January 2017

2017-2019

NORTH DAKOTA STATE WATER COMMISSION

Credit: North Dakota Tourism/Chuck Haney

Water Development REPORT

An Update To The 2015 State Water Plan

A MESSAGE FROM THE STATE ENGINEER:

I am pleased to present you with the 2017-2019 North Dakota Water Development Report, which serves as an update to the 2015 State Water Management Plan.

Those involved in water project development know that existing projects evolve, and new projects are continuously being considered by local water managers. For that reason, it is necessary for the state to assemble updated water project information on a biennial basis, to coincide with the state's biennial budget cycles. This information then provides the agency and our elected officials with the most up-to-date project information possible to plan for, and support our state's highest water development priorities.

As you review the content of this report, there are two fundamental concepts that I hope readers will take away. The first, is that the State of North Dakota has made unprecedented progress on water development projects in the last few biennia. From large-scale flood control and water supply projects, to smaller-scale general water management efforts, a lot has been accomplished. The second, is there does indeed remain a tremendous amount of interest among project sponsors across the state to pursue hundreds of new projects; but at the same time, the state is still in a position to continue with its track record of supporting local project sponsors.

As we look to the future, continued success will require careful planning, coordination, and communication between North Dakota's water stakeholders. And I believe that this document, the 2017-2019 Water Development Report will serve as an important tool in achieving further successes. With that, I hope you find this update of the Water Plan to be informative. And on behalf of North Dakota's Water Commission, I appreciate your interest and continued support of North Dakota's future water management and development endeavors.

Sincerely,

Garland Erbele, P.E.
State Engineer
Chief Engineer-Secretary

2017-2019 **REPORT**

Water Development

An Update To The 2015 State Water Plan

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January 2017

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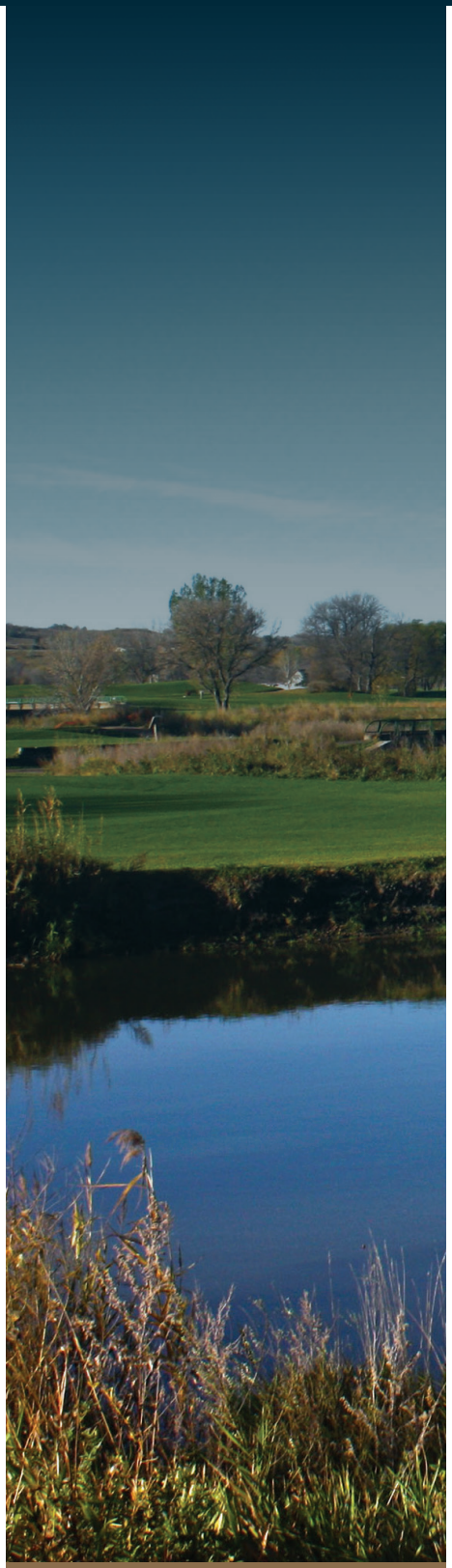
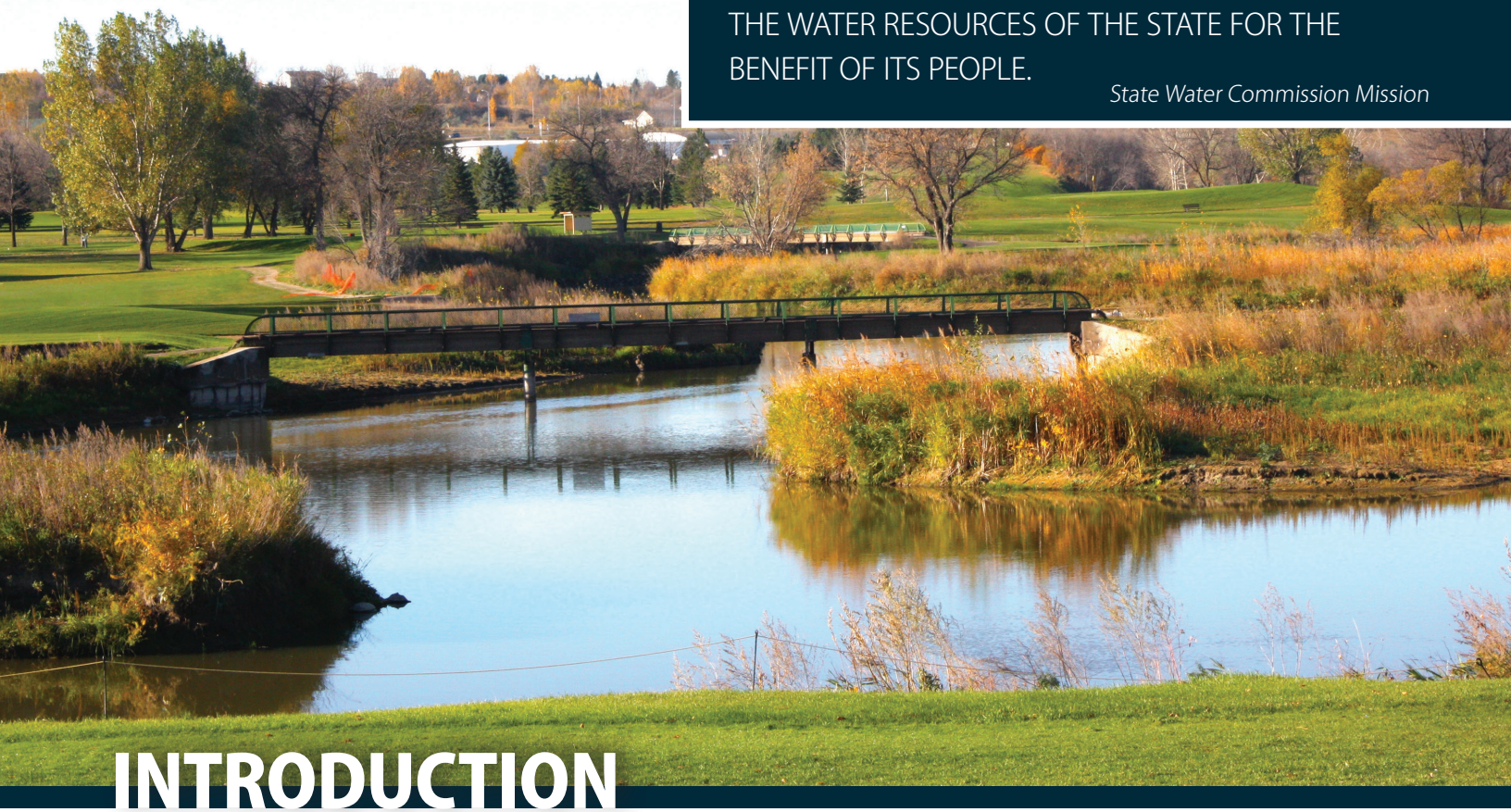


January 2017

TO IMPROVE THE QUALITY OF LIFE AND STRENGTHEN THE ECONOMY OF NORTH DAKOTA BY MANAGING THE WATER RESOURCES OF THE STATE FOR THE BENEFIT OF ITS PEOPLE.

State Water Commission Mission



INTRODUCTION

It is the vision of the North Dakota State Water Commission that, "Present and future generations of North Dakotans will enjoy an adequate supply of good quality water for people, agriculture, industry, and fish and wildlife; Missouri River Water will be put to beneficial use through its distribution across the state to meet ever increasing water supply and quality needs; and successful management and development of North Dakota's water resources will ensure health, safety, and prosperity and balance the needs of generations to come."

This 2017-2019 Water Development Report, which serves as a supplement and update to the 2015 State Water Management Plan, was developed to serve as a pathway to achieve this vision.

ORGANIZATION AND BACKGROUND

North Dakota's Legislature established the Office of the State Engineer in 1905 to regulate the allocation of water, manage drainage, and promote irrigation. The State Water Commission (Water Commission or Commission) was established in 1937 to promote, plan, and build water development projects. The Water Commission is comprised of the Governor, the State Agriculture Commissioner, and seven members appointed by the Governor, that regionally represent the state.

North Dakota's State Engineer serves as Chief Engineer and Secretary to the State Water Commission. In a separate role, North Dakota's State Engineer is responsible for several regulatory functions and responsibilities, including allocation of the state's waters, dam safety, sovereign land management, and drainage.

Overall, both entities are responsible for the wise management and development of North Dakota's most precious resource – water.

PURPOSE

The purpose of the 2017-2019 Water Development Report is to:

- Outline the planning process;
- Provide a progress report on the state's priority water management and development efforts from the 2015-2017 biennium;
- Provide information regarding North Dakota's current and future water development project funding needs and priorities;
- Provide information regarding North Dakota's revenue sources for water development;
- Serve as a formal request for funding from the Resources Trust Fund;
- Outline the state's priority water development efforts for the 2017-2019 biennium; and
- Provide information regarding the State Water Commission's Cost-share Policy, and the agency's Water Project Prioritization Guidance.

AUTHORITY

By virtue of North Dakota Century Code (NDCC), Section 61-02-14, Powers and Duties of the Commission; Section 61-02-26, Duties of State Agencies Concerned with Intrastate Use or Disposition of Waters; and Section 61-02-01.3, Comprehensive Water Development Plan, the Commission is required to develop and maintain a comprehensive water development plan.

THE PLANNING PROCESS & COMMISSIONER-HOSTED MEETINGS

The 2017-2019 water planning process began in January 2016. At that time, the State Water Commission sent letters of request to potential water project sponsors across the state, asking them for information regarding water projects and programs that could be considered for inclusion into the 2017-2019 Water Development Report, which serves as an update to North Dakota's 2015 Water Management Plan.

Because water projects and water management efforts are continually evolving and advancing, it is necessary to update project information on a biennial basis. And for that reason, the information received from local project sponsors as part of this project inventory process ultimately becomes the foundation of the Commission's budget request to the Governor and Legislature. (The project inventory process is outlined in greater detail in the "State Water Development Program" section on page 16).

The other key element of the 2017-2019 planning process was Water Commissioner-hosted basin meetings. To promote and encourage local project sponsor participation in water planning and in legislative and agency biennial budgeting efforts, the 2013 Legislative Assembly passed House Bill 1206 (NDCC 61-02-01.3), requiring the Water Commission to schedule Commissioner-hosted meetings within six major drainage basins. The meetings are to be held in the Red, James, Mouse, lower and upper Missouri River, and Devils Lake basins (Figure 1).

As part of the 2017-2019 planning process, water management and development stakeholders, and project sponsors were invited and encouraged to attend a series of Water Commissioner-hosted meetings in July 2016.

2016 COMMISSIONER-HOSTED MEETINGS

July 25 - Mandan, ND - Baymont Inn
July 26 - Jamestown, ND - Civic Center
July 26 - West Fargo, ND - City Office Building
July 27 - Devils Lake, ND - Ramsey County Courthouse
July 27 - Minot, ND - County Administration Building
July 28 - New Town, ND - Four Bears Casino

Figure 1. State Water Commission 2016 basin meeting schedule.

Specific areas of focus for the meetings was to:

- Present an overview of the State Water Commission's current cost-share and project prioritization policies;
- Provide a summary of the 2017-2019 water project inventory effort; and
- Encourage brief project summaries and updates from sponsors who submitted projects to the Commission as part of the 2017-2019 water planning and budgeting process.

The brief presentations from sponsors regarding their projects was the primary focus of the meetings. The presentations gave local project sponsors an opportunity to have a discussion with Commission members and staff regarding their projects, and in some cases, to provide updated information from what was submitted during the project inventory process earlier in the year.

In addition to presentations from project sponsors, Water Commissioners and staff also heard from several stakeholders from around the state who had concerns about water management or development challenges in their respective drainage basins.

Partnerships

North Dakota's water planning process strives to encourage collaboration between stakeholders and the formation of partnerships with numerous government entities at all levels of government, as well as with the Legislature. It is also important to recognize the important relationships between the private sector and many of the state's local government entities and water managers. This important tie completes North Dakota's grass-roots approach to water management and development, where the state recognizes that many of the best solutions are forged at the local level.

The Water Commission has a long history of working together with all stakeholders, while encouraging partnerships to ensure the wise management and development of North Dakota's water resources for the benefit of future generations. As we look to the future, North Dakota faces many challenges in managing its water. But working together with all stakeholders will enable the state to move more efficiently toward effective development and management of the state's water resources.

"THE STATE RECOGNIZES THAT MANY OF THE BEST SOLUTIONS ARE FORGED AT THE LOCAL LEVEL."

DEVELOPING ND'S WATER RESOURCES
PRIORITY PROJECT UPDATES

With the growth of North Dakota's oil industry over the course of the last several biennia, unprecedented revenues into the Resources Trust Fund have enabled the Commission and the water community to advance several water development priorities across the state. In preparing for the 2015-2017 biennium, a plan was forged through the cooperative efforts of the Water Commission, Governor's Office, Legislature, and the water community – through the concept of "Project Purpose Funding."

In the past, North Dakota's water development priorities have been outlined by project purpose on a much more limited basis, with it being more common for larger projects to be identified as priorities individually. As outlined in Table 1, North Dakota's Legislature passed Senate Bill 2020 (the Water Commission's budget bill), identifying the state's water development priorities for the 2015-2017 biennium.

The funding plan and project priorities outlined in Table 1 totaled $664 million from state sources – mostly the Resources Trust Fund. In addition, of that total, $200 million was made available to the Water Commission, if needed, from a Bank of North Dakota line of credit.

The following narrative provides an overview of progress and efforts related to the state's 2015-2017 water development priorities that were funded as part of Senate Bill 2020 during the 2015 Legislative Assembly.

SENATE BILL 2020 WATER PROJECT & PURPOSE FUNDING, 2015-2017 BIENNIUM

PROJECTS & PROJECT PURPOSES	SB 2020 - (MILLIONS $)	
	GRANT	LOAN
Sovereign Lands Recreation (Sec. 4)	$1	$0
Fargo Interior Flood Control (Sec. 8)	$69	$0
Fargo Interior Flood Control (Sec. 11) Dis. Relief Fund	$30	$0
Fargo Interior Flood Control (Sec. 12)	$30	$0
Grand Forks Water Treatment Plant (Sec. 13)	$30	$0
Red River Valley Water Supply (Sec. 14)	$5	$0
Missouri R. Flood Control (Sec. 15) Dis. Relief Fund	$4	$0
Water Supply Reimbursements (Sec. 16)	$11	$0
Flood Control (Sec. 17)	$113	$0
General Water Management (Sec. 17)	$50	$11
Rural Water Projects (Sec. 17)	$130	$0
Municipal Water Projects (Sec. 17)	$85	$0
Loans To Rural & Municipal Water Projects - IRLF (Sec. 17)	$0	$25
Central Dakota Water Supply Reuse Facility (Sec. 19)	$10	$40
Central Dakota Water Supply (Sec. 19)	$20	$0
PROJECTS TOTAL	**$664**	

Table 1. *SB 2020 Water Project and Purpose Funding, 2015-2017 Biennium.*

Sovereign Lands Recreation

Section 4 of Senate Bill 2020 included a $1 million grant to the North Dakota Parks and Recreation Department for developing recreational opportunities on the state's sovereign lands. (Sovereign lands are state owned and managed lands below the ordinary high water marks of navigable lakes and streams.)

- By the end of 2016, transfer of funds for this effort had not yet occured.

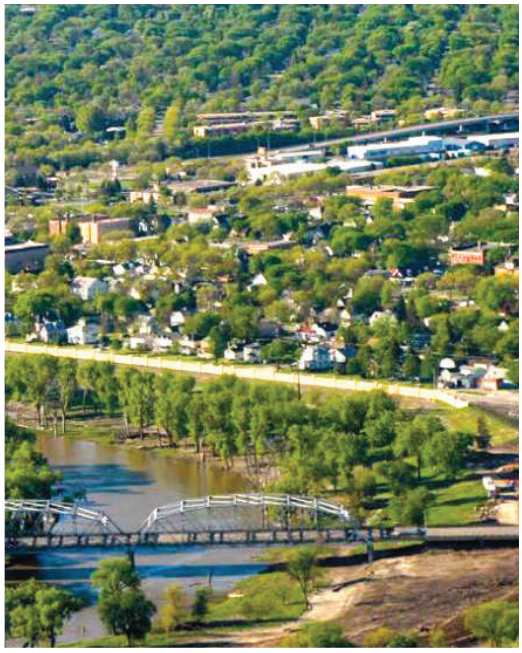
Fargo Flood Control

Section 8 of Senate Bill 2020 included $69 million for Fargo flood control project funding. In previous biennia, the state had committed $175 million for Fargo flood control efforts, bringing the total to $244 million to date. [1]

- In 2011, a Feasibility Report and federal Environmental Impact Statement (EIS) were completed. A Record of Decision (ROD) was signed by the Assistant Secretary of the Army in 2012. And in 2014, President Obama signed the Water Resource Reform and Development Act (WRRDA), which authorized the Fargo-Moorhead diversion project (See Map Appendix). The signing of WRRDA allowed the federal government to appropriate funding for construction.
- In February 2015, the Fargo-Moorhead Diversion project was named as a US Army Corps of Engineers (USACE) "Public-Private Partnership" (P3) demonstration project. And in February 2016, the project received a USACE new start designation and an appropriation.
- The diversion project is a 20,000 cubic feet per second, 36-mile long, 1,600-foot wide diversion channel on the North Dakota side of the Red River that will divert water around the Fargo-Moorhead metro area. The project also includes 32,000 acres (150,000 acre-feet) of upstream floodwater staging.
- The project will be implemented through a split delivery approach where the Diversion Authority will construct the diversion channel and associated infrastructure through the P3 concept, and the US Army Corps of Engineers will construct the southern embankment and associated infrastructure through traditional design-bid-build contracting.
- In order to secure the "new start" designation and federal funding commitment, the federal funding commitment was reduced by the Office of Management and Budget (OMB) to $450 million from $850 million. As a result, project sponsors reevaluated their financial plan, including options to cover construction, debt repayment, and project operating costs.

[1] Section 9 of Senate Bill 2020 outlines Legislative intent for the state's total commitment for Fargo flood control efforts not to exceed $570 million. Of that total commitment, $450 million is for the diversion project, and $120 million is for Fargo interior flood control efforts.

Credit: Grand Forks Water Treatment Plant Website



Fargo Interior Flood Control

Section 11 and Section 12 of Senate Bill 2020 both included $30 million (totaling $60 million) for interior flood control efforts in Fargo.

