proposed project area consists of an island located on the western edge of GRWD district also known as Oswalds Bay / West Bay Heights. The area has seen growth due to the recreational opportunities provided by Devils Lake. The residents, campground owners and developers requested rural water for the area due to water quality and quantity issues with newly drilled wells. GRWD also has an additional 18 users in the Tolna/Pekin area in the Dayton and Forde townships. The proposed project would consists of approximately 21 miles of 2" to 4" PVC/polyethylene pipe and associated appurtenances and serve 49 users and 2 large campgrounds with 100 + campsites and several rental cabins at each location.

Has Feasibility Study Been Completed?	☑ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Has Engineering Design Been Completed?	☐ Yes	☐ No	☑ Ongoing	☐ Not Applicable
Have Land Or Easements Been Acquired?	☐ Yes	☑ No	☐ Ongoing	☐ Not Applicable

Have You Applied For Any State Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any State Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			
Have You Applied For Any Local Permits?	☐ Yes	☑ No	☐ Not Applicable
If Yes, Please Explain			
Have You Been Approved For Any Local Permits?	☐ Yes	☐ No	☑ Not Applicable
If Yes, Please Explain			

Briefly Explain The Level Of Review The Project Or Program Has Undergone (attach additional documents as needed)
GRWD required a $1500 membership sign-up fee for the Oswald Bay area prior to submitting the application to request grant funds. GRWD received 53 paid memberships. GRWD received 10 paid memberships from each large campground.

Do You Expect Any Obstacles To Implementation (i.e., problems with land acquisition, permits, funding, local, opposition, environmental concerns, etc.)? The service main to Oswald Bay requires NDDOT coordination as it follows state highway #19

Funding Timeline (carefully consider when SWC cost-share will be needed)

Source	Total Cost	2017-2019 7/1/17-6/30/19	2019-2021 7/1/19-6/30/21	Beyond 7/1/21
Federal	$	$	$	$
State Water Commission	$ 1,328,000.00	$	$ 1,328,000.00	$
Other State	$	$	$	$
Local	$ 699,700.00	$	$ 699,700.00	$
Total	$ 2,027,700.00	$ 0.00	$ 2,027,700.00	$ 0.00

List All Other State Of North Dakota Funding Sources (Grant or Loan), For Which You Have Applied
None at this time.

Please Explain Implementation Timelines, Considering All Phases And Their Current Status
Design - Fall/ Winter 2019-20 Bid spring 2020, construction spring/summer 2020 Completion fall 2020 clean-up spring 2021

Have Assessment Districts Been Formed? ☐ Yes ☑ No ☐ Ongoing ☐ Not Applicable

Submitted By: Nels Halgren			Date: 8/15/2019
Address: P.O. Box 1257	City: Devils Lake	State: ND	ZIP Code: 58301
Telephone Number: 701-662-5781		Engineer Telephone Number: 701-221-8345	
Sponsor Email Address: nelsh@grwdnd.com		Engineer Email Address: tyson.decker@bartwest.com	

I Certify That, To The Best Of My Knowledge, The Provided Information Is True And Accurate.

Signature: Nels Halgren	Date: 8-22-19

MAIL TO:

ND State Water Commission • ATTN: Cost-Share Program
900 E Boulevard Ave. • Bismarck, ND 58505-0850

NORTH Dakota | Water Commission
Be Legendary.™

MEMORANDUM

TO: Governor Doug Burgum
Members of the State Water Commission
FROM: Garland Erbele, P.E., Chief Engineer–Secretary
SUBJECT: State Cost-Share - Water Supply – Greater Ramsey Water District 2019 Expansion Project
DATE: September 24, 2019

Greater Ramsey Water District (District) submitted a cost-share request for pre-construction and construction costs for approximately 22 miles of 6-inch to 2-inch pipelines. The purpose of this effort is to expand the system to the Oswald's Bay/West Bay Heights area west of Devil's Lake, and to the Dayton and Forde Townships southwest of Tolna and Pekin for areas that experience water quality and quantity issues. Water service is to an additional 49 rural users, West Bay Resort campground, and West Bay Heights campground. This expansion would serve 122 annual customers and approximately 522 people during the summer.