- Interior flood control works involve the purchasing and removal of homes along flood protection levee alignments, and levee and lift station construction.
- The levees will work in conjunction with the diversion by allowing more water to pass through town.
- Since the 2009 flood, Fargo has acquired 183 properties at a cost of over $60 million. The Diversion Authority is in the process of acquiring 17 addition properties within Fargo. And under the city's Comprehensive Flood Plan, 121 additional properties are expected to be acquired.
- Also since 2009, over 19 miles of levees have been constructed in Fargo.
- During the 2016 construction season, several levee alignments were under construction near the downtown Fargo area. In addition, multiple levees and acquisition efforts were underway in south Fargo neighborhoods.

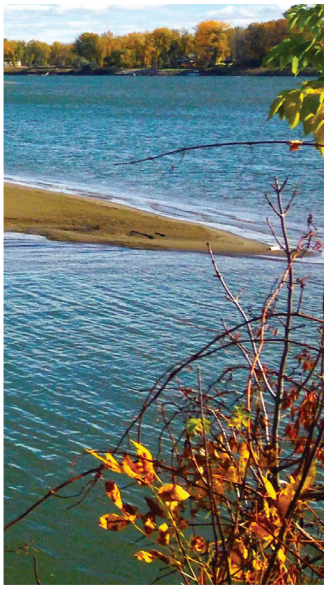
Grand Forks Water Treatment Plant

Section 13 of Senate Bill 2020 included a $30 million grant during the 2015-2017 biennium, and Legislative intent for another $30 million during the 2017-2019 biennium to construct a new Grand Forks Regional Water Treatment Plant. With $5 million committed by the Water Commission in previous biennia, this would bring the state's total expected contribution to $65 million.

- The Grand Forks Regional Water Treatment Plant is a project that will improve treatment capabilities to address water quality issues while increasing the available treated water supply for Grand Forks, and the northern Red River Valley.
- Final design began in January 2015 with project bidding anticipated in the final quarter of 2016. Construction is expected to begin in late 2016.

Red River Valley Water Supply

Section 14 of Senate Bill 2020 committed $7.3 million in 2013-2015 uncommitted funds, and an addition $5 million from the Resources Trust Fund



to the Garrison Diversion Conservancy District to plan and design the Red River Valley Water Supply Project.

- An EIS for the Red River Valley Water Supply Project was released in 2007, but a Record of Decision (ROD) was never signed by the federal government.
- In 2013, it became apparent that a ROD would not be signed, so the State of North Dakota, in cooperation with the Lake Agassiz Water Authority and Garrison Diversion Conservancy District, began pursuit of a state and local project.
- The general purpose of the project would be to deliver water via pipeline from a conventional intake in the Missouri River, or horizontal groundwater collector wells adjacent to the river near Washburn, to Baldhill Creek or the Sheyenne River in the Red River Valley. This project would provide a supplemental water supply to users in central and eastern North Dakota. To avoid concerns with transboundary diversion of water, the water would be treated before crossing the divide.
- In 2016, project conceptual engineering was completed – covering conventional and horizontal collector well intakes, pipeline alignments, and a discharge structure at Baldhill Creek.
- Preliminary design has been initiated on the intake and pipeline alignments from Washburn to Baldhill Creek, over 60 meetings have been conducted to identify potential future water users of the project, and acquisition of agreements for access to land along the pipeline alignment has also been underway.

Missouri River Flood Control

Section 15 of Senate Bill 2020 appropriated $4 million for two flood control projects in Burleigh County along the Missouri River, including $1.2 million for the Missouri River Correctional Center Project, and $2.8 million for levees in the Fox Island area.

- The Missouri River Correctional Center (MRCC) project will provide protection to the MRCC and approximately 150 rural residential properties from a 2011-type flood event.
- The MRCC project is part of the Burleigh County Flood Mitigation Plan, and will involve levee construction and a grade raise of 48th Avenue.
- The Fox Island Flood Control Project is also part of the Burleigh County Flood Mitigation Plan, and is envisioned to protect over 100 rural residential properties from a 2011-type flood event. This project will also involve road grade raises and levee construction.

Water Supply Reimbursements

Section 16 of Senate Bill 2020 designated $11 million for reimbursement of rural and municipal water supply systems that received cost-share amounts from the Water Commission during the 2013-2015 biennium that were less than 75%.

- Reimbursements were approved by the Water Commission for several rural water systems, including Barnes, Cass, Grand Forks Traill, Langdon, Missouri West, North Valley, Tri-County, and Walsh.
- Reimbursements were also approved by the Water Commission for multiple municipal systems, including Grafton, Mandan, Park River, Surrey, Washburn, Dickinson, Watford City, and Williston.

Flood Control

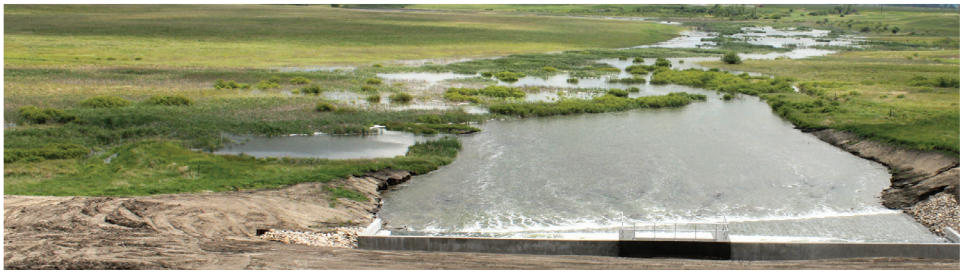
Section 17 of Senate Bill 2020 included an appropriation of $113 million for the purpose of flood control. Specific projects and project areas were then designated funding under this purpose, including the Devils Lake Outlet ($11 million), Grafton ($25 million), Mouse River ($40 million), Williston ($7 million), and the Sheyenne River ($30 million).

Devils Lake Outlet Operations

- During the 2015-2017 biennium, the state continued to implement a multi-pronged approach to solving the Devils Lake region's flooding problems, including: infrastructure protection, upper-basin water management, and operation of the state's emergency outlets.
- The Water Commission continued operation of both Devils Lake outlets. The maximum total discharge of the West and East Devils Lake outlets is now 600 cfs (See Map Appendix).
- Since the outlets began operating, about 907,500 acre-feet of floodwater has been pumped from the lake. Of that total, about 768,400 acre-feet of floodwater was pumped since 2012, when both the West and East Devils Lake outlets began pumping simultaneously.
- In addition, the State Water Commission continued to manage operational efforts associated with the Tolna Coulee Control Structure – which was completed in 2012 to reduce the risk of a catastrophic natural overflow of Devils Lake. The control structure was developed in cooperation with the U.S. Army Corps of Engineers. That project is now owned and operated by the Water Commission.

Grafton Flood Control

- Grafton's comprehensive flood risk reduction project will involve the construction of levees and a bypass channel. When completed, the project will provide Grafton with protection from a 100-year flood event.
- To date, Grafton has completed the necessary hydrology and hydraulics, geotechnical exploration, cultural and wetland field reviews and reports, and a wetland mitigation plan. The city has also been working on gathering title information, right of way plat preparation, and design plans are over half completed.
- Grafton has submitted their 404 permit request to the USACE, and they have met with Water Commission Regulatory Division staff, FEMA, and local floodplain administrators on the Conditional Letter of Map Revision. Impact



analysis, floodplain permit, and construction permits are also being developed as the project progresses.

- With the state's $25 million commitment from the 2015-2017 biennium, and $7.1 million commitment carried over from previous bienna, the state, through the Water Commission has committed $32.1 million in grants, or 68% of the project's estimated $47.4 million total cost. In addition, $3.3 million was committed in the form of a loan, bringing the Water Commission's contribution to 75% of the total cost.

Mouse River Flood Control

- The Mouse River Enhanced Flood Protection Project (MREFPP) is designed to provide flood relief to North Dakota's Mouse River valley residents – both urban and rural. The project was originally initiated by the Water Commission in response to a request for assistance from the Souris River Joint Water Resources Board following the record-breaking flood of 2011.
- Stakeholder workshops were held in late 2011 and early 2012; preliminary engineering reports and basin-wide erosion, sedimentation, and hydrologic modeling were completed a year later; and in the summer of 2013, the Rural Reaches Alternatives Report and final Mouse River Reconnaissance Study were issued.
- In May 2016, a feasibility cost-share agreement was signed with the USACE and a Draft EIS was submitted to the USACE in July.
- The focus of the MREFPP has now shifted to implementation, and construction began during the summer of 2016.
- The Souris River Joint Board has developed a long-range capital improvements plan (through 2039) that focuses on urban and rural improvements throughout the Mouse River valley. The total estimated cost of the MREFPP is $1.03 billion.

Williston Flood Control

- Williston's Bell Acres subdivision north of US Highway 2, and other properties located between US Highway 2 and the Burlington Northern Santa Fe railroad tracks in the western portion of the city have experienced periodic flooding.
- The purpose of the west Williston flood control project is to implement a combination of upstream detention and downstream conveyance improvements to protect existing

structures and minimize the risk of back-flooding from Sand Creek.

- The project is moving forward in four phases, with Phase I complete.
- This project is being conducted in close coordination with the North Dakota Department of Transportation while they reconstruct portions of US Highway 2.

Sheyenne River Flood Control

- Following severe flood events in 2009 and 2011, Sheyenne River flood control efforts are being pursued by Valley City and Lisbon.
- Valley City has initiated the process of moving forward with a multi-phased approach to developing permanent flood protection.
- Phase I is focused on the Valley City State University area. Construction of Phase I began in the spring of 2015 and was largely completed by the end of 2016.
- During the summer of 2016, Valley City requested cost-share to move forward with Phase II design and Phase III acquisitions.
- The Phase II project, which will begin in 2017, will protect portions of downtown Valley City, including Main Street and a power transfer station. Phase II will involve construction of floodwalls and storm water pumping stations, and utility relocations.
- Phase III of Valley City's flood control project is expected to move forward in the 2017-2019 biennium.
- Like Valley City, Lisbon is moving forward with a multi-phased approach to permanent flood protection.
- Lisbon's Phase I involves five separate levee locations, with two on the west side of the Sheyenne River, and three on the east side. Of those five Phase I levee alignments, three have been largely completed, and one is scheduled for construction in 2017.
- Lisbon's Phase II also involves five separate levee locations, which are anticipated to move forward during the 2017-2019 biennium.

General Water Management

Section 17 of Senate Bill 2020 appropriated $61 million for the purpose of general water management projects. Of the $61 million, $50 million was made available for grants to project sponsors, and $11 million for loans through the state's Infrastructure Revolving Loan Fund.

- By three-quarters of the way into the 2015-2017 biennium, the Water Commission had approved over $18 million in new funding for general water management projects across the state.
- General water management projects include rural flood control, snagging and clearing, channel improvements, recreational projects, dam repairs, planning efforts, special studies, and mitigation for operation of the Devils Lake outlets.

Rural Water Projects

Section 17 of Senate Bill 2020 included an appropriation of $130 million for rural water projects. Specific projects and project types were then designated funding under this purpose, including Northwest Area Water Supply ($10 million), rural water systems ($50 million), Southwest Pipeline Project ($25 million), and Western Area Water Supply ($45 million).

Northwest Area Water Supply

- The Northwest Area Water Supply (NAWS) project is a regional water supply project that is envisioned to serve a project area of 81,000 people in northwest North Dakota.
- Since 2008, the NAWS project has been providing water service to several systems through the city of Minot and their ground water wells.
- NAWS is currently providing water service to Minot, Berthold, Burlington, Kenmare, Sherwood, Des Lacs, Mohall, West River Rural Water, All Seasons Rural Water, Upper Souris Rural Water, North Prairie Rural Water, and the Minot Air Force Base (See Map Appendix).
- In 2010, the US Bureau of Reclamation began work on a Supplemental EIS as remanded by the courts. A draft was completed in 2014, with the final completed in 2015.
- A Record of Decision was signed in August 2015, and court briefings took place during the first half of 2016. Currently, the state is awaiting Summary Judgement.

Rural Water Systems

- During the 2015-2017 biennium, a number of rural water systems received grants from the State Water Commission for expansions, improvements, storage, studies, and cost overruns.
- Rural water systems that received grant funding during the 2015-2017 biennium included, Cass, Stutsman, Greater Ramsey, All Seasons, North Prairie, Southeast, Dakota, Missouri West, Northeast, Walsh, Garrison, Barnes, and North Central. Northeast, North Prairie, Walsh, Barnes, North Central, and Stutsman Rural Water Districts also received loans through the Infrastructure Revolving Loan Fund to advance projects.

Southwest Pipeline Project

- Southwest Pipeline is currently serving about 56,000 residents, including more than 6,800 rural customers, 33 communities, and 21 raw water customers (See Map Appendix).
- A supplemental raw water intake is under construction at Renner Bay, Lake Sakakawea. The secondary intake will increase capacity for the entire project.
- The supplemental water treatment plant in Dickinson is under construction. This project will provide additional capacity of 6 million gallons per day.
- Construction of a finished water pump station facility that was developed through a cooperative effort between the Southwest

Pipeline and Dickinson is complete. This project houses pumps for the City of Dickinson and Southwest Pipeline.

- Additional raw water reservoirs at Dickinson and Richardton are under final design.
- The first phase of paralleling the raw water transmission pipeline to increase transmission capacity is under design with an anticipated bid timeframe of spring 2017.

Western Area Water Supply

- Western Area Water Supply (WAWS) project has involved a collaborative effort between the city of Williston, Williams Rural Water District, McKenzie Water Resource District, Burke-Divide-Williams Rural Water, and R&T Water Supply Association (including the cities of Ray, Tioga, and Stanley).
- WAWS utilizes a combination of Missouri River water treated at the Williston Regional Water Treatment Plant and groundwater treated by the R&T Water Supply Commerce Authority's Water Treatment Plant in Ray. The overall purpose of this project is to meet the water supply needs of municipal, rural, and industrial users in the five northwestern North Dakota counties of Burke, Divide, McKenzie, Mountrail, and Williams (See Map Appendix).
- WAWS is now serving approximately 65,000 people.
- The following municipal water supply systems are currently being serviced by WAWS: Williston, Watford City, Ray, Tioga, Stanley, Wildrose, Crosby, Noonan, Columbus, Fortuna, and Ross.
- Since beginning construction in 2011, WAWS has installed about 1,700 miles of pipeline, built 10 reservoirs, two water towers, and 10 pump stations.
- The most recent expansion of the Williston Regional Water Treatment Plant increased its capacity from 14 to 21 million gallons per day.
- During the 2016 construction season, WAWS installed hundreds of miles of pipeline to provide service to rural customers around Tioga, Ray, Epping, Stanley, White Earth, Crosby, and Watford City – adding 600 new customers.
- WAWS currently has the following water depots operating and generating revenue: McKenzie County's System II Keene, McKenzie County's Indian Hills, the city of Williston's 2nd Street and North Williston, 13 Mile Corner, Alexander, Watford City, and Ray.

Municipal Water Projects

Section 17 of Senate Bill 2020 included an appropriation of $85 million for municipal water projects. Specific projects and project types were then designated funding under this purpose, including high priority municipal projects ($25 million), other municipal and rural projects ($15 million), Southwest Pipeline Project ($30 million), and Western Area Water Supply ($15 million).

High Priority and Other Municipal

- During the 2015-2017 biennium, a number of municipal water systems received grants from the State Water Commission for regionalization efforts and improvements.
- Cities that received grants from the Water Commission during the 2015-2017 biennium included Fargo, West Fargo, Tioga, Dickinson, Mandan, Minot, Watford City, Williston, and Beulah.

Southwest Pipeline Project

- See project overview under "Rural Water" projects on page 12.

Western Area Water Supply

- See project overview under "Rural Water" projects on page 13.

Infrastructure Revolving Loan Fund

Section 17 of Senate Bill 2020 included an appropriation of $25 million for loans to municipal and rural water projects through the Infrastructure Revolving Loan Fund.

- Western Area Water Supply, North Prairie Rural Water, Northeast Rural Water, Walsh Rural Water, Barnes Rural Water, North Central Rural Water, Stutsman Rural Water, and the cities of Beulah, Lisbon, and Grafton all secured loans from this funding source as of November 2016.

Currently Active Projects, 2015-2017 Water Commission Project Budget

The projects and project categories listed in the Currently Active Projects (Table 2) represents the State Water Commission's entire 2015-2017 biennium project budget as of October 2016 – including carryover.

Several individual projects are listed in the table. However, a number of others fall under project categories, such as regional and local water systems or general water management, and therefore, are not individually identified in the table.

As the table suggests, the Commission had approved 84 percent of the project budget by October 2016. Some of the projects listed in the Water Commission budget receive a combination of grants and loans.

CURRENTLY ACTIVE PROJECTS, 2015-2017 BIENNIUM

PROJECTS	BUDGET	SWC/SE APPROVED	OBLIGATIONS EXPENDITURES	REMAINING UNOBLIGATED	REMAINING UNPAID
FLOOD CONTROL					
FARGO	228,506,200	228,506,200	100,063,893	0	128,442,307
GRAFTON	33,925,000	33,925,000	1,427,599	0	32,497,401
MOUSE RIVER FLOOD CONTROL	46,513,397	25,231,310	6,510,834	21,282,087	18,720,476
VALLEY CITY	28,458,354	15,015,551	7,541,205	13,442,803	7,474,346
LISBON	15,534,687	8,094,752	3,767,597	7,439,935	4,327,155
FORT RANSOM	225,000	0	0	225,000	0
WILLISTON	7,000,000	--	--	7,000,000	--
RENWICK DAM	23,320	7,117	7,117	16,203	0
MISSOURI RIVER FLOOD CONTROL	4,000,000	4,000,000	4,000,000	0	0
FLOODWAY PROPERTY ACQUISITIONS					
MINOT	23,879,316	23,879,316	10,830,901	0	13,048,415
WARD COUNTY	6,046,590	6,046,590	31,243	0	6,015,347
VALLEY CITY	4,017,403	4,017,403	142,606	0	3,874,797
BURLEIGH COUNTY	232,649	232,649	0	0	232,649
SAWYER	184,260	184,260	0	0	184,260
LISBON	318,750	318,750	0	0	318,750
BURLINGTON	43,350	43,350	0	0	43,350
STATE WATER SUPPLY					
REGIONAL & LOCAL WATER SYSTEMS	184,760,694	184,760,694	52,727,235	0	132,033,459
FARGO WATER TREATMENT PLANT	22,768,775	22,768,775	13,826,007	0	8,942,768
SOUTHWEST PIPELINE PROJECT	104,761,201	104,761,200	42,472,553	0	62,288,647
NORTHWEST AREA WATER SUPPLY	15,754,482	15,754,482	1,568,298	0	14,186,183
WESTERN AREA WATER SUPPLY AUTHORITY	82,201,384	82,201,384	53,752,959	0	28,448,425
RED RIVER VALLEY WATER SUPPLY	12,521,328	12,521,328	6,032,845	0	6,488,483
CENTRAL NORTH DAKOTA WATER SUPPLY	70,070,800	70,800	69,804	70,000,000	997
UNOBLIGATED STATE WATER SUPPLY	2,156,155	--	--	2,156,155	--
GENERAL WATER MANAGEMENT					
OBLIGATED	41,673,957	41,673,957	16,177,216	0	25,496,741
UNOBLIGATED GENERAL WATER	31,252,049	--	--	31,252,049	--
DEVILS LAKE					
OUTLET	870,802	870,802	0	0	870,802
OUTLET OPERATIONS	18,534,211	18,534,210	5,631,086	0	12,903,124
DL EAST END OUTLET	2,774,011	2,774,011	505,355	0	2,268,656
REVOLVING LOAN FUND					
GENERAL WATER PROJECTS	11,000,000	5,031,700	886,500	5,968,300	4,145,200
WATER SUPPLY	25,000,000	14,966,885	10,000,000	10,033,115	4,966,885
TOTALS	**1,025,008,125**	**856,192,475**	**337,972,854**	**168,815,650**	**518,219,621**

Table 2. Currently Active Projects (As Of October 2016), 2015-2017 Biennium

STATE WATER DEVELOPMENT PROGRAM
WORKING WITH PROJECT SPONSORS

This section briefly describes the inventory process used by the Water Commission to identify and estimate future water project and program funding needs. A summary of those funding needs, as provided by project sponsors, is also presented.

Water Project Inventory Process

As part of the Water Commission's water planning efforts, the agency biennially solicits project and program information from potential project sponsors. The results provide the Commission with an updated inventory of water projects and programs that could come forward for state cost-share in the upcoming 2017-2019 biennium and beyond. As in the past, the product of this effort becomes the foundation that supports the State Water Commission's budget request to the Governor and Legislature.

To obtain updated and new project and program information from sponsors, the Commission sent project information forms to water boards, joint water boards, the North Dakota Irrigation Association, communities, rural and regional water supply systems, and government agencies with an interest in water development projects and programs. Information requested on the forms included general project descriptions, location, cost estimates, permit information, and identification of potential obstacles, among other basic aspects of the projects.

Most importantly, sponsors were asked to assign the most realistic start dates possible to projects they expected to present to the Commission for cost-share consideration - particularly during the 2017-2019 and later biennia. As part of that effort, project sponsors needed to take into consideration when a funding commitment from the Commission would be needed for projects or programs to proceed.

As the project information forms were received by the Commission, each project was reviewed by a team of staff members to determine if portions of the project were eligible for cost-share, and if the proposed timeframes for project advancement were reasonable and justified by supporting information. Sponsors were also required to provide information on project benefits per NDCC 61-02-01.3. That information was also used in project analyses.

After project reviews were completed, the information was transferred into a water project database. This provides the Commission with updated project information for older projects and an accounting of new projects that have developed since the last inventory process, during the 2015-2017 biennium. Of course, circumstances change, and so do project costs over time. Therefore, the database is updated regularly leading up to the Legislative Assembly.

In addition, Commission staff worked closely with the North Dakota Water Coalition (which is made up of project sponsors from across the state), and the project sponsors themselves to maintain the most up-to-date project information possible. The Commissioner-hosted meetings were also helpful for the agency and project sponsors to discuss projects and update information accordingly.

The result of this inventory process is a comprehensive list of water projects throughout North Dakota that could come forward for new or additional cost-share in future biennia. As stated earlier, this is an important tool for budget planning purposes for the Commission, the Office of Management and Budget, the Governor's Office, and the Legislature.

Water Development Funding Needs, 2017-2019 Biennium

The following Water Development Funding Needs table contains projects that could move forward and request State Water Commission cost-share in the 2017-2019 biennium (Table 3). *This accounting of projects simply represents a list of needs as submitted by project sponsors. It does not guarantee, in any way, that all of the projects listed will receive funding or the amounts listed. In addition, upon further review of the projects and any notices of changes to the projects, the state's potential cost-share contribution may change based on the agency's cost-share policy and requirements for eligible items.*

Also, in consideration of the State Water Commission Project Prioritization Guidance policy, projects were also identified with their priority ranking, and by major drainage basin where they are located.

The inventory is organized into four project purposes including: flood control, irrigation, water supply, and general water management. The total financial need to implement all of the projects in the 2017-2019 inventory is about $1.5 billion. The state's share of that total could be about $976 million in grants and loans. However, those estimates will evolve pending closer analyses of cost-share requirements once a request for funding has been made to the Commission. The federal government and local project sponsors would be responsible to make up the balance.

The 2017-2019 totals do not account for projects that may receive additional funding in the current 2015-2017 biennium. It should also be noted that water development projects can be delayed as a result of local or federal funding problems, permits, or environmental issues, which can substantially influence the actual need for any given biennium. Furthermore, the unpredictability of floods, droughts, and other unforeseen events can result in new funding needs that were not documented at the time this report was developed. As a result, the actual need for the upcoming biennium has the potential to change from what is presented here.

Tribal Project Funding

Water projects submitted by tribal governments could be included in the inventory if partnered with eligible local sponsors per NDCC 61-02-24 and NDCC 61-02-24.1.

Table 3. Water Project Funding Needs, 2017-2019 Biennium

FLOOD CONTROL

PLEASE NOTE: This inventory of financial needs is for planning and budgeting purposes only. It does not guarentee, in any way, that projects listed will receive funding from the state. In addition, the estimated financial needs from the state (grant or loan) may change based on further review of the projects in accordance with cost-share program eligibility requirements.

Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
State of North Dakota	Devils Lake Outlet Operations	High	Devils Lake	$0	$5,000,000	$0	$0	$5,000,000
Souris River JWRD, Minot	Mouse River Flood Control	High	Mouse	$0	$127,000,000	TBD	$62,000,000	$189,000,000
Fargo	Fargo Interior Flood Control	High	Red	$0	$70,572,500	$0	$70,572,500	$141,145,000
F-M Diversion Authority	F-M Diversion	High	Red	$0	$66,500,000	$0	$66,500,000	$133,000,000
Minot	Puppy Dog Coulee Flood Control	High	Mouse	$0	$7,000,000	TBD	$7,500,000	$14,500,000
Lisbon	Permanent Flood Protection	Moderate	Red	$0	$8,800,000	$2,200,000	$0	$11,000,000
Valley City	Permanent Flood Protection	Moderate	Red	$0	$16,000,000	$4,000,000	$0	$20,000,000
FLOOD CONTROL TOTAL				**$0**	**$300,872,500**	**$6,200,000**	**$206,572,500**	**$513,645,000**

TBD = To Be Determined

IRRIGATION

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Dickey-Sargent ID	Oakes Test Area Supple-mental Water Supply	Moderate	James	$0	$2,500,000	$0	$2,500,000	$5,000,000
Garrison Diversion Conser-vancy District	McClusky Canal Irrigation	Moderate	Missouri	$0	$1,250,000	$0	$1,250,000	$2,500,000
IRRIGATION TOTAL				**$0**	**$3,750,000**	**$0**	**$3,750,000**	**$7,500,000**

WATER SUPPLY

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Burlington	South Water Tower	High	Mouse	$0	$819,000	$273,000	$273,000	$1,365,000
Dickinson	Distribution System Improvements	High	Missouri	$0	$1,800,000	$600,000	$600,000	$3,000,000
Dickinson	North Side Tank	High	Missouri	$0	$1,800,000	$600,000	$600,000	$3,000,000
Dickinson	South Side Tank	High	Missouri	$0	$2,700,000	$900,000	$900,000	$4,500,000
Killdeer	HWBL Industrial Subdivision Water Supply	High	Missouri	$0	$294,000	$98,000	$98,000	$490,000
Killdeer	South Water Storage Reservoir	High	Missouri	$0	$270,000	$90,000	$90,000	$450,000
Killdeer	Southwest Utility Extension	High	Missouri	$0	$216,720	$72,240	$72,240	$361,200
Lake Agassiz Water Authority	Red River Valley Water Supply	High	Multi-Basin	$0	$50,000,000	$0	TBD	$50,000,000
Lincoln	Water Supply Main	High	Missouri	$0	$954,000	$318,000	$318,000	$1,590,000
Mandan	Boundary Road PRV	High	Missouri	$0	$294,000	$98,000	$98,000	$490,000
Mandan	Sunset Avenue Reservoir Transmission Line	High	Missouri	$0	$3,006,000	$1,002,000	$1,002,000	$5,010,000
Mandan	Conventional Raw Water Intake	High	Missouri	$0	$8,160,000	$2,720,000	$2,720,000	$13,600,000
Mandan	Collins Reservoir Rehabilitation	High	Missouri	$0	$318,300	$106,100	$106,100	$530,500
Minot	Northwest Area Water Supply	High	Mouse	$0	$110,500,000	$0	$59,500,000	$170,000,000
New Town	Northwest Water Tower	High	Missouri	$0	$1,410,000	$470,000	$470,000	$2,350,000
Southwest Water Authority	Southwest Pipeline Project	High	Missouri	$0	$84,000,000	$0	$0	$84,000,000
Watford City	12th St NE (Hwy 23 to 17th Ave N) Water Main	High	Missouri	$0	$390,000	$130,000	$130,000	$650,000

TBD = To Be Determined

WATER SUPPLY (continued)

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Watford City	14th St NW (10th Ave NW to 17th Ave NW) Water Main	High	Missouri	$0	$240,000	$80,000	$80,000	$400,000
Watford City	17th Ave NE (12th St NE to Hwy 1806) Water Main	High	Missouri	$0	$780,000	$260,000	$260,000	$1,300,000
Watford City	17th Ave NE (Pheasant Ridge to 12th St NE) Water Main	High	Missouri	$0	$282,000	$94,000	$94,000	$470,000
Watford City	17th Ave NW (Main St to 14th St NW) Water Main	High	Missouri	$0	$510,000	$170,000	$170,000	$850,000
Watford City	Hwy 23 Bypass Loop Water Main	High	Missouri	$0	$270,000	$90,000	$90,000	$450,000
Watford City	11th Ave. S Water Main	High	Missouri	$0	$744,357	$248,119	$248,119	$1,240,595
Watford City	HWY 85 (24th Ave S to 37th Ave S) Water Main	High	Missouri	$0	$371,854	$123,951	$123,951	$619,756
Watford City	Southwest Water Tower	High	Missouri	$0	$1,492,570	$497,523	$497,523	$2,487,616
West Fargo	NE Service Area Water Main Loop	High	Red	$0	$450,000	$150,000	$150,000	$750,000
West Fargo	New Water Tower - South of I 94	High	Red	$0	$1,500,000	$500,000	$500,000	$2,500,000
West Fargo	NW to SW Service Area Water Main Loop	High	Red	$0	$720,000	$240,000	$240,000	$1,200,000
Western Area Water Supply	Western Area Water Supply	High	Missouri	$0	$46,317,008	$0	$15,439,002	$61,756,010
Williston	9th Ave E Water Main	High	Missouri	$0	$254,580	$84,860	$84,860	$424,300
Williston	18th St Trunk Water Main	High	Missouri	$0	$2,068,800	$689,600	$689,600	$3,448,000
Williston	48th Ave Chandler Field Water Main	High	Missouri	$0	$136,260	$45,420	$45,420	$227,100
Williston	140th Ave Water Main	High	Missouri	$0	$267,000	$89,000	$89,000	$445,000

WATER SUPPLY (continued)

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Williston	Airport Water Main & Pump Station	High	Missouri	$0	$4,350,000	$1,450,000	$1,450,000	$7,250,000
Williston	US Hwy 2 Water Main Crossings	High	Missouri	$0	$434,400	$144,800	$144,800	$724,000
Greater Ramsey WD	City of Devils Lake Region-alization	Moderate	Devils Lake	$0	$1,162,500	$77,500	$310,000	$1,550,000
North Prairie Rural WD	Mountrail Regional Expansion Phase III	Moderate	Missouri	$0	$3,600,000	$240,000	$960,000	$4,800,000
North Prairie Rural WD	Mountrail County Water Supply	Moderate	Missouri	$0	$3,247,500	$216,500	$866,000	$4,330,000
Northeast Rural WD	Langdon Branch System Expansion	Moderate	Red	$0	$6,000,000	$400,000	$1,600,000	$8,000,000
Southeast WUD	System Wide Expansion	Moderate	Red	$0	$3,000,000	$200,000	$800,000	$4,000,000
Stutsman Rural WD	Phase VI Expansion	Moderate	James	$0	$2,175,000	$145,000	$580,000	$2,900,000
Alexander	Water Line Extension	Low	Missouri	$0	$900,000	$300,000	$300,000	$1,500,000
Arthur	Water Tower Replacement	Low	Red	$0	$840,000	$280,000	$280,000	$1,400,000
Belfield	Water Transmission Line	Low	Missouri	$0	$840,000	$280,000	$280,000	$1,400,000
Cando	New Water Tower	Low	Devils Lake	$0	$900,000	$300,000	$300,000	$1,500,000
Cando	Water Treatment Plant Im-provements	Low	Devils Lake	$0	$900,000	$300,000	$300,000	$1,500,000
Cass Rural WD	Horace Area Water Tank	Low	Red	$0	$1,300,000	$780,000	$520,000	$2,600,000
Cavalier	New Water Tower	Low	Red	$0	$1,500,000	$500,000	$500,000	$2,500,000
Center	Water Supply Improve-ments	Low	Missouri	$0	$356,224	$213,734	$142,490	$712,448
Columbus	Water Main Improve-ments Phase I	Low	Mouse	$0	$365,400	$121,800	$121,800	$609,000

WATER SUPPLY (continued)

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Columbus	Water Main Improvements Phase II	Low	Mouse	$0	$346,710	$115,570	$115,570	$577,850
Columbus	Water Main Improvements Phase III	Low	Mouse	$260,890	$234,801	$78,267	$78,267	$652,225
Davenport	Water Storage, Booster Station & Transmission Lines	Low	Red	$0	$429,600	$143,200	$143,200	$716,000
Drayton	Clearwell Replacement	Low	Red	$0	$1,050,000	$350,000	$350,000	$1,750,000
Drayton	Water Treatment Plant Improvements	Low	Red	$0	$4,200,000	$1,400,000	$1,400,000	$7,000,000
Enderlin	New Wells & Transmission Line	Low	Red	$0	$990,000	$330,000	$330,000	$1,650,000
Enderlin	Water Tower Replacement	Low	Red	$0	$1,173,000	$391,000	$391,000	$1,955,000
Enderlin	New Lime Softening	Low	Red	$0	$4,839,000	$1,613,000	$1,613,000	$8,065,000
Fairmount	New Water Tower	Low	Red	$127,688	$694,387	$381,462	$81,463	$1,285,000
Fargo	New Downtown Elevated Storage Tanks	Low	Red	$0	$3,900,000	$1,300,000	$1,300,000	$6,500,000
Fargo	Water Treatment Plant Residuals Facility	Low	Red	$0	$9,000,000	$3,000,000	$3,000,000	$15,000,000
Flaxton	Water Distribution System Upgrades	Low	Missouri	$0	$141,000	$47,000	$97,000	$285,000
Garrison	Water Supply & Treatment Improvements	Low	Missouri	$0	$5,400,000	$1,800,000	$1,800,000	$9,000,000
Garrison	Transmission & Supply Line	Low	Missouri	$0	$1,080,000	$360,000	$360,000	$1,800,000
Garrison Rural WD	Northwest System Expansion	Low	Missouri	$0	$2,175,204	$725,069	$725,069	$3,625,342

WATER SUPPLY (continued)

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Grafton	Park River Surface Water Intake Improve-ments	Low	Red	$0	$470,000	$178,000	$162,000	$810,000
Grafton	Red River Surface Water Intake Improve-ments	Low	Red	$0	$900,000	$300,000	$300,000	$1,500,000
Grand Forks	Regional Water Treat-ment Plant	Low	Red	$0	$30,549,657	$0	$30,549,657	$61,099,314
Grand Forks Traill WD	Eastern System Expansion & Traill Rural Interconnec-tion	Low	Red	$0	$2,715,045	$905,015	$905,015	$4,525,075
Granville	Distribution System Im-provements	Low	Red	$0	$138,000	$46,000	$96,000	$280,000
Grenora	Water Tower Replacement	Low	Missouri	$0	$2,220,000	$740,000	$740,000	$3,700,000
Hankinson	Transmission Line & Well	Low	Red	$0	$1,500,000	$500,000	$500,000	$2,500,000
Harvey	Water Treatment Plant Im-provements	Low	Missouri	$0	$480,000	$160,000	$160,000	$800,000
Harwood	I-29 South Watermain Loop	Low	Red	$0	$392,400	$130,800	$130,800	$654,000
Hazen	Elevated Storage Tank	Low	Missouri	$0	$900,000	$300,000	$300,000	$1,500,000
Lakota	New Water Tower	Low	Devils Lake	$0	$900,000	$300,000	$300,000	$1,500,000
Lakota	New Water Treatment Plant	Low	Devils Lake	$0	$2,100,000	$700,000	$700,000	$3,500,000
LaMoure	Water Tower Replacement	Low	James	$0	$660,000	$220,000	$220,000	$1,100,000
Langdon	Water Main Looping	Low	Red	$0	$600,000	$200,000	$200,000	$1,000,000
Larimore	New Water Mains & Ap-purtenances	Low	Red	$0	$225,000	$75,000	$75,000	$375,000
Lisbon	Water Main Looping	Low	Red	$0	$246,000	$82,000	$82,000	$410,000

WATER SUPPLY (continued)

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Lisbon	Water Treatment Plant Rehabilitation	Low	Red	$0	$300,000	$100,000	$100,000	$500,000
Lisbon	New Wells & Transmission Line	Low	Red	$0	$336,000	$112,000	$112,000	$560,000
Makoti	New Transmission Line	Low	Missouri	$0	$360,000	$120,000	$120,000	$600,000
Mapleton	New Water Tower	Low	Red	$0	$978,000	$326,000	$326,000	$1,630,000
Mayville	Water Treatment Plant Improvements	Low	Red	$0	$270,000	$90,000	$90,000	$450,000
McLean-Sheridan Rural WD	New Water Tower & Transmission Lines	Low	Missouri	$0	$1,620,000	$540,000	$540,000	$2,700,000
Mercer	Storage & Distribution Improvements	Low	Missouri	$1,000,000	$408,557	$136,186	$136,186	$1,680,929
Michigan	Water Tower Replacement	Low	Devils Lake	$0	$300,000	$100,000	$100,000	$500,000
Mohall	Water Main Looping	Low	Mouse	$0	$216,000	$72,000	$72,000	$360,000
Mooreton	Reservoir, Pressure System & Distribution Mains	Low	Red	$0	$720,000	$240,000	$240,000	$1,200,000
North Prairie Rural WD	Reservoir 9	Low	Mouse	$0	$900,000	$300,000	$300,000	$1,500,000
North Prairie Rural WD	Surrey - Silver Spring Development Supply Line	Low	Mouse	$0	$165,000	$55,000	$55,000	$275,000
Oberon	Well Installation	Low	Devils Lake	$0	$159,000	$81,000	$60,000	$300,000
Park River	Water Main Improvements	Low	Red	$0	$708,796	$236,265	$236,265	$1,181,326
Portland	Water Tower Replacement	Low	Red	$0	$750,000	$250,000	$250,000	$1,250,000
Riverdale	Water Storage Improvements	Low	Missouri	$0	$780,000	$260,000	$260,000	$1,300,000

WATER SUPPLY (continued)

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Sawyer	Treatment Plant Upgrades & Well Replacement	Low	Mouse	$0	$1,464,000	$488,000	$488,000	$2,440,000
Sherwood	Water Supply Improve-ments	Low	Mouse	$0	$267,000	$89,000	$89,000	$445,000
Streeter	Well Installation	Low	James	$0	$378,000	$126,000	$126,000	$630,000
Traill Rural WD	Transmission Pipeline Expansion & PRV Installation	Low	Red	$0	$1,018,276	$339,426	$339,426	$1,697,128
Tri-County Rural WD	Connection To McVille & Rural Distribution	Low	Red	$0	$2,340,000	$780,000	$780,000	$3,900,000
Valley City	Distribution System Im-provements	Low	Red	$0	$660,000	$220,000	$220,000	$1,100,000
Wahpeton	New Well	Low	Red	$0	$432,000	$144,000	$144,000	$720,000
Walsh Rural WD	System Im-provements & New Users	Low	Red	$0	$1,126,186	$375,395	$375,395	$1,876,976
Westhope	Water Main Improve-ments	Low	Mouse	$0	$360,000	$120,000	$120,000	$600,000
White Earth	Distribution System	Low	Missouri	$0	$1,107,000	$369,000	$369,000	$1,845,000
Wildrose	Water Tower Improve-ments	Low	Missouri	$0	$57,000	$19,000	$19,000	$95,000
Wing	Water Tower Replacement	Low	Missouri	$550,000	$300,000	$100,000	$100,000	$1,050,000
WATER SUPPLY TOTAL				**$1,938,578**	**$454,338,092**	**$39,848,802**	**$148,606,218**	**$644,731,690**