The District's monthly minimum water rate is $35.00 per month for existing users and $50 to $60 per month for expansion users, with a rate of $4.50 per 1,000 gallons used. The local share of the project would be funded with sign-up commitments from water users and system reserve funds. The District would complete plans and specifications for bidding in winter 2019, bid in February 2020, start construction in May 2020, complete final construction in fall 2020, and complete clean-up by spring 2021.

The project's estimated total cost is $2,096,550, with approximate cost per connection of $30,400. The recommendation at this time is to provide cost-share of 65 percent, or $1,328,000, which is the amount requested by the District.

The project is in the 2019 Water Development Plan, is a moderate priority, and meets requirements of the Water Commission's cost-share policy for rural water supply projects. Therefore, I recommend approval of this request from Greater Ramsey Water District for state cost-share participation at 65 percent of eligible costs for the 2019 Expansion Project at an amount not to exceed $1,328,000. This is contingent on available funding for the 2019-2021 biennium.

GE:JM:ln/2050RAM

Construction Cost Estimate
Greater Ramsey Water District Expansion

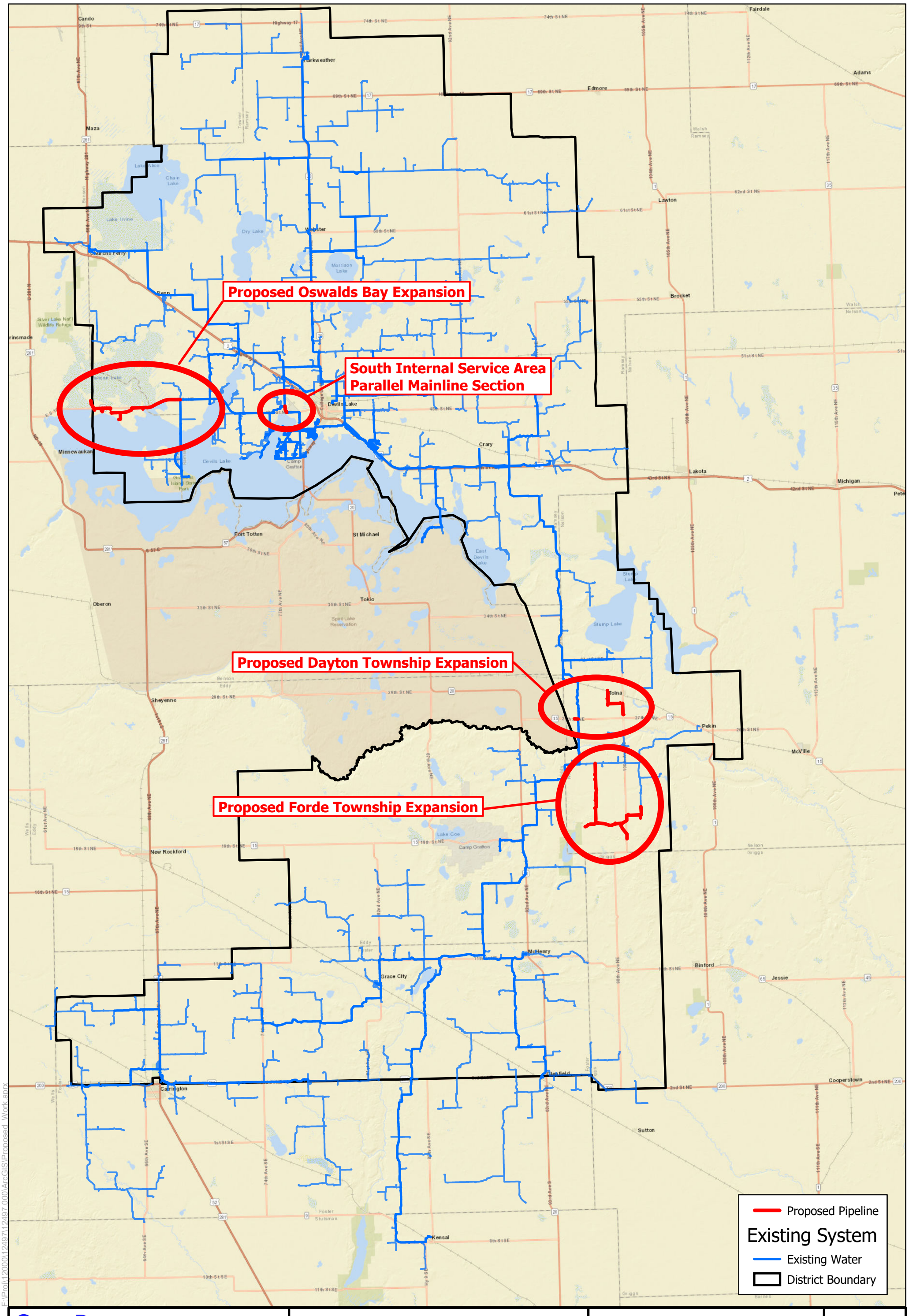
Oswald Bay/West Bay Heights System Expansion			
Description	**Quantity (ft.)**	**Unit Price / Ft.**	**Extension**
4" PVC	13,000 '	$7.80	$101,400
3" PVC	10,500 '	$6.75	$70,875
2" PVC	4,900 '	$6.00	$29,400
4" Type 3 Road Crossing	7	$3,000.00	$21,000
3" Type 3 Road Crossing	3	$2,500.00	$7,500
2" Type 3 Road Crossing	5	$2,000.00	$10,000
2" Type 1 Road Crossing	1	$4,500.00	$4,500
4" Restrained Joint Area	12,300 '	$38.00	$467,400
4" Tie-In	1	$4,500.00	$4,500
3" Tie-In	5	$3,500.00	$17,500
2" Tie-In	1	$3,000.00	$3,000
4" Gate Valve	1	$1,500.00	$1,500
3" Gate Valve	4	$1,250.00	$5,000
2" Gate Valve	3	$1,000.00	$3,000
Curbstop	10	$1,200.00	$12,000
Meter Assembly	34	$1,000.00	$34,000
1½" Cleanout	4	$1,500.00	$6,000
Bridge Bore	700 '	$55.00	$38,500
1" Special Meter	3	$4,000.00	$12,000
Subtotal Construction Cost			**$849,000**
Contingencies		10%	$85,000
Design Engineering		10%	$85,000
Contract Administration		10%	$85,000
Construction Observation		15%	$127,000
Total Project Cost - Oswald Bay			**$1,231,000**

South Internal Service Area Main Line Parallel Pipeline Segment			
6" PVC	2,600 '	$10.00	$ 26,000
6" Type 1 Road Crossing	1	$15,000.00	$ 15,000
6" Tie-In	2	$5,000.00	$10,000
Subtotal Construction Cost			**$51,000**

Dayton Township System Expansion			
Description	**Quantity (ft.)**	**Unit Price / Ft.**	**Extension**
2" PVC	16,500 '	$6.00	$99,000
2" Type 3 Road Crossing	4	$2,000.00	$8,000
2" Tie-In	2	$3,000.00	$6,000
Curbstop	5	$1,200.00	$6,000
Meter Assembly	5	$1,000.00	$5,000
1½" Cleanout	1	$1,500.00	$1,500
2" Master Meter	1	$20,000.00	$20,000
Subtotal Construction Cost			**$146,000**

Forde Township System Expansion			
Description	**Quantity (ft.)**	**Unit Price / Ft.**	**Extension**
3" PVC	38,100 '	$6.75	$257,175
2" PVC	12,700 '	$6.00	$76,200
3" Type 3 Road Crossing	7	$2,500.00	$17,500
2" Type 3 Road Crossing	4	$2,000.00	$8,000
3" Restrained Joint Area	4,500 '	$20.00	$90,000
2" Restrained Joint Area	1,100 '	$16.00	$17,600
3" Tie-In	2	$3,500.00	$7,000
3" Gate Valve	1	$1,250.00	$1,250
2" Gate Valve	7	$1,000.00	$7,000
Curbstop	10	$1,200.00	$12,000
Meter Assembly	10	$1,000.00	$10,000
1½" Cleanout	2	$1,500.00	$3,000
Subtotal Construction Cost			**$507,000**

Total Construction Cost			**$1,553,000**
Design Engineering			$155,300.0
Construction Administration			$155,300.0
Construction Observation			$232,950.00
Total Project Costs			**$2,096,550**


Proposed Oswalds Bay Expansion
South Internal Service Area
Parallel Mainline Section
Proposed Dayton Township Expansion
Proposed Forde Township Expansion
Proposed Pipeline
Existing System
Existing Water
District Boundary
Greater Ramsey Water District
Bartlett & West
Driving Community and Industry Forward, Together.
Proposed Project Areas
0 3 6 9 12 Miles
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