GENERAL WATER MANAGEMENT

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Local Sponsor	Project Name	Priority	Basin	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
Burleigh WRD	Apple Creek Industrial Park Levee	High	Missouri	$0	$900,000	TBD	$600,000	$1,500,000
Park River JWRD	North Branch Park River Flood Control - Crystal	High	Red	$0	$2,400,000	TBD	$1,600,000	$4,000,000
Drayton	Drayton Flood Control	High	Red	$0	$960,000	TBD	$640,000	$1,600,000
Grand Forks WRD	Arville Flood Outlet Channel & Drop Structure	High	Red	$0	$450,000	TBD	$300,000	$750,000
Grand Forks WRD	Emerado Levee	High	Red	$0	$600,000	TBD	$400,000	$1,000,000
LaMoure	LaMoure Flood Control	High	James	$0	$2,400,000	TBD	$1,600,000	$4,000,000
Minot	Souris River SWIF Improvements	High	Mouse	$0	$1,500,000	TBD	$1,000,000	$2,500,000
Neche	Neche Flood Control - Levee Certification	High	Red	$0	$1,500,000	TBD	$1,000,000	$2,500,000
Rush River WRD	Amenia Levee	High	Red	$0	$1,200,000	TBD	$800,000	$2,000,000
Southeast Cass WRD	Sheyenne-Maple Flood Control Project #2 Improvements	High	Red	$0	$900,000	TBD	$600,000	$1,500,000
Walsh WRD	Forest River Flood Control	High	Red	$0	$4,860,000	TBD	$5,940,000	$10,800,000
Ward WRD	Puppy Dog Coulee By-Pass Channel	High	Mouse	$0	$1,800,000	TBD	$1,200,000	$3,000,000
Barnes WRD	Brown Dam Repurposing	Moderate	Red	$0	$26,250	$0	$48,750	$75,000
Barnes WRD	Kathryn Dam Repair and Modification	Moderate	Red	$100,000	$1,125,000	$0	$375,000	$1,600,000
Barnes WRD	Little Dam Repurposing	Moderate	Red	$0	$975,000	$0	$325,000	$1,300,000

TBD = To Be Determined

GENERAL WATER MANAGEMENT (continued)

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Barnes WRD	Eckelson/ Fox Lake Watershed Detention	Moderate	Red	$0	$1,500,000	$0	$1,000,000	$2,500,000
Belfield	Heart River Snagging and Clearing	Moderate	Missouri	$0	$75,000	$0	$75,000	$150,000
Benson WRD	Bouret Dam Rehabilita-tion	Moderate	Devils Lake	$20,000	$100,000	$0	$45,000	$165,000
Cass JWRD	Rush River Watershed Detention	Moderate	Red	$5,000,000	$7,500,000	$0	$7,500,000	$20,000,000
Cass JWRD	Swan Creek Watershed Detention	Moderate	Red	$5,000,000	$7,500,000	$0	$7,500,000	$20,000,000
Cass JWRD	Upper Maple Watershed Detention	Moderate	Red	$5,000,000	$7,500,000	$0	$7,500,000	$20,000,000
Elm River JWRD	Elm River Watershed Detention	Moderate	Red	$0	$3,600,000	$0	$2,400,000	$6,000,000
Elm River JWRD	Elm River Snagging and Clearing	Moderate	Red	$0	$100,000	$0	$100,000	$200,000
Enderlin	Maple River Snagging and Clearing	Moderate	Red	$0	$100,000	$0	$100,000	$200,000
Forest River JWRD	Forest River Flood Control Detention	Moderate	Red	$0	$2,415,000	$0	$3,485,000	$5,900,000
Grand Forks WRD	Johnstown Dam	Moderate	Red	$0	$600,000	$0	$400,000	$1,000,000
Grand Forks WRD	WPA Dam Reconstruc-tion	Moderate	Red	$0	$390,000	$0	$260,000	$650,000
Grand Forks WRD	Upper Turtle River Dam Site #10	Moderate	Red	$0	$1,500,000	$0	$1,000,000	$2,500,000
Griggs WRD	Ueland Dam Rehabilita-tion	Moderate	Red	$20,000	$100,000	$0	$45,000	$165,000
Hettinger WRD	Karey Dam Rehabilita-tion	Moderate	Missouri	$20,000	$100,000	$0	$45,000	$165,000
Jamestown	James River Snagging & Clearing	Moderate	James	$0	$315,000	$0	$345,000	$660,000
LaMoure WRD	Edgeley Kulm Dam Repair	Moderate	James	$0	$8,000	$0	$16,000	$24,000

GENERAL WATER MANAGEMENT (continued)

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LaMoure WRD	Schlecht-Thom Dam Repair	Moderate	James	$0	$8,000	$0	$16,000	$24,000
LaMoure WRD	Schlenker Dam Repair	Moderate	James	$0	$8,000	$0	$16,000	$24,000
McHenry WRD	Mouse River Snagging & Clearing	Moderate	Mouse	$0	$150,000	$0	$150,000	$300,000
McKenzie WRD	Sivertson Dam Breach	Moderate	Missouri	$0	$533,812	$0	$177,938	$711,750
McLean WRD	Katz Dam & Lost Lake Dam Repurposing	Moderate	Missouri	$200,000	$1,350,000	$0	$450,000	$2,000,000
ND Parks & Recreation	Missouri River Day Park Bank Stabilization	Moderate	Missouri	$0	$1,000,000	$0	$1,000,000	$2,000,000
Park River JWRD	North Branch Park River Detention	Moderate	Red	$0	$15,000,000	$0	$10,000,000	$25,000,000
Pembina WRD	Senator Young Dam Repair	Moderate	Red	$1,500,000	$11,250,000	$0	$3,750,000	$16,500,000
Pembina WRD	Tongue River Dam Repairs	Moderate	Red	$0	$1,050,000	$0	$350,000	$1,400,000
Pembina WRD	Tongue River Watershed Detention	Moderate	Red	$0	$6,000,000	$0	$4,000,000	$10,000,000
Richland WRD	Bois de Sioux & Wild Rice River Detention	Moderate	Red	$0	$15,000,000	$0	$10,000,000	$25,000,000
Richland WRD	Sheyenne River Snag & Clear	Moderate	Red	$0	$100,000	$0	$100,000	$200,000
Richland WRD	Wild Rice River Snag & Clear	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Rush River WRD	Rush River Snagging & Clearing	Moderate	Red	$0	$400,000	$0	$400,000	$800,000
Sargent WRD	Gwynner Dam Replacement	Moderate	Red	$0	$5,400,000	$0	$3,600,000	$9,000,000
Sargent WRD	Shortfoot Creek Watershed Detention	Moderate	Red	$500,000	$250,000	$0	$250,000	$1,000,000
Sargent WRD	Silver Lake Dam Repair	Moderate	Red	$0	$150,000	$0	$50,000	$200,000

GENERAL WATER MANAGEMENT (continued)

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Southeast Cass WRD	Sheyenne River Snag & Clear - Reach #1	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Southeast Cass WRD	Sheyenne River Snag & Clear - Reach #2	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Southeast Cass WRD	Sheyenne River Snag & Clear - Reach #3	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Southeast Cass WRD	Wild Rice River Snag and Clear	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Steele WRD	Middle Branch Goose River Watershed Detention	Moderate	Red	$0	$9,000,000	$0	$6,000,000	$15,000,000
Traill WRD	Elm River, Goose River, Buffalo Coulee Snag & Clear	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Valley City	Mill Dam Repair	Moderate	Red	$0	$750,000	$0	$250,000	$1,000,000
Valley City	Sheyenne River Bank Stabilization	Moderate	Red	$0	$250,000	$0	$250,000	$500,000
Walsh WRD	Forest River Snag & Clear	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Walsh WRD	Park River Snag and Clear	Moderate	Red	$0	$200,000	$0	$200,000	$400,000
Walsh WRD	First Larson Coulee Detention	Moderate	Mouse	$0	$288,000	$0	$192,000	$480,000
Ward WRD	Meadow-Brook Snag & Clear	Moderate	Mouse	$0	$50,000	$0	$50,000	$100,000
Assini-boine River Basin Initiative	ARBI - Coordinated Action Plan Implemena-tion	Low	Mouse	$0	$200,000	$0	$280,000	$480,000
Barnes & Griggs JWRD	Silver Creek Drain #1	Low	Red	$0	$291,640	$0	$356,448	$648,088
Barnes WRD	10 Mile Lake Outlet	Low	Red	$0	$900,000	$0	$1,100,000	$2,000,000

GENERAL WATER MANAGEMENT (continued)

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Bottineau WRD	Bauman Legal Drain	Low	Mouse	$0	$410,000	$0	$501,600	$911,600
Bottineau WRD	Brander Legal Drain Extension	Low	Mouse	$0	$96,000	$0	$117,000	$213,000
Bottineau WRD	Haas Coulee Phase II	Low	Mouse	$0	$189,000	$0	$231,000	$420,000
Bottineau WRD	International Drain (Hulse Coulee, Zahn Drain)	Low	Mouse	$0	$267,000	$0	$328,000	$595,000
Bottineau WRD	Kane-Tacoma Drain	Low	Mouse	$0	$120,000	$0	$150,000	$270,000
Bottineau WRD	Landa Rural Flood Control Project	Low	Mouse	$0	$292,000	$0	$358,000	$650,000
Bottineau WRD	LaPort Coulee West Rural Flood Control	Low	Mouse	$0	$720,000	$0	$880,000	$1,600,000
Bottineau WRD	Russel Legal Drain	Low	Mouse	$0	$82,000	$0	$100,000	$182,000
Bottineau WRD	Stead Drain	Low	Mouse	$0	$220,000	$0	$270,000	$490,000
Bottineau WRD	Stone Creek Phase II	Low	Mouse	$0	$214,000	$0	$261,000	$475,000
Burleigh WRD	McDowell Dam Supplemental Water Supply	Low	Missouri	$0	$360,000	$0	$540,000	$900,000
Cavalier	Bjornson Drive Drainage - Overland Flooding Study	Low	Red	$0	$40,250	$0	$74,750	$115,000
Cavalier WRD	Cypress III Drainage Improvement	Low	Red	$0	$58,500	$0	$71,500	$130,000
Cavalier WRD	Roseau Drain	Low	Red	$0	$222,750	$0	$272,250	$495,000
Dickey WRD	Drain #1 Channel Improvement	Low	Red	$0	$337,500	$0	$412,500	$750,000
Eastern Dakota ID	Irrigation Electrical Rate Study	Low	Red	$0	$3,500	$0	$6,500	$10,000

GENERAL WATER MANAGEMENT (continued)

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Grand Forks WRD	Hazen Brook Dam Feasibility Study	Low	Red	$0	$350,000	$0	$650,000	$1,000,000
Grand Forks WRD	Drain #12 Channel Improvement	Low	Red	$0	$2,250,000	$0	$2,750,000	$5,000,000
Grand Forks WRD	Drain #9 Channel Improvement	Low	Red	$0	$128,250	$0	$156,750	$285,000
Grand Forks WRD	Drain #19 Channel improvement	Low	Red	$0	$225,000	$0	$275,000	$500,000
Grand Forks WRD	Drain #23 Channel Improvement	Low	Red	$0	$180,000	$0	$220,000	$400,000
Grand Forks WRD	Drain #58 Channel Improvement	Low	Red	$0	$357,750	$0	$437,250	$795,000
Grand Forks WRD	Drain #59 Channel Improvement	Low	Red	$0	$900,000	$0	$1,100,000	$2,000,000
Lower Heart WRD	Lower Heart Flood Protection Studies	Low	Missouri	$0	$280,000	$0	$520,000	$800,000
Maple River WRD	Buffalo-Lynchbrug Channel Improvement	Low	Red	$0	$675,000	$0	$825,000	$1,500,000
Maple River WRD	F-M Diversion Impacts	Low	Red	$0	$450,000	$0	$550,000	$1,000,000
Maple River WRD	Cass Drain #37 Channel Improvement	Low	Red	$0	$225,000	$0	$275,000	$500,000
Maple River WRD	Cass Drain #46 Channel Improvement	Low	Red	$0	$270,000	$0	$330,000	$600,000
Maple River WRD	Cass County Drain MR-1 Channel Improvement	Low	Red	$0	$225,000	$0	$275,000	$500,000
Maple River WRD	Cass County Drain MR-2 Channel Improvement	Low	Red	$0	$675,000	$0	$825,000	$1,500,000
Maple River WRD	Cass County Proposed Drain	Low	Red	$0	$337,500	$0	$412,500	$750,000

GENERAL WATER MANAGEMENT (continued)

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Maple River WRD	Upper Swan Creek Channel Improvement	Low	Red	$0	$270,000	$0	$330,000	$600,000
McLean WRD	Painted Woods Lake Rural Flood Control	Low	Missouri	$100,000	$855,000	$0	$1,045,000	$2,000,000
McLean WRD	Fort Mandan/4H Camp Rural Flood Control	Low	Missouri	$0	$990,000	$0	$1,210,000	$2,200,000
McLean WRD	Turtle Creek Rural Flood Control	Low	Missouri	$0	$900,000	$0	$1,100,000	$2,000,000
North Cass WRD	Cass County Drain #18 Channel Improvement	Low	Red	$0	$270,000	$0	$330,000	$600,000
North Cass WRD	Cass County Drain #23 Channel Improvement	Low	Red	$0	$270,000	$0	$330,000	$600,000
North Cass WRD	Cass County Drain #26 Channel Improvement	Low	Red	$0	$292,500	$0	$357,500	$650,000
North Cass WRD	Cass County Drain #31 Channel Improvement	Low	Red	$0	$315,000	$0	$385,000	$700,000
North Cass WRD	Cass County Drain #32 Channel Improvement	Low	Red	$0	$337,500	$0	$412,500	$750,000
Pembina WRD	Drain #66 Secondary Outlet	Low	Red	$0	$675,000	$0	$825,000	$1,500,000
Pembina WRD	Drain #79 Improvement	Low	Red	$0	$492,000	$0	$1,000,000	$1,492,000
Powers Lake	Powers Lake Watershed Protection	Low	Missouri	$47,400	$37,600	$0	$56,400	$141,400
Red River Basin Commission	RRBC - Natural Resource Framework Plan Implementation	Low	Red	$0	$200,000	$0	$200,000	$400,000
Red River Ret. Auth. & RRJWRD	Red River Retention Authority Coordinator	Low	Red	$0	$41,000	$0	$123,000	$164,000

GENERAL WATER MANAGEMENT (continued)

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Renville WRD	Tolley Slough Outlet	Low	Mouse	$0	$450,000	$0	$550,000	$1,000,000
Richland WRD	Drain #7 Reconstruction	Low	Red	$0	$290,000	$0	$360,000	$650,000
Richland WRD	Drain #14 Reconstruction	Low	Red	$0	$290,000	$0	$360,000	$650,000
Richland WRD	Drain #18 Reconstruction	Low	Red	$0	$500,000	$0	$650,000	$1,150,000
Richland WRD	Shortfoot Creek Reconstruction Phase II	Low	Red	$0	$270,000	$0	$330,000	$600,000
Rush River WRD	F-M Diversion Impacts	Low	Red	$0	$450,000	$0	$550,000	$1,000,000
Rush River WRD	Drain #52 Channel Improvement	Low	Red	$0	$675,000	$0	$825,000	$1,500,000
Rush River WRD	Cass County Drain #77 - New Drain	Low	Red	$0	$213,750	$0	$261,250	$475,000
Sargent WRD	Drain #7 Channel Improvement	Low	Red	$0	$450,000	$0	$550,000	$1,000,000
Sargent WRD	Drain #11 Channel Improvement	Low	Red	$0	$1,125,000	$0	$1,375,000	$2,500,000
Sargent WRD	Drain #12 Channel Improvement	Low	Red	$0	$225,000	$0	$275,000	$500,000
Southeast Cass WRD	Drain #21C Channel Improvement	Low	Red	$0	$337,500	$0	$412,500	$750,000
Southeast Cass WRD	Drain #27 Channel Improvement	Low	Red	$0	$337,500	$0	$412,500	$750,000
Southeast Cass WRD	Drain #47 Channel Improvement	Low	Red	$0	$405,000	$0	$495,000	$900,000
Southeast Cass WRD	Drain #50 Channel Improvement	Low	Red	$0	$405,000	$0	$495,000	$900,000
Southeast Cass WRD	Drain #51 Channel Improvement	Low	Red	$0	$405,000	$0	$495,000	$900,000
Southeast Cass WRD	Drain #53 Channel Improvement	Low	Red	$0	$900,000	$0	$1,100,000	$2,000,000

GENERAL WATER MANAGEMENT (continued)

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Steele WRD	Drain #3 Channel Improvement	Low	Red	$0	$213,750	$0	$261,250	$475,000
Steele WRD	Drain #4 Channel Improvement	Low	Red	$0	$562,500	$0	$687,500	$1,250,000
Steele WRD	Drain #6 Channel Improvement	Low	Red	$0	$360,000	$0	$440,000	$800,000
Steele WRD	Drain #8 Channel Improvement	Low	Red	$0	$360,000	$0	$440,000	$800,000
Steele WRD	Drain #11 Channel Improvement	Low	Red	$0	$450,000	$0	$550,000	$1,000,000
Steele WRD	Drain #12 Channel Improvement	Low	Red	$0	$360,000	$0	$440,000	$800,000
Steele WRD	Golden Lakes Improvement	Low	Red	$0	$198,000	$0	$297,000	$495,000
Steele WRD	Drainage Improvement District - Proposed Channel	Low	Red	$0	$337,500	$0	$412,500	$750,000
Traill WRD	Carson Drain #10 Channel Improvement	Low	Red	$0	$450,000	$0	$550,000	$1,000,000
Traill WRD	Murray Drain #17 Channel Improvement	Low	Red	$0	$675,000	$0	$825,000	$1,500,000
Traill WRD	Roseville Drain #19 Channel Improvement	Low	Red	$0	$900,000	$0	$1,100,000	$2,000,000
Traill WRD	Drain #23-40 Channel Improvement	Low	Red	$0	$675,000	$0	$825,000	$1,500,000
Traill WRD	Hillsboro Drain #26 Channel Improvement	Low	Red	$0	$337,500	$0	$412,500	$750,000
Traill WRD	Morgan Drain #36 Channel Improvement	Low	Red	$0	$900,000	$0	$1,100,000	$2,000,000
Traill WRD	Hatton Drain #45 Channel Improvement	Low	Red	$0	$337,500	$0	$412,500	$750,000

GENERAL WATER MANAGEMENT (continued)

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Traill WRD	Stavanger-Belmont Drain #52 Channel Improvement	Low	Red	$0	$1,500,000	$0	$1,800,000	$3,300,000
Traill WRD	Thompson Drain #71 - New Channel	Low	Red	$0	$450,000	$0	$550,000	$1,000,000
Traill WRD	Preston Floodway Improvement	Low	Red	$0	$562,500	$0	$687,500	$1,250,000
Tri-County JWRD	Drain #6 Reconstruction Phase II	Low	Red	$0	$700,000	$0	$850,000	$1,550,000
Walsh WRD	Drain #22 Channel Improvement	Low	Red	$0	$200,000	$0	$400,000	$600,000
Walsh WRD	Drain #25 Channel Improvement	Low	Red	$0	$450,000	$0	$550,000	$1,000,000
Walsh WRD	Drain #30 Channel Improvement	Low	Red	$0	$500,000	$0	$800,000	$1,300,000
Walsh WRD	Drain #31 Channel Improvement	Low	Red	$0	$350,000	$0	$630,000	$980,000
Walsh WRD	Drain #50 Channel Improvement	Low	Red	$0	$656,200	$0	$984,300	$1,640,500
Walsh WRD	Drain #87 (McLeod Drain) Channel Improvement	Low	Red	$0	$2,000,000	$0	$3,000,000	$5,000,000
Walsh WRD	Drain #90 Channel Improvement	Low	Red	$0	$4,500,000	$0	$7,700,000	$12,200,000
Walsh WRD	Hove Horeshoe Legal Drain	Low	Red	$0	$600,000	$0	$900,000	$1,500,000
Ward WRD	Makoti Lake Stabilization	Low	Mouse	$0	$900,000	$0	$1,100,000	$2,000,000
GENERAL WATER MANAGEMENT TOTAL				**$17,507,400**	**$171,299,502**	**$0**	**$152,714,436**	**$341,521,338**

Table 4. Summary Of Water Project Funding Needs, 2017-2019 Biennium

SUMMARY OF WATER DEVELOPMENT NEEDS					
Project Purposes	Federal 2017-2019	Potential SWC Grant 2017-2019	Potential SWC Loan 2017-2019	Local 2017-2019	Total 2017-2019
FLOOD CONTROL TOTAL	$0	$300,872,500	$6,200,000	$206,572,500	$513,645,000
GENERAL WATER MANAGEMENT TOTAL	$17,507,400	$171,299,502	$0	$152,714,436	$341,521,338
IRRIGATION TOTAL	$0	$3,750,000	$0	$3,750,000	$7,500,000
WATER SUPPLY TOTAL	$1,938,578	$454,338,092	$39,848,802	$148,606,218	$644,731,690
ALL PROJECTS TOTAL	**$19,445,978**	**$930,260,094**	**$46,048,802**	**$511,643,154**	**$1,507,398,028**

WATER PROJECT FUNDING

North Dakota funds a majority of its water projects through the Water Commission. Funding that is provided through the Commission for water development has historically come from several sources, including: the state's General Fund; the Dakota Water Resources Act, federal Municipal, Rural, and Industrial (MR&I) Water Supply Program; the Resources Trust Fund; and the Water Development Trust Fund. In addition to these sources, the Commission is also authorized to issue revenue bonds for water projects, and has shared control of the Drinking Water State Revolving Loan Fund. There are also other federal funding sources that will be briefly discussed.

General Fund

The proposed State Water Commission budget does not include any revenue from the state's General Fund. Since the 2013 Legislative Assembly, the agency's operational functions were funded entirely through the Resources Trust Fund.

Resources Trust Fund

Section 57-51.1-07.1 (2) of North Dakota Century Code requires that every legislative bill appropriating monies from the Resources Trust Fund (RTF), pursuant to subsection one, must be accompanied by a State Water Commission report. This 2017-2019 Water Development Report, which serves as an update to the 2015 State Water Management Plan, satisfies that requirement for requesting funding from the RTF for the 2017-2019 biennium.

The RTF is funded with 20 percent of the revenues from the oil extraction tax. A percentage of the RTF has been designated by the Legislature to be used for water-related projects and energy conservation. The Water Commission budgets for cost-share based on a forecast of oil extraction tax revenue for the biennium, which is provided by the Office of Management and Budget.

Revenues into the RTF for the 2015-2017 biennium are expected to total $240 million. When combined with the fund's 2015 beginning balance of $576 million, less the estimated expenditures of $553 million, the balance in the RTF at the beginning of the 2017-2019 biennium could be $263 million. All of those dollars will have been committed to projects that are anticipated to be carried into the next biennium.

ND OIL PRODUCTION, PRICING, & RESOURCES TRUST FUND REVENUE

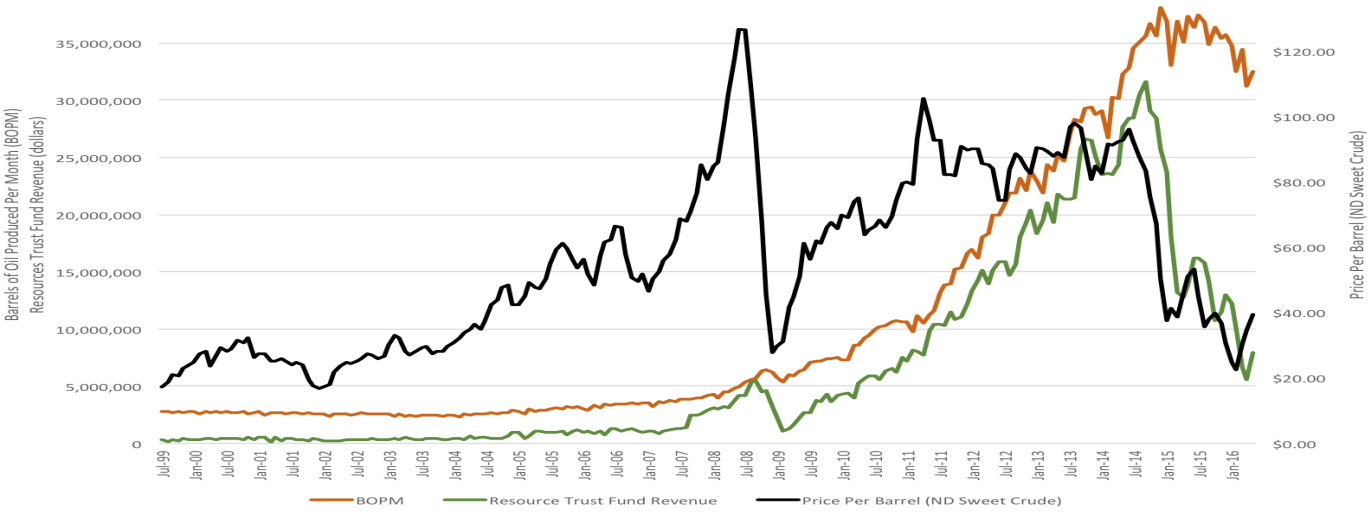


Figure 2. North Dakota Oil Production And Resources Trust Fund Revenue.

Because revenues from the oil extraction tax are highly dependent on oil prices and production, it is very difficult to predict future funding levels (Figure 2). With that in mind, the November 2016 forecast includes $286 million for the 2017-2019 biennium from oil extraction.

Additional revenue into the RTF will come from Southwest Pipeline Project reimbursements, State Water Commission water supply program loan repayments, interest earnings, and oil royalties. These are estimated to total an additional $14 million (Figure 3).

Water Development Trust Fund

Senate Bill 2188 (1999) set up the Water Development Trust Fund as a primary means of repaying bonds it authorized. House Bill 1475 (1999) allocated 45 percent of the funds received by the state from the 1998 tobacco settlement into the Water Development Trust Fund.

Revenues into the Water Development Trust Fund for the 2015-2017 biennium are expected to total about $18 million. The Office of Management and Budget estimates revenues of $20 million for the 2017-2019 biennium (Figure 4).

Payments into the fund are scheduled through 2025 at a level based on inflation and tobacco consumption.

Bonding

The Water Commission has bonding authority (NDCC 61-02-46) to issue revenue bonds of up to $2 million per project. The Legislature must authorize revenue bond authority beyond $2 million per project. In 1991, the Legislature authorized full revenue bond authority for the Northwest Area Water Supply Project, in 1997 it authorized $15 million of revenue bonds for the Southwest Pipeline, and in 2001 it raised the Southwest Pipeline authority to $25 million. The Water Commission has no outstanding bonds at this time.

Infrastructure Revolving Loan Fund

An Infrastructure Revolving Loan Fund (IRLF) was established during the 2013 Legislative Assembly. NDCC 61-02-78 requires that a fund be established as of January 1, 2015, within the RTF to provide loans for water supply, flood protection, or other water development and management projects. Funding for the IRLF comes from ten percent of oil extraction revenue deposited in the RTF.

The Water Commission approves projects and loans from the IRLF, and the Bank of North Dakota manages and administers the loans. Specific requirements and terms are established and approved by the Water Commission for each loan.

RESOURCES TRUST FUND REVENUES, 1997-2019

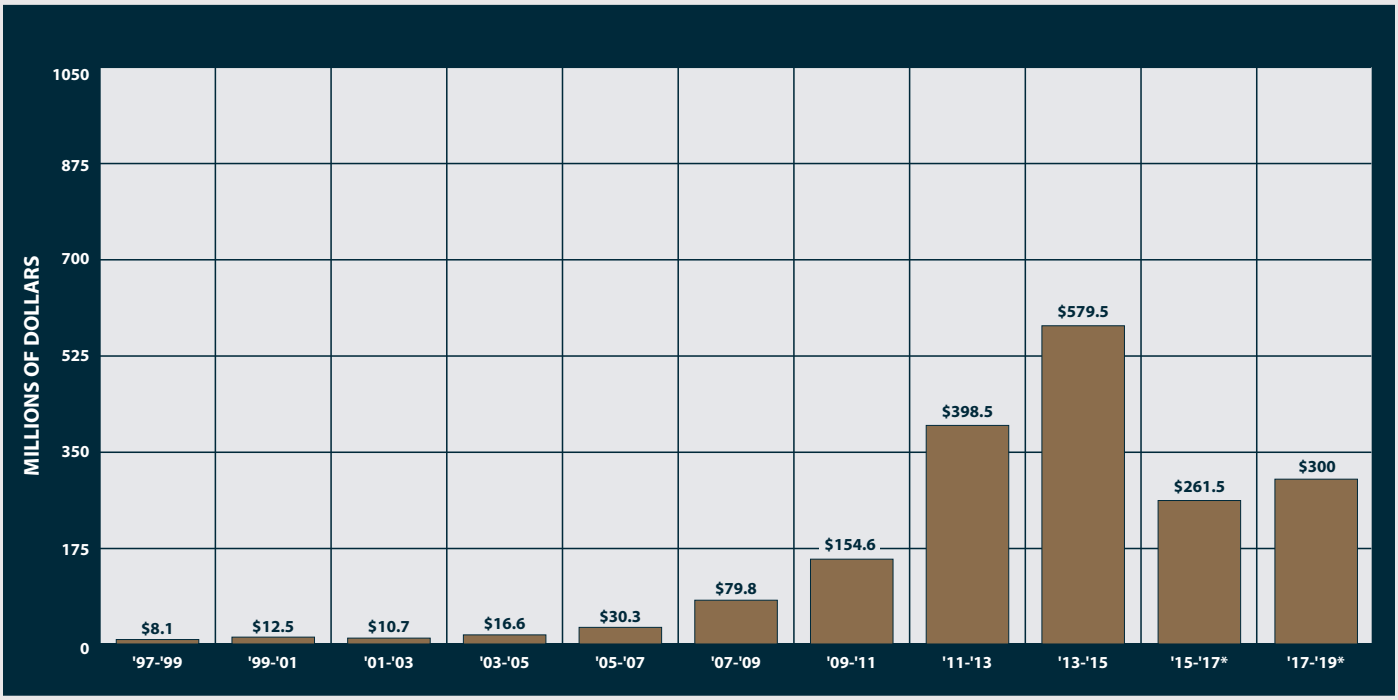


Figure 3. Resources Trust Fund Revenues, 1997-2019. *Projected

WATER DEVELOPMENT TRUST FUND REVENUES, 1999-2019

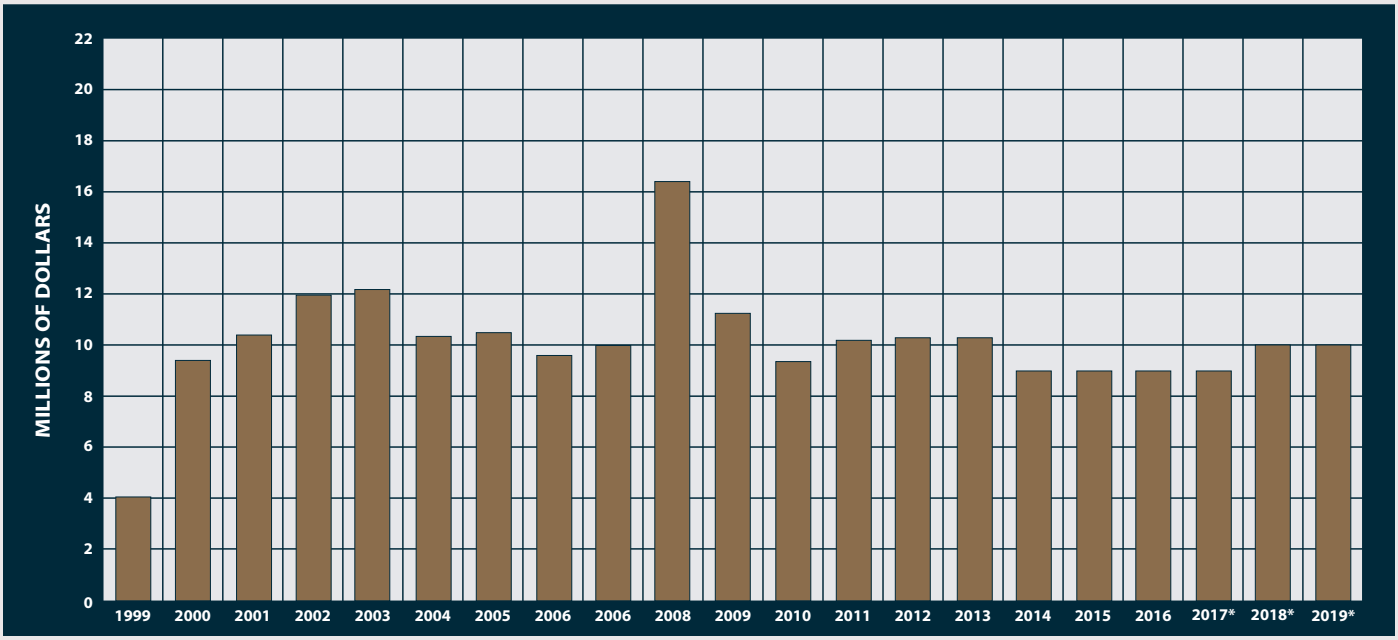


Figure 4. Water Development Trust Fund Revenues, 1999-2019. *Projected

FEDERAL MUNICIPAL, RURAL, AND INDUSTRIAL (MR&I) FUNDING, 1987-2016

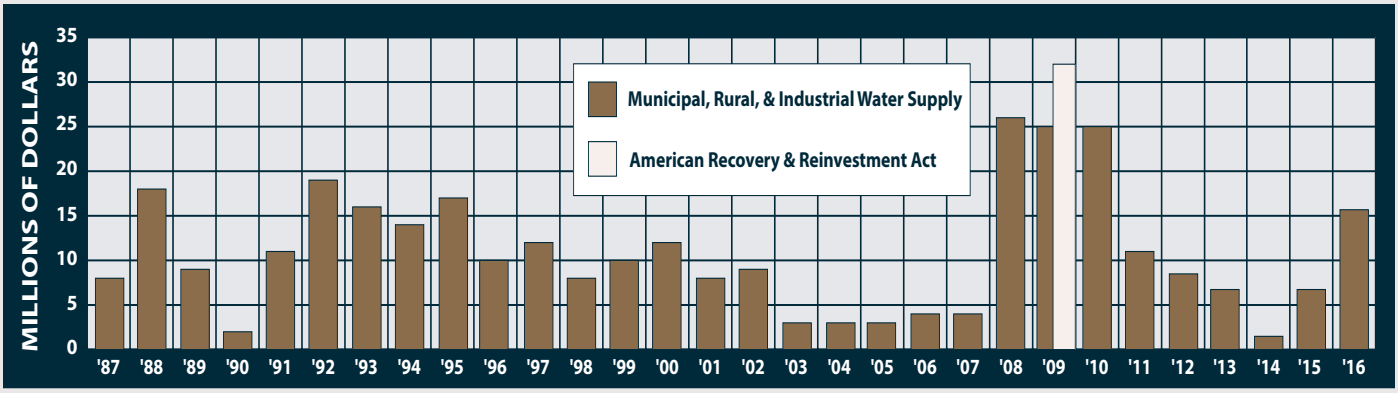


Figure 5. Federal Municipal, Rural, and Industrial (MR&I) Funding, 1987-2016

Federal Municipal, Rural, and Industrial (MR&I) Water Supply Program

A major source of grant funding for water supply development in North Dakota in previous biennia has been through the federal MR&I Water Supply Program. Funding of this program was authorized by Congress though the 1986 Garrison Diversion Unit Reformulation Act, and it is jointly administered by the Garrison Diversion Conservancy District, and Water Commission. The 1986 Garrison Reformulation Act authorized a federal MR&I grant program of $200 million. All of that funding has been expended. Additional federal funding authorization for the MR&I program resulted from the passage of the Dakota Water Resources Act of 2000. An additional $600 million, indexed for inflation, was authorized; which includes a $200 million grant for state MR&I, a $200 million grant for North Dakota Tribal MR&I, and a $200 million loan for a Red River Valley Water Supply Project. The act provides resources for general MR&I projects, the Northwest Area Water Supply Project, the Southwest Pipeline Project, and a project to address water supply issues in the Red River Valley.

Annual MR&I funding is dependent upon U.S. Congressional appropriation. As of September 2016, $357.2 million in federal funds had been approved for North Dakota's MR&I program with $6.64 million and $15.56 million for federal fiscal years 2015 and 2016 (Figure 5).

Drinking Water State Revolving Loan Fund

An additional source of funding for water supply development projects is the Drinking Water State Revolving Loan Fund (DWSRLF). Funding is distributed in the form of a loan program through the Environmental Protection Agency and administered by the North Dakota Department of Health. The DWSRLF provides loans to public water systems for capital improvements aimed at increasing public health protection and compliance under the federal Safe Drinking Water Act.

The Water Commission's involvement with the DWSRLF is two-fold. First, the Department of Health must administer and disburse funds with the approval of the Commission. Second, the Department of Health must establish assistance priorities and expend grant funds pursuant to the priority list for the DWSRLF, after consulting with, and obtaining Commission approval.

The process of prioritizing new or modified projects is completed on an annual basis. Each year, the Department of Health provides an Intended Use Plan, which contains a comprehensive project priority list and a fundable project list. The 2017 comprehensive project priority list includes 242 projects with a cumulative total project funding need of $733 million. Available funding for the DWSRLF program for 2017 is anticipated to be approximately $13.1 million.

Other Federal Funding

With regard to other federal funding, the U.S. Army Corps of Engineers provides significant assistance to North Dakota for flood control and water supply projects. The Environmental Protection Agency, U.S. Bureau of Reclamation, U.S. Geological Survey, and the Natural Resources Conservation Service also contribute to the state's water development efforts in many different ways, including studies, project design, and construction.

STATE WATER COMMISSION PURPOSE FUNDING RECOMMENDATIONS, *2017-2019 BIENNIUM*

This section discusses the state's priority water development efforts and funding recommendations for the 2017-2019 biennium. It includes one course of action for water development in North Dakota that is subject to change during the 65th Legislative Assembly, further review of SWC cost-share requirements and eligibility, and other unforeseen events that may occur during the biennium.

STATE WATER COMMISSION PURPOSE FUNDING RECOMMENDATIONS, 2017-2019 BIENNIUM

PROJECT PURPOSE	FUNDING RECOMMENDATION (MILLIONS $)
Debt Repayment	$7.5
Devils Lake Outlet Operation	$5
Fargo Area Flood Protection	$66.5
General Water Management	$12
Grand Forks Water Treatment Plant	$30
Municipal Water Supply (High Priority)	$20
Mouse River Flood Protection	$70
Northwest Area Water Supply	$8
Red River Valley Water Supply	$15
Rural Water Supply	$15
Sheyenne River Flood Control	$6
Southwest Pipeline Project	$17
State Water Commission Operations	$27
Western Area Water Supply	$20
TOTAL	**$319**

Table 5. State Water Commission Purpose Funding Recommendations, 2017-2019 Biennium.

Debt Repayment

The 64th Legislative Assembly directed the State Water Commission to obtain a loan from the Bank of North Dakota to pay off the agency's outstanding bond issues. In July 2015, the Commission borrowed $45.8 million. The loan is a 15-year variable rate note with an initial interest rate of 1.75%. Payments for the 2017-2019 biennium total $7.5 million.

Devils Lake Outlet Operations

The state's west end Devils Lake outlet was initially completed in 2005 with an operational capacity of 100 cubic feet per second (cfs). In the summer of 2010, an expansion was completed, increasing the outlet's capacity to 250 cfs.

During the summer of 2012, the Water Commission completed an additional outlet from East Devils Lake. This outlet has a maximum operating capacity of 350 cfs. Together, the combined operating capacity of the west end and East Devils Lake outlets is 600 cfs.

Until Devils Lake ceases to be a threat to human safety and infrastructure, the State Water Commission will continue to operate both outlets within the confines of permit requirements, and in consideration of the state's Devils Lake Outlet Operation Plans.

The State Water Commission's funding recommendation for this project during the 2017-2019 biennium is $5 million.

Fargo Area Flood Protection

After the flood of 2009, it became apparent that a large-scale flood control project was needed to better serve both Fargo and Moorhead, and the greater metro area. Since that time, the U.S. Army Corps of Engineers, in cooperation with Flood Diversion Board of Authority members (Fargo and West Fargo, ND; Moorhead, MN; Cass County, ND; Clay County, MN; and the Cass County Joint Water Resources District) worked jointly to complete an EIS to assess potential measures to reduce the entire metro area's flood risk. The EIS was completed in late 2011, and a Record of Decision was signed by the Assistant Secretary of the Army in April 2012. In 2014, President Obama signed the Water Resource Reform and Development Act (WRRDA), which authorized the Fargo-Moorhead area diversion project. The signing of WRRDA allows the federal government to appropriate funding for construction.

The diversion project is a 20,000 cubic feet per second, 36-mile long, 1,600-foot wide diversion channel on the North Dakota side of the Red River that will divert water around the Fargo-Moorhead metro area. The project also includes 32,000 acres (150,000 acre-feet) of upstream floodwater staging.

In addition to the diversion project, Fargo is also working to complete in-town flood protection projects that work directly with the diversion.

The state's total commitment for Fargo flood control efforts is capped at $570 million – as directed by the passage of Senate Bill 2020 during the 2015 Legislative Assembly. Of that total commitment, $450 million is for the diversion project, and $120 million is for Fargo interior flood control efforts.

The City of Fargo and the Diversion Board of Authority have indicated that their total financial need for the 2017-2019 biennium could be about $274 million for interior flood control works and progress on the diversion.

As outlined in Senate Bill 2020, Legislative intent for the state's contribution during the 2017-2019 biennium is $66.5 million.

General Water Management

General water management projects include rural flood control, small-scale flood control, snagging and clearing, channel improvements, recreational projects, dam repairs, planning efforts, and special studies.

As part of the Water Plan update project inventory process, the Water Commission identified about $35

million in high priority general water management project needs. Of that amount, approximately $19 million could potentially be eligible for cost-share from the state.

The State Water Commission's funding recommendation for this project purpose during the 2017-2019 biennium is $12 million.

Grand Forks Water Treatment Plant

Section 13 of Senate Bill 2020 included a $30 million grant during the 2015-2017 biennium, and Legislative intent for another $30 million during the 2017-2019 biennium to construct a new Grand Forks Regional Water Treatment Plant. With $5 million committed by the Water Commission in previous biennia, this would bring the state's total expected contribution to $65 million, or half of the previously estimated total project cost. More recently, the total estimated project cost has increased to about $155 million.

The Grand Forks Regional Water Treatment Plant is a project that will improve treatment capabilities to address water quality issues while increasing the available treated water supply for Grand Forks, and the northern Red River Valley. Final design began in January 2015, with project bidding and some construction anticipated in the final quarter of 2016.

Mouse River Flood Protection

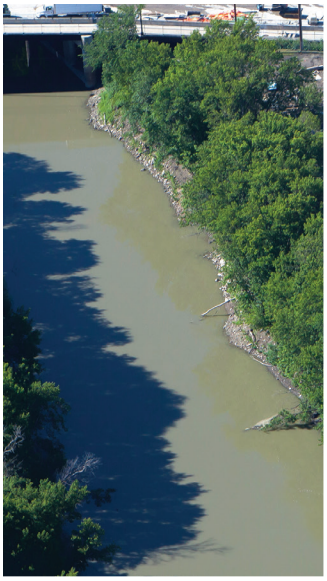
On June 25, 2011, Mouse River flood flows peaked in Minot at 27,400 cfs. This was more than five times greater than the city's existing flood control channels and levees had been designed to handle, and almost nine times greater than any documented flood since the construction of major upstream storage reservoirs decades before.

The record breaking flooding of 2011 overwhelmed most flood fighting efforts along the entire reach of the Mouse River in North Dakota, causing unprecedented damages to homes, businesses, public facilities, infrastructure, and rural areas. The U.S. Army Corps of Engineers estimates that 4,700 commercial, public, and residential structures in Ward, Renville, and McHenry counties sustained structural and content damages totaling almost $700 million. Had no emergency flood fighting measures been implemented, it is estimated that number could have totaled about $900 million.

Immediately following the devastating flood events in the summer of 2011, stakeholder workshops were held in late 2011 and early 2012. Preliminary engineering reports and basin-wide erosion, sedimentation, and hydrologic modeling were completed a year later. And in the summer of 2013, the Rural Reaches Alternatives Report and final Mouse River Reconnaissance Study were issued.

The result of these efforts is a Mouse River Enhanced Flood Protection Project (MREFPP) that is designed to provide flood relief to Mouse River valley residents – both urban and rural. The focus of the MREFPP has now shifted toward implementation, and several efforts are expected to move forward in the 2017-2019 biennium.

The Souris River Joint Water Resource Board has estimated a total financial need of about $189 million for the MREFPP through 2019. At traditional cost-share levels, approximately $127 million could be eligible for state cost-share



assistance. Costs at that level would include a continuation of acquisitions; implementation of the StARR Program; construction of levees, pump stations, floodwalls, and bridge work in Minot; design efforts on the Maple Diversion in Minot; and construction of various flood control works in Burlington, Velva, and Sawyer.

The State Water Commission's funding recommendation for this project during the 2017-2019 biennium is $70 million.

Municipal Water Supplies

During the 2017-2019 Water Plan project inventory process, the Water Commission received about 90 projects from cities around the state. Projects include new water supply trunk lines, water towers, new water treatment plants and plant improvements, supply line improvements, and new water supply source developments, as a few examples.

The Water Commission identified about $62 million in high priority municipal water supply project needs for the 2017-2019 biennium. Of that amount, approximately $37 million could potentially be eligible for cost-share grants from the state.

The State Water Commission's funding recommendation for this project purpose during the 2017-2019 biennium is $20 million.

Northwest Area Water Supply

NDCC, Section 61-24.6 declares necessary the pursuit of a project "…that would supply and distribute water to the people of northwestern North Dakota through a pipeline transmission and delivery system…" NDCC 61-24.6 authorizes the Water Commission to construct, operate, and manage a project to deliver water throughout northwestern North Dakota.

The Water Commission began construction on the Northwest Area Water Supply (NAWS) project in April 2002 (See Map Appendix). The first four contracts involving 45 miles of pipeline between the Missouri River and Minot were completed in the spring of 2009. However, additional work will be required in the future to fill existing gaps in the pipeline. NAWS is currently providing water service to Minot, Berthold, Burlington, Kenmare, Sherwood, Des Lacs, Mohall, West River Rural Water, All Seasons Rural Water, Upper Souris Rural Water, North Prairie Rural Water, and the Minot Air Force Base through an agreement with Minot. (See Map Appendix)

In 2010 the US Bureau of Reclamation began work on a SEIS as remanded by the courts as part of an ongoing lawsuit. A draft was completed in 2014, with the final completed in 2015. A Record of Decision was signed in August 2015, and

court briefings took place during the first half of 2016. Currently, the state is awaiting Summary Judgement.

NAWS continues to be a very high priority of the state, though progress on this project during the 2017-2019 biennium will remain primarily dependent on court decisions. The State Water Commission's funding recommendation for NAWS during the 2017-2019 biennium is $8 million.

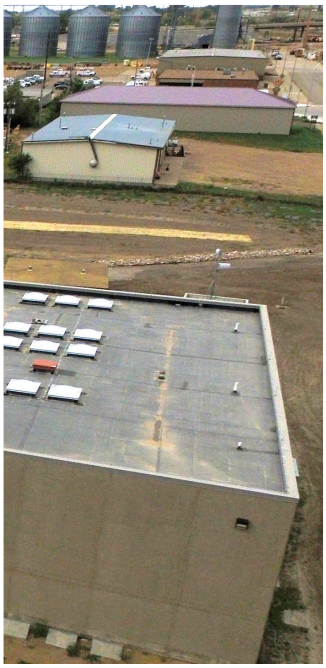
Red River Valley Water Supply

Over the years, various projects have been proposed to supply Missouri River water to eastern North Dakota. More recently, between 2000 and 2007, the U.S. Bureau of Reclamation and Garrison Diversion Conservancy District developed plans for a Red River Valley Water Supply Project (RRVWSP). This effort culminated in an EIS and preferred alternative, but the Secretary of the Interior never signed a Record of Decision – a requirement to move that federal project forward. In 2013, when it became apparent that a Record of Decision would not be signed, the State Water Commission, in cooperation with the Lake Agassiz Water Authority and Garrison Diversion Conservancy District began pursuit of a state and local project.

The general purpose of the project would be to deliver water via pipeline from a conventional intake in the Missouri River, or horizontal groundwater collector wells adjacent to the river near Washburn, to Baldhill Creek or the Sheyenne River in the Red River Valley. This project would provide a supplemental water supply to users in central and eastern North Dakota. To avoid concerns with transboundary diversion of water, the water would be treated before crossing the divide.

In 2016, project conceptual engineering was completed – covering conventional and horizontal collector well intakes, pipeline alignments, and a discharge structure at Baldhill Creek. Preliminary design has been initiated on the intake and pipeline alignments from Washburn to Baldhill Creek, over 60 meetings have been conducted to identify potential future water users of the project, and acquisition of agreements for access to land along the pipeline alignment has also been underway.

The proposed work plan for the Red River Valley Water Supply Project during the 2017-2019 biennium could involve: exercising existing easement options that will otherwise expire; preliminary pipeline designs; acquisition of additional easements; completion of final design



of an intake, a Baldhill Creek discharge structure, and some sections of pipeline; and the initiation of construction efforts to ensure coverage under current regulation and permitting requirements.

The Garrison Diversion Conservancy District has indicated that the total financial need from the state to complete elements of the aforementioned work plan could range between $30 million and $50 million.

The State Water Commission's funding recommendation for this project during the 2017-2019 biennium is $15 million.

Rural Water Supplies

During the 2017-2019 Water Plan project inventory process, the Water Commission received 15 projects from rural water systems around the state. Projects include expansions, storage, and various types of other system improvements.

Of the rural water supply project needs submitted to the State Water Commission, none of the projects were classified as high priority per the Commission's Project Prioritization Guidance Policy. Approximately $25 million in total financial needs were identified for moderate priority projects. Of that amount, approximately $19 million could potentially be eligible for cost-share grants from the state.

The State Water Commission's funding recommendation for this project purpose during the 2017-2019 biennium is $15 million.

Sheyenne River Flood Control

Flood events along the Sheyenne River in recent years have severely impacted and tested communities like Valley City and Lisbon. For that reason, both communities are working to implement more permanent flood protection.

Valley City has initiated the process of moving forward with a multi-phased approach to developing permanent flood protection. As outlined earlier in this report, Phase I was largely completed by the end of 2016. The Phase II project, which will begin in 2017, will protect portions of downtown Valley City, including Main Street and a power transfer station.

Phase III of Valley City's flood control project is expected to move forward in the 2017-2019 biennium. Phase III will concentrate on protecting the downtown heart of the city. This will include a continuation of property acquisitions; construction of flood walls and levees; erosion mitigation; street, water main, sanitary sewer, and utility adjustments; and storm sewer modifications.

The total financial need to proceed with most elements of Phase III is estimated to cost approximately $20 million, including a combination of grants and loans from the state.

Like Valley City, Lisbon is moving forward with a multi-phased approach to permanent flood protection. Lisbon's Phase I involves five separate levee locations, with two on the west side of the Sheyenne River, and three on the east side. Of those five Phase I levee alignments, three have been largely completed, and one is scheduled for construction in 2017.

Lisbon's Phase II involves five separate levee locations, which are anticipated to move forward during the 2017-2019 biennium. The total financial need to proceed with Phase II is estimated at approximately $11 million, including a combination of grants and loans from the state.

The State Water Commission's funding recommendation for these projects during the 2017-2019 biennium is $6 million.

Southwest Pipeline

NDCC, Section 61-24.3 declares necessary that the Southwest Pipeline Project "…be established and constructed, to provide for the supplementation of the water resources of a portion of the area of North Dakota south and west of the Missouri River with water supplies from the Missouri River for multiple purposes, including domestic, rural, and municipal uses." The Water Commission has been working to develop the Southwest Pipeline ever since – with construction beginning in 1986. (NDCC 61-24.5 authorizes the Commission and Southwest Water Authority to construct, operate, and maintain the project.)

Southwest Pipeline is currently serving about 56,000 residents, including more than 6,800 rural customers, 33 communities, and 21 raw water customers (See Map Appendix).

The Southwest Water Authority provided the Water Commission with a list of projects for the 2017-2019 biennium with a total cost of about $84 million. Projects included in that amount of financial need are: Dodge and Richardton Pump Station upgrades; a supplemental intake pump station at Lake Sakakawea; reservoirs/tanks at Davis Buttes, Belfield, and Golva; Ray Christensen Pump Station upgrades; and various alignments of parallel pipelines. At a minimum funding level, the Southwest Water Authority would like to complete the pump station at Lake Sakakawea, and a residuals handling facility.

The State Water Commission's funding recommendation for this project during the 2017-2019 biennium is $17 million.

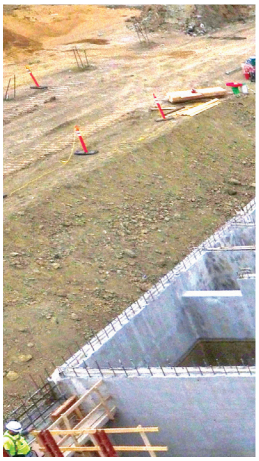
State Water Commission Operations

Since the 2013 Legislative Assembly, the State Water Commission's operational functions have been funded entirely through the Resources Trust Fund. Because this funding source is the primary means of funding water projects through the agency, it is necessary to account for operational expenses as part of the agency's priorities.

The State Water Commission's funding recommendation for agency operations during the 2017-2019 biennium is $27 million.

Western Area Water Supply

Western Area Water Supply (WAWS) project has involved a collaborative effort between the city of Williston, Williams Rural Water District, McKenzie



Water Resource District, Burke-Divide-Williams Rural Water, and R&T Water Supply Association (including the cities of Ray, Tioga, and Stanley).

WAWS utilizes a combination of Missouri River water treated at the Williston Regional Water Treatment Plant and groundwater treated by the R&T Water Supply Commerce Authority's Water Treatment Plant in Ray. The overall purpose of this project is to meet the water supply needs of municipal, rural, and industrial users in the five northwestern North Dakota counties of Burke, Divide, McKenzie, Mountrail, and Williams. (See Map Appendix).

The following municipal water supply systems are currently being serviced by WAWS: Williston, Watford City, Ray, Tioga, Stanley, Wildrose, Crosby, Noonan, Columbus, Fortuna, and Ross. WAWS currently has the following water depots operating and generating revenue: McKenzie County's System II Keene, McKenzie County's Indian Hills, the city of Williston's 2nd Street and North Williston, 13 Mile Corner, Alexander, Watford City, and Ray.

In response to continuing demand for water service and the associated planning efforts that have been completed, the WAWS Authority board of directors has requested funding to complete several projects during the 2017-2019 biennium - totaling about $61 million. Of that total, a maximum of up to approximately $46 million could be eligible for cost-share grants from the Water Commission. Specific projects that could be advanced at that funding level would include: a McKenzie County system expansion; R&T system Stanley, White Earth, and East Wild Rose rural distributions; and Williams Rural north and 29-mile rural distribution efforts.

The State Water Commission's funding recommendation for this project during the 2017-2019 biennium is $20 million.

FUTURE WATER DEVELOPMENT
FUNDING NEEDS
Beyond 2017-2019

Many of North Dakota's largest water projects cannot be completed in one or even two biennia, but rather, require longer-term financial planning. This is particularly the case for some of North Dakota's larger water project funding priorities. Though water projects are some of the most complicated to move forward, and are incredibly difficult to plan for financially, it is worthwhile to recognize and plan for future commitments that may be needed to move critical water infrastructure forward in future biennia.

In flood control efforts, major projects like the Fargo-Moorhead area diversion, Mouse River enhanced flood protection, and Sheyenne River flood control will all be seeking future funding commitments from the state. In addition, major regional water supply projects like Southwest Pipeline, Western Area Water Supply, Northwest Area Water Supply, and Red River Valley Water Supply will all require large amounts of financial support to succeed in the future. This is also the case for numerous communities and rural water systems seeking to expand and improve their water supply systems in all corners of the state.

Appendix

SWC PROJECT PRIORITIZATION GUIDANCE

Projects submitted during the project planning inventory process[I] that meet SWC cost-share eligibility requirements will be considered for prioritization. Projects that do not meet local cost-share match requirements, (per SWC cost-share policies), will be dropped to the next lowest priority category. Ineligible projects will be diverted toward alternative funding sources.

Footnotes

I. All local sponsors are encouraged to submit project and study financial needs during the budgeting process. Projects and studies not submitted as part of the project information collection effort may be held until action can be taken on those that were included during budgeting, unless determined to be an emergency that directly impacts human health and safety or that are a direct result of a natural disaster.

II. May be considered as a higher priority if the related project is of higher priority.

Disclaimer

This process is meant to provide guidance for prioritizing water projects during the budgeting process that may be eligible for cost-share assistance through the State Water Commission. Interpretation and deviations from the process are within the discretion of the state as authorized by the State Water Commission or Legislature.

NORTH DAKOTA STATE WATER COMMISSION

COST-SHARE POLICY, PROCEDURE, AND GENERAL REQUIREMENTS

The State Water Commission has adopted this policy to support local sponsors in development of sustainable water related projects in North Dakota. This policy reflects the State Water Commission's cost-share priorities and provides basic requirements for all projects considered for prioritization during the agency's budgeting process. Projects and studies that receive cost-share funding from the agency's appropriated funds are consistent with the public interest. The State Water Commission values and relies on local sponsors and their participation to assure on-the-ground support for projects and prudent expenditure of funding for evaluations and project construction. It is the policy of the State Water Commission that only the items described in this document will be eligible for cost-share upon approval by the State Water Commission, unless specifically authorized by State Water Commission action.

I. DEFINITIONS AND ELIGIBILITY

A. **CONSTRUCTION COSTS** include earthwork, concrete, mobilization and demobilization, dewatering, materials, seeding, rip-rap, crop damages, re-routing electrical transmission lines, moving storm and sanitary sewer system and other underground utilities and conveyance systems affected by construction, mitigation required by law related to the construction contract, irrigation supply works, and other items and services provided by the contractor. Construction costs are only eligible for cost-share if incurred after State Water Commission approval and if the local sponsor has complied with North Dakota Century Code (N.D.C.C.) in soliciting and awarding bids and contracts, and complied with all applicable federal, state, and local laws.

B. **COST-SHARE** is grant or loan funds provided through the State Water Commission.

C. **ENGINEERING SERVICES** include pre-construction and construction engineering. Pre-construction engineering is the engineering necessary to develop plans and specifications for permitting and construction of a project including preliminary and final design, material testing, flood insurance studies, hydraulic models, and geotechnical investigations. Construction engineering is the engineering necessary to build the project designed in the pre-construction phase including construction contract management, and project inspection. Administrative and support services not specific to the approved project are not engineering services. Engineering services are eligible costs if incurred after State Water Commission approval. If cost-share is expected to be greater than $25,000, the local sponsor must follow the engineering selection process in NDCC 54-44.7 and provide a copy of the selection committee report to the Chief Engineer. The local sponsor will be considered to have complied with this requirement if they have completed this

selection process for a general engineering services agreement at least once every three years and have formally assigned work to a firm or firms under an agreement. The local sponsor must inform the Chief Engineer of any change in the provider of general engineering services.

D. **IMPROVEMENTS** are construction related projects that upgrade a facility to provide increased efficiency or capacity. Improvements do not include any activities that are maintenance, replacement, or reconstruction.

E. **INELIGIBLE ITEMS** excluded from cost-share include:

1 Administrative and easement costs, including those related to permits;

2 Property acquisitions, property surveys, and legal expenses unless specifically identified as eligible within the Flood Recovery Property Acquisition Program, the Flood Protection Program, or the Water Retention Projects;

3 Work and costs incurred prior to a cost-share approval date, except for emergencies as determined by the Chief Engineer;

4 Project related operation and regular maintenance costs;

5 Funding contributions provided by federal, other state, or other North Dakota state entities that supplant costs;

6 Work incurred outside the scope of the approved study or project.

F. **EXPANSIONS** are construction related projects that increase the project area or users served. Expansions do not include maintenance, replacement, or reconstruction activities.

G. **LOCAL SPONSOR** is the entity submitting a cost-share application and must be a political subdivision, state entity, or commission legislatively granted North Dakota recognition that applies the necessary local share of funding to match State Water Commission cost-share. They provide direction for studies and projects, public point of contact for communication on public benefits and local concerns, and acquire necessary permits and rights-of-way.

H. **REGULAR MAINTENANCE COSTS** include normal repairs and general upkeep of facilities to allow facilities to continue proper operation and function. These maintenance items occur on a regular or annual basis. Regular maintenance activities simply help ensure the asset will remain serviceable throughout its originally predicted useful life.

I. **PROGRAM** is a subcategory of cost-share that is typically associated with a federal initiative and may cover all phases of a study or implementation of a project.

J. **PROJECT** is the water-related construction activity.

K. **EXTRAORDINARY MAINTENANCE COSTS** include the repair or replacement of portions of facilities or components that extends the overall life of the system or

components that are above and beyond regular or normal maintenance. Extraordinary maintenance activities extend the asset's useful life beyond its originally predicted useful life.

L. **SUSTAINABLE OPERATION, MAINTENANCE, AND REPLACEMENT PLAN** is a description of the anticipated operation, maintenance, and replacement costs with a statement that the operation, maintenance, and replacement of the project will be sustainable by the local sponsor. For water supply projects, a summary of the project sponsor's Capital Improvement Fund must also be included.

M. **CAPITAL IMPROVEMENT FUND** is money set aside using a portion of user fees for future asset replacement and a cost share application shall include documentation of the following:

1. Current capital improvement fund balance
2. Existing and new assets
3. Replacement cost of assets
4. Average life of assets
5. Current and future monthly reserve per user

II. COST-SHARE APPLICATION AND APPROVAL PROCEDURES.

The State Water Commission will not consider any cost-share applications for water related projects or studies unless the local sponsor first makes an application to the Chief Engineer. No funds will be used in violation of Article X, § 18 of the North Dakota Constitution (Anti-Gift Clause).

A. **APPLICATION REQUIRED**. An application for cost-share is required in all cases and must be submitted by the local sponsor on the State Water Commission Cost-Share Application form. Applications for cost-share are accepted at any time. Applications received less than 30 days before a State Water Commission meeting will not be considered at that meeting and will be held for consideration at a future meeting. The application form is maintained and updated by the Chief Engineer and must include the following:

1 Category of cost-share activity
2 Location of the proposed project or study area
3 Description, purpose, goal, objective, narrative of the proposed activities
4 Delineation of costs
5 Potential federal, other state, or other North Dakota state entity participation
6 Engineering plans, if applicable
7 Status of required permitting
8 Potential territorial service area conflicts or service area agreements, if applicable
9 Sustainable operation, maintenance, and replacement plan for projects
10 Additional information as deemed appropriate by the Chief Engineer

Applications for cost-share are separate and distinct from the State Water Commission biennial project information collection effort that is part of the budgeting process and published as the State Water Plan. All local sponsors are encouraged to submit project and study financial needs for the State Water Plan. Projects and studies not submitted as part of the State Water Plan development process may be held until action can be taken on those that were included during budgeting, unless determined to be an emergency that directly impacts human health and safety or that are a direct result of a natural disaster.

B. **PRE-APPLICATION**. A pre-application process is allowed for cost-share of assessment projects. This process will require the local sponsor to submit a brief narrative of the project, preliminary designs, and a delineation of costs. The Chief Engineer will then review the material presented, make a determination of project eligibility, and estimate the cost-share funding the project may anticipate receiving. A project eligibility letter will then be sent to the local sponsor noting the percent of cost-share assistance that may be expected on eligible items as well as listing those items that are not considered to be eligible costs. In addition, the project eligibility letter will state that the Chief Engineer will recommend approval when all cost-share requirements are addressed. The local sponsor may use the project eligibility letter to develop a project budget for use in the assessment voting process. Upon completion of the assessment vote and all other requirements an application for cost-share can be submitted.

C. **REVIEW.** Upon receiving an application for cost-share, the Chief Engineer will review the application and accompanying information. If the Chief Engineer is satisfied that the proposal meets all requirements, the Chief Engineer will present the application along with a recommendation to the State Water Commission for its action. The Chief Engineer's review of the application will include the following items and any other considerations that the Chief Engineer deems necessary and appropriate.

1 Applicable engineering plans;
2 Field inspection, if deemed necessary by the Chief Engineer;
3 The percent and limit of proposed cost-share determined by category of cost-share activity and eligible expenses;
4 Assurance of sustainable operation, maintenance, and replacement of project facilities by the local sponsor;
5 Status of permitting and service area agreements;
6 Available funding in the State Water Commission budget, if in the State Water Plan, and a priority ranking when appropriate.

For cost-share applications over $100 million, additional information requested by the State Water Commission will be used to determine cost-share.

The Chief Engineer is authorized to approve cost-share up to $75,000 in state funds and also approve cost overruns up to $75,000 in state funds without State Water Commission action.

D. **NOTICE**. The Chief Engineer will give notice to local sponsors when their application for cost-share is placed on the tentative agenda of the State Water Commission's next meeting.

E. **AGREEMENT AND DISTRIBUTION OF FUNDS**. No funds will be disbursed until the State Water Commission and local sponsor have entered into an agreement for cost-share participation. No agreement for construction funding will be entered into until all required State Engineer permits have been acquired.

For construction projects, the agreement will address indemnification and vicarious liability language. The local sponsor must require that the local sponsor and the state be made an additional insured on the contractor's commercial general liability policy including any excess policies, to the extent applicable. The levels and types of insurance required in any contract must be reviewed and agreed to by the Chief Engineer. The local sponsor may not agree to any provision that indemnifies or limits the liability of a contractor.

For any property acquisition, the agreement will specify that if the property is later sold, the local sponsor is required to reimburse the Commission the percent of sale price equal to the percent of original cost-share.

The Chief Engineer may make partial payment of cost-sharing funds as deemed appropriate. Upon notice by the local sponsor that all work or construction has been completed, the Chief Engineer may conduct a final field inspection. If the Chief Engineer is satisfied that the work has been completed in accordance with the agreement, the final payment will be disbursed to the local sponsor, less any partial payment previously made.

F. **LITIGATION**. If a project submitted for cost-share is the subject of litigation, the application may be deferred until the litigation is resolved. If a project approved for cost-share becomes the subject of litigation before all funds have been disbursed, the Chief Engineer may withhold funds until the litigation is resolved. Litigation for this policy is defined as legal action that would materially affect the ability of the local sponsor to construct the project; that would delay construction such that the authorized funds could not be spent; or is between political subdivisions related to the project.

III. COST-SHARE CATEGORIES. The State Water Commission supports the following categories of projects and studies for cost-share. Engineering expenses related to construction are cost-shared at the same percent as the construction costs when approved by the State Water Commission.

A. **PRE-CONSTRUCTION EXPENSES.** The State Water Commission supports local sponsor development of feasibility studies, engineering designs, and mapping as part of pre-construction activities to develop support for projects within this cost-share policy. Pre-construction expenses approved by the State Water Commission are cost-shared up to 35 percent. The following projects and studies are eligible.

1 Feasibility studies to identify water related problems, evaluate options to solve or alleviate the problems based on technical and financial feasibility, and provide recommendation and cost estimate, of the best option to pursue.

2 Engineering design to develop plans and specifications for permitting and construction of a project, including associated cultural resource and archeological studies.

3 Mapping and surveying to gather data for a specific task such as flood insurance studies and flood plain mapping, LiDAR acquisition, and flood imagery attainment, which are valuable to managing water resources.

Copies of the deliverables must be provided to the Chief Engineer upon completion. The Chief Engineer will determine the payment schedule and interim progress report requirements.

B. WATER SUPPLY

1 **WATER SUPPLY PROJECT**. The State Water Commission supports water supply efforts and will use a grant and loan program. The local sponsor may apply for water supply funding, and the application will be reviewed to determine project priority. Projects within category (1) may be considered for grant funding up to 75 percent cost-share. Projects in category (2) may be considered for grant funding up to 60 percent of cost-share. Grant funding within category (3) will be on a case-by-case basis. Projects within categories (1) through (4) may be considered for loan funding. After cost-share for grant funding has been determined, the local sponsor may be considered for loan funding in addition to the grant funding. The combination of grant and loan funding will not exceed 80 percent from the State Water Commission.

(1) In most cases a 75% cost-share is intended to address improvements to meet primary drinking water standards or expansion into new rural water service areas. Factors considered include:

(a) Connection of communities to the regional system as part of this expansion as determined by the Chief Engineer.
(b) Willingness of water users at far reaches of the system to pay additional costs for water service as an indicator of greater need for access to water and local commitment in the project as determined by the Chief Engineer.
(c) Affordable and sustainable water rate as determined by the Chief Engineer.

Lower rates of cost-share up to 60% may be made available to address other necessary improvements in rural water systems as defined in I-D.

(2) Supports improvements or connection of new customers within the existing service area of a municipal water system. Population growth and affordability may be used in prioritizing projects in this category.

(3) Water treatment improvements that address impacts from other State Water Commission projects. Grant funding is based on level of impact as determined by the State Water Commission.

(4) Addresses extraordinary repairs or replacement needs of a water supply system due to damages from a recent natural disaster.

Debt per capita, either actual or anticipated, may be used as an additional determinant of financial need.

Water Depots for industrial use receiving water from facilities constructed using State Water Commission funding or loans have the following additional requirements:

a) Domestic water supply has priority over industrial water supply in times of shortage. This must be explicit in the water service contracts with industrial users.

b) If water service will be contracted, public notice of availability of water service contracts is required when the depot becomes operational.

c) A portion of the water supply at any depot must be available on a non-contracted basis for public access.

2 **MUNICIPAL, RURAL, AND INDUSTRIAL WATER SUPPLY PROGRAM**. The Municipal, Rural, and Industrial Water Supply Program, which uses federal funds, is administered according to North Dakota Administrative Code Article 89-12.

3 **DROUGHT DISASTER LIVESTOCK WATER SUPPLY PROJECT ASSISTANCE PROGRAM**. This program is to provide assistance with water supply for livestock impacted during drought declarations and is administered according to North Dakota Administrative Code Article 89-11.

C. FLOOD CONTROL. The State Water Commission may provide cost-share for eligible items of flood control projects protecting communities from flooding and may include the repair of dams that provide a flood control benefit.

1 **FLOOD RECOVERY PROPERTY ACQUISITION GRANT PROGRAM.** This program is used to assist local sponsors with flood recovery expenses that provide long term flood damage reduction benefits through purchase and removal of structures in areas where flood damage has occurred. All contracted costs directly associated with the acquisition will be considered eligible for cost-share. Contracted costs may include: appraisals, legal fees (title and abstract search or update, etc.), property survey, closing costs, hazardous materials abatement needs (asbestos, lead paint, etc.), and site restoration.

The State Water Commission may provide cost-share of the eligible costs of approved flood recovery expenses that provide long term flood reduction benefits based on the following criteria and priority order:

a) Local Sponsor has flood damage and property may be needed for construction of temporary or long-term flood control projects, may be cost-shared up to 75 percent.
b) Local Sponsor has flood damage and property would increase conveyance or provide other flood control benefits, may be cost-shared up to 60 percent.

Prior to applying for assistance, the local sponsor must adopt and provide to the Chief Engineer an acquisition plan (similar to plans required by Hazard Mitigation Grant Program (HMGP)) that includes the description and map of properties to be acquired, the estimated cost of property acquisition including contract costs, removal of structures, the benefit of acquiring the properties, and information regarding the ineligibility for HMGP funding. Property eligible for HMGP funding is not eligible for this program. The acquisition plan must also include a description of how the local sponsor will insure there is not a duplication of benefits.

Over the long-term development of a flood control project following a voluntary acquisition program, the local sponsor's governing body must officially adopt a flood risk reduction plan or proposal including the flow to be mitigated. The flow used to develop the flood risk reduction plan must be included in zoning discussions to limit new development on other flood-prone property. An excerpt of the meeting minutes documenting the local sponsor's official action must be provided to the Chief Engineer.

Local sponsor must fund the local share for acquisitions; this requirement will not be waived. Federal funds are considered "local" for this program if they are entirely under the authority and control of the local sponsor.

The local sponsor must include a perpetual restrictive covenant similar to the restrictions required by the federal HMGP funding with the additional exceptions being that the property may be utilized for flood control structures and related infrastructure, paved surfaces, and bridges. These covenants must be recorded either in the deed or in a restrictive covenant that would apply to multiple deeds.

The local sponsor must provide justification, acceptable to the Chief Engineer, describing the property's ineligibility to receive federal HMGP funding. This is not meant to require submission and rejection by the federal government, but rather an explanation of why the property would not be eligible for federal funding. Example explanations include: permanent flood control structures may be built on the property; project will not achieve required benefit-cost analysis to support HMGP eligibility; or lack of available HMGP funding. If inability to receive federal funding is not shown to the satisfaction of the Chief Engineer, following consultation with the North Dakota Department of Emergency

Services, the cost-share application will be returned to the local sponsor for submittal for federal funding prior to use of these funds.

2 **FLOOD PROTECTION PROGRAM.** This program supports local sponsor efforts to prevent future property damage due to flood events. The State Water Commission may provide cost-share grants for up to 60 percent of eligible costs. For projects with federal participation, the cost-share may be up to 50 percent of eligible costs. The State Water Commission may consider a greater level of cost participation for projects involving a total cost greater than $100 million and having a basin wide or regional benefit.

The cost-share application must include the return interval or design flow for which the structure will provide protection. Local share must be provided on a timely basis. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

Property acquisition costs limited to the purchase price of the property that is not eligible for HMGP funding and within the footprint of a project may be eligible under this program. The local sponsor must include a perpetual restrictive covenant on any properties purchased under this program similar to the restrictions required by the federal HMGP funding with the additional exceptions being that the property may be utilized for flood control structures and related infrastructure, paved surfaces, and bridges. These covenants must be recorded either in the deed or in a restrictive covenant that would apply to multiple deeds.

Costs for property acquired, by easement or fee title, to preserve the existing conveyance of a breakout corridor recognized as essential to FEMA system accreditation may be eligible under this program.

3 **FEMA LEVEE SYSTEM ACCREDITATION PROGRAM**. The State Water Commission may provide cost-share up to 60 percent for eligible services for FEMA 44 CFR 65.10 flood control or reduction levee system certification analysis. The analysis is required for FEMA to accredit the levee system for flood insurance mapping purposes. Typical eligible costs include site visits and field surveys to include travel expenses, hydraulic evaluations, closure evaluations, geotechnical evaluations, embankment protection, soils investigations, interior drainage evaluations, internal drainage hydrology and hydraulic reports, system modifications, break-out flows and all other engineering services required by FEMA. The analysis will result in a comprehensive report to be submitted to FEMA and the Chief Engineer.

Administrative costs to gather existing information or to recreate required documents, maintenance and operations plans and updates, and emergency warning systems implementation are not eligible.

4 **DAM SAFETY AND EMERGENCY ACTION PLANS.** The State Water Commission supports dam safety including repairs and removals, as well as emergency action plans. The State Water Commission may provide cost-share for up to 75 percent of the eligible items for dam safety repair projects and dam

breach or removal projects. Dam safety repair projects that are funded with federal or other agency funds may be cost-shared up to 75 percent of the eligible non-matched costs. The intent of these projects is to return the dam to a state of being safe from the condition of failure, damage, error, accidents, harm or other events that are considered non-desirable. The State Water Commission may lend a portion of the local share based on demonstrated financial need.

The State Water Commission may provide cost-share up to 80 percent, for emergency action plans (EAPs) of each dam classified as high or medium significant hazard. The cost of a dam break model is only eligible for reimbursement for dams classified as a high hazard.

5 **WATER RETENTION PROJECTS.** The goal of water retention projects is to reduce flood damages by storing floodwater upstream of areas prone to flood damage. The State Water Commission may provide cost-share up to 60 percent of eligible costs for flood retention projects including purchase price of the property. For projects with federal participation, the cost-share may be up to 50 percent. Water retention structures constructed with State Water Commission cost-share must meet state dam safety requirements, including the potential of cascade failure. A hydrologic analysis including the operation plan, quantifying the flood reduction benefits for 25, 50, and 100-year events must be submitted with the cost-share application.

6 **SNAGGING AND CLEARING PROJECTS.** Snagging and clearing projects consist of the removal and disposal of fallen trees and associated debris encountered within or along the channel. Snagging and clearing projects are intended to prevent damage to structures such as bridges, and maintain the hydraulic capacity of the channel during flood flows. The State Water Commission may provide cost-share for up to 50 percent of the eligible items for snagging and clearing as well as any sediment that has accumulated in the immediate vicinity of snags and any trees in imminent danger of falling in the channel on watercourses as defined in N.D.C.C. § 61-01-06. Items that are not eligible include snagging and clearing of man-made channels; the dredging of watercourses for sediment removal; the clearing and grubbing of cattails and other plant vegetation; or the removal of any other unwanted materials.

D. RURAL FLOOD CONTROL. The primary purpose of rural flood control projects is to manage runoff or drainage from agricultural sources or to provide flood control in a rural setting. Typically, rural flood control projects consist of drains, channels, diversion ditches, or ring dikes. Items that are not eligible include projects that are managing runoff or drainage from residential or urban sources.

1 **DRAINS, CHANNELS, OR DIVERSION PROJECTS.** These projects are intended to improve the drainage and management of runoff from agricultural sources. The State Water Commission may provide cost-share up to 45 percent of the eligible items for the construction of drains, channels, or diversion ditches. Expansions and improvements may be cost-shared on the basis of increased drainage capacity achieved or increased area served. Construction costs for public road crossings that are integral to the project are eligible for cost-share

as defined in N.D.C.C. § 61-21-31 and 61-21-32. If an assessment-based rural flood control project involves multiple districts, each district involved must join in the cost-share application.

Cost-share applications for rural assessment drains will only be processed after the assessment vote has passed, the final design is complete, and a drain permit has been obtained. If the local sponsor wishes to submit a cost-share application prior to completion of the aforementioned steps, a pre-application process will be followed.

2 **RING DIKE PROGRAM**. This program is intended to protect individual rural homes and farmsteads through ring dike programs established by water resource districts. All ring dikes within the program are subject to the Commission's Individual Rural and Farmstead Ring Dike Criteria provided in Attachment A. Cost-share is limited to $55,000 per ring dike. Protection of a city, community or development area does not fall under this program, but may be eligible for the flood control program. The State Water Commission may provide up to 60 percent cost-share of eligible items for ring dikes.

Landowners enrolled in the Natural Resource Conservation Service's (NRCS) Environmental Quality Incentive Program (EQIP) who intend to construct rural or farmstead ring dikes that meet the State Water Commission's elevation design criteria are eligible for a cost-share reimbursement of 20 percent of the NRCS construction payment, limited to a combined NRCS and State Water Commission contribution of 80 percent of project costs.

E. RECREATION. The State Water Commission may provide cost-share up to 40 percent for projects intended to provide water-based recreation. Typical projects provide or complement water-based recreation associated with dams.

F. IRRIGATION. The State Water Commission may provide cost-share for up to 50 percent of the eligible items for irrigation projects. The items eligible for cost-share are those associated with new central supply works, including water storage facilities, intake structures, wells, pumps, power units, primary water conveyance facilities, and electrical transmission and control facilities.

G. BANK STABILIZATION. The State Water Commission may provide cost-share up to 50 percent of eligible items for bank stabilization projects on public lands or those lands under easement by federal, state, or political subdivisions. Bank stabilization projects are intended to stabilize the banks of lakes or watercourses, as defined in N.D.C.C § 61-01-06, with the purpose of protecting public facilities. Drop structures and outlets are not considered for funding as bank stabilization projects, but may be eligible under other cost-share program categories. Bank stabilization projects typically consist of a rock or vegetative design and are intended to prevent damage to public facilities including utilities, roads, or buildings adjacent to a lake or watercourse.

ATTACHMENT A
INDIVIDUAL RURAL AND FARMSTEAD RING DIKE CRITERIA

MINIMUM DESIGN CRITERIA

- HEIGHT: The dike must be built to an elevation 2 ft above either the 100-year flood or the documented high water mark of a flood event of greater magnitude, whichever is greater.
- TOP WIDTH: If dike height is 5 ft or less: 4 ft top width
  If dike height is between 5 ft and 14 ft: 6 ft top width
  If dike height is greater than 14 ft: 8 ft top width
- SIDE SLOPES: 3 horizontal to 1 vertical
- STRIP TOPSOIL AND VEGETATION: 1 ft
- ADEQUATE EMBANKMENT COMPACTION: Fill in 6-8 inch layers, compact with passes of equipment
- SPREAD TOPSOIL AND SEED ON RING DIKE

LANDOWNER RESPONSIBILITY

Landowners are responsible to address internal drainage on ring dikes. If culverts and flap gates are installed, these costs are eligible for cost-share. The landowner has the option of completing the work or hiring a contractor to complete the work.

If contractor does the work, payment is for actual costs with documented receipts.
If landowner does the work, payment is based on the following unit prices:

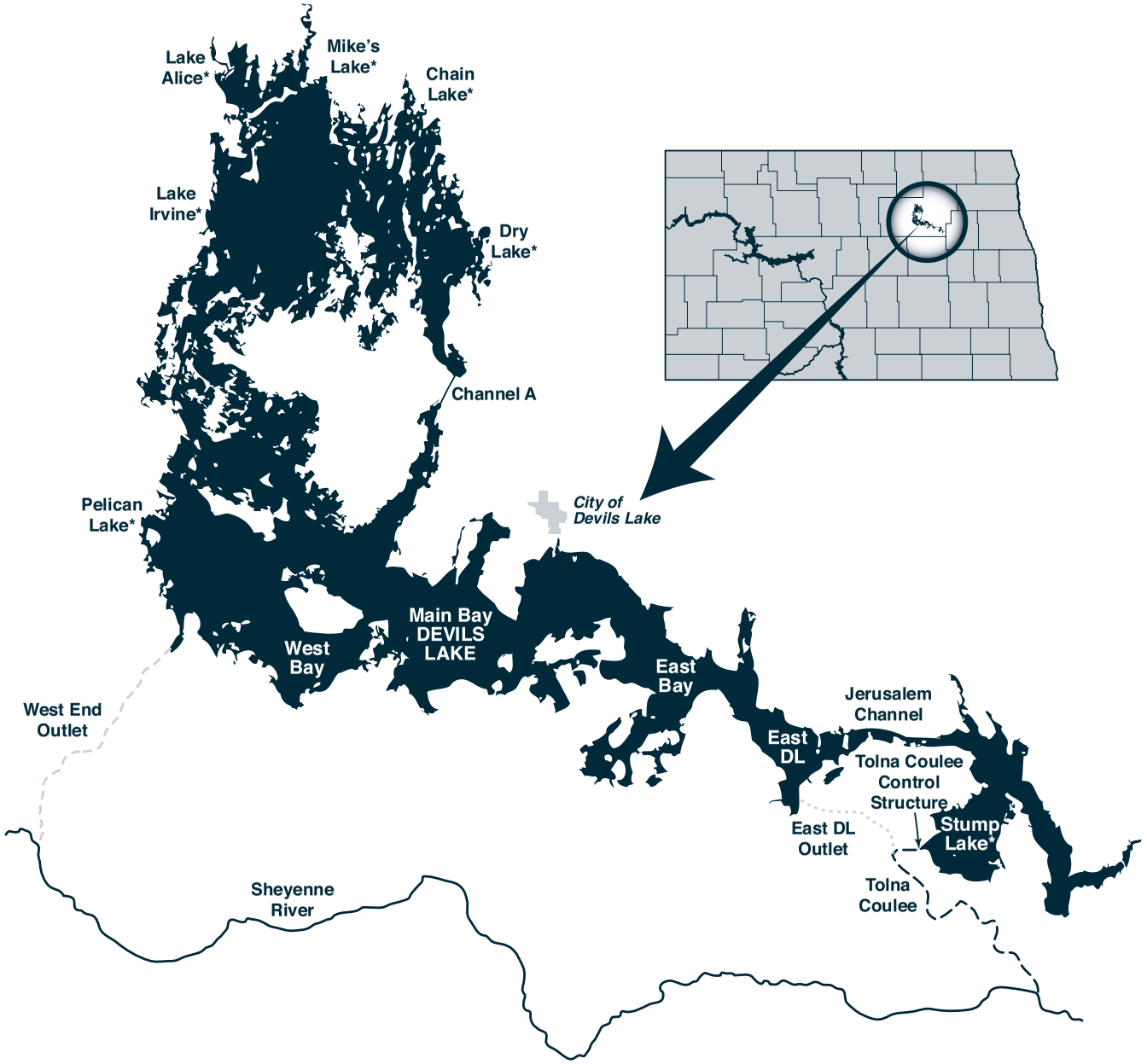
- STRIPPING, SPREADING TOPSOIL, AND EMBANKMENT FILL: Chief Engineer will determine rate schedule based on current local rates
- SEEDING: Cost of seed times 200%
- CULVERTS: Cost of culverts times 150%
- FLAP GATES: Cost of flap gates times 150%

OTHER FACTS AND CRITERIA

- The topsoil and embankment quantities will be estimated based on dike dimensions. Construction costs in excess of the 3:1 side slope standard will be the responsibility of the landowner. Invoices will be used for the cost of seed, culverts, and flap gates.
- Height can be determined by existing FIRM data or known elevations available at county floodplain management offices. Engineers or surveyors may also assist in establishing height elevations.
- The projects will not require extensive engineering design or extensive cross sections.
- A dike permit is required if the interior volume of the dike consists of 50 acre-feet, or more.

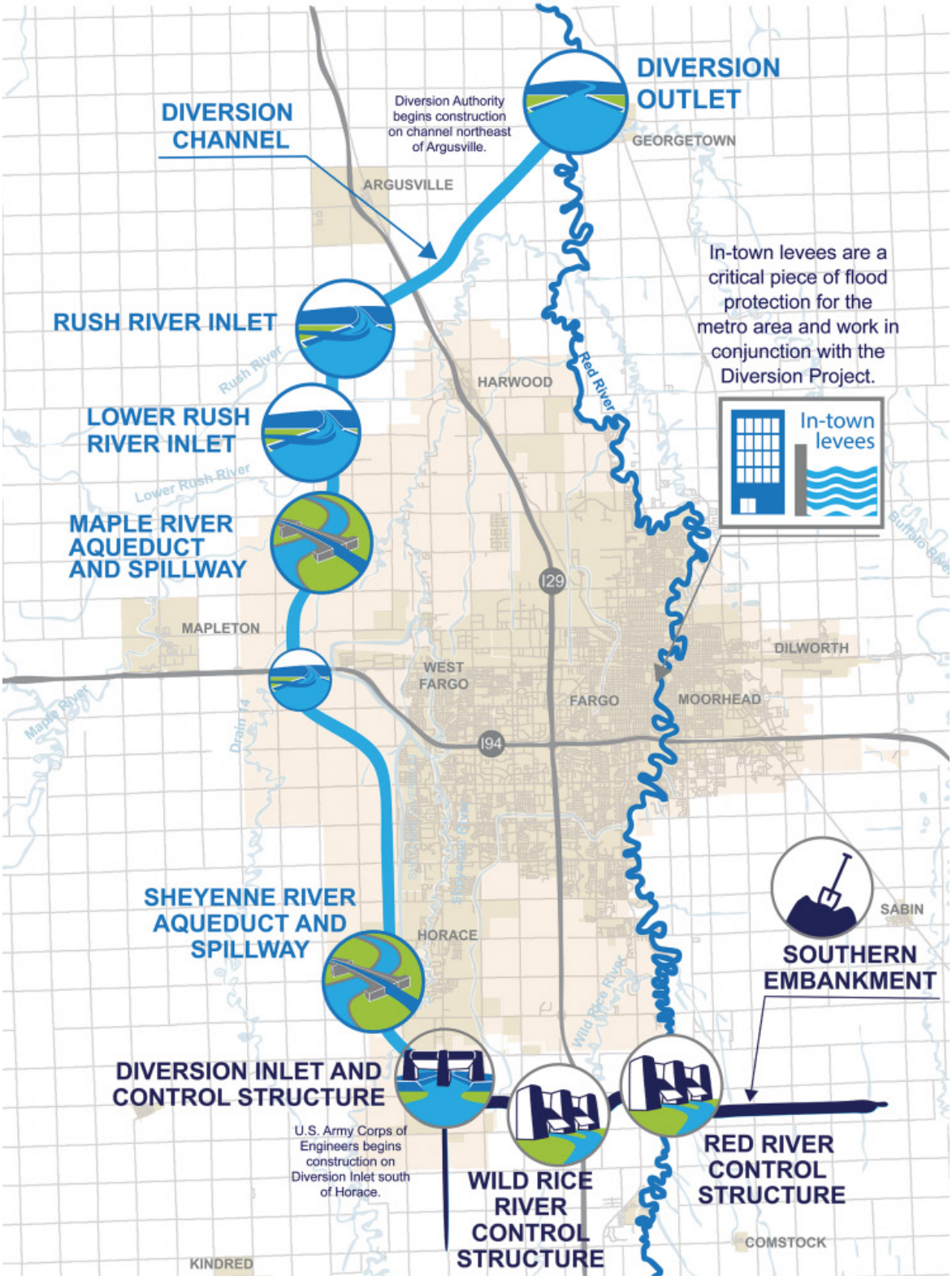
Map Appendix

Devils Lake Outlets



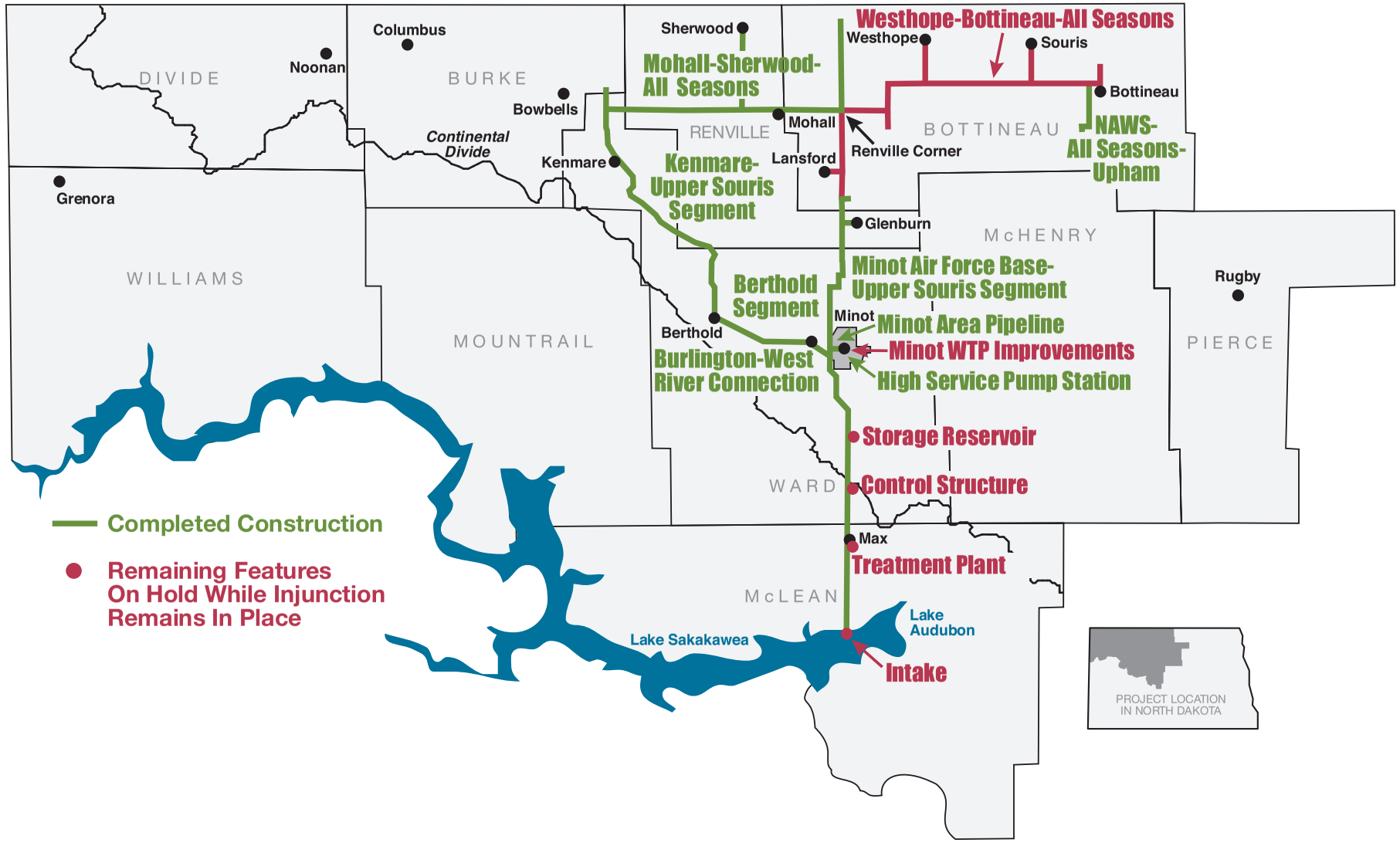
*As the Lake has risen, a series of smaller lakes have been absorbed by Devils Lake.

Fargo-Moorhead Area Diversion

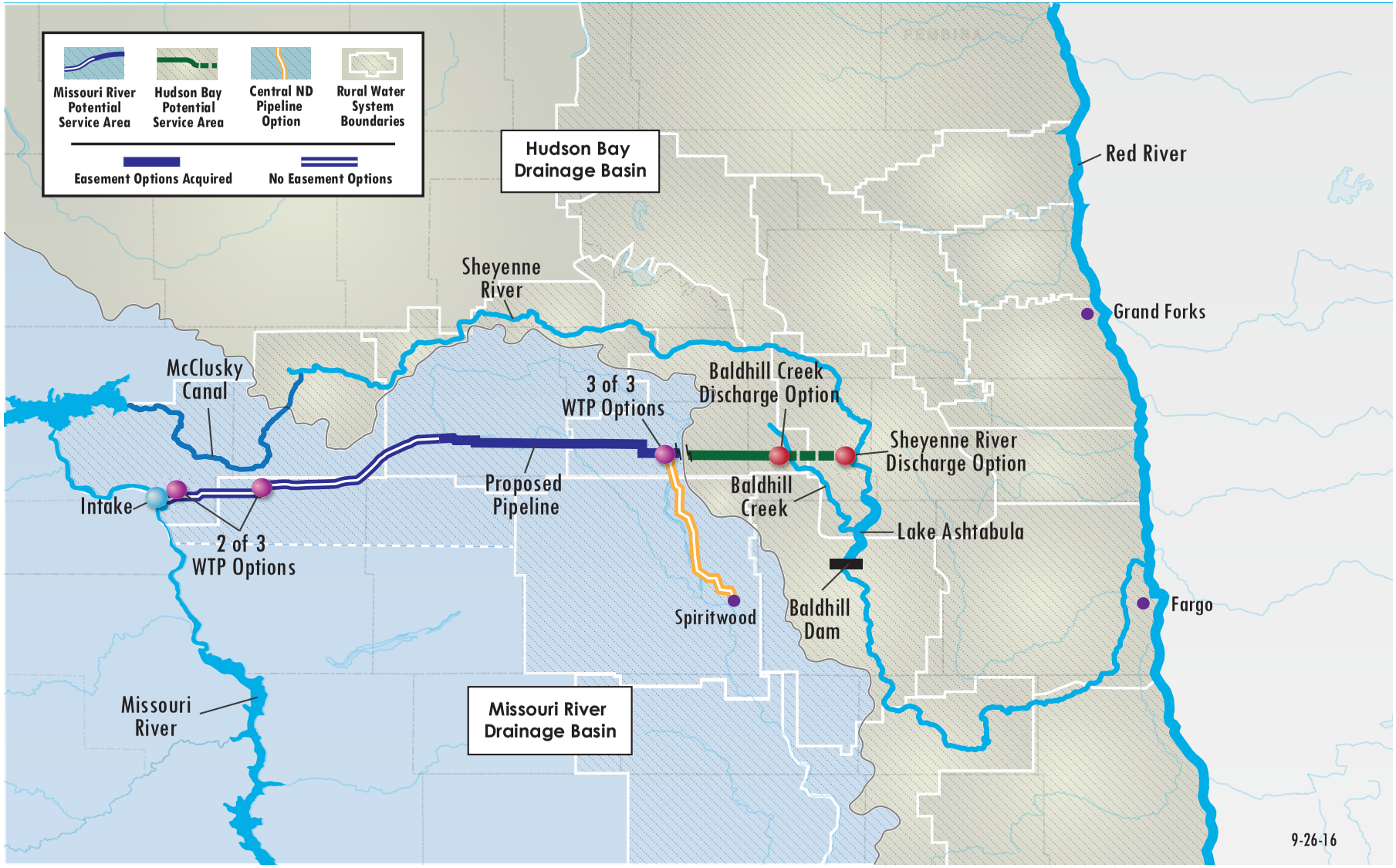


Credit: FM Diversion Board of Authority Website

Northwest Area Water Supply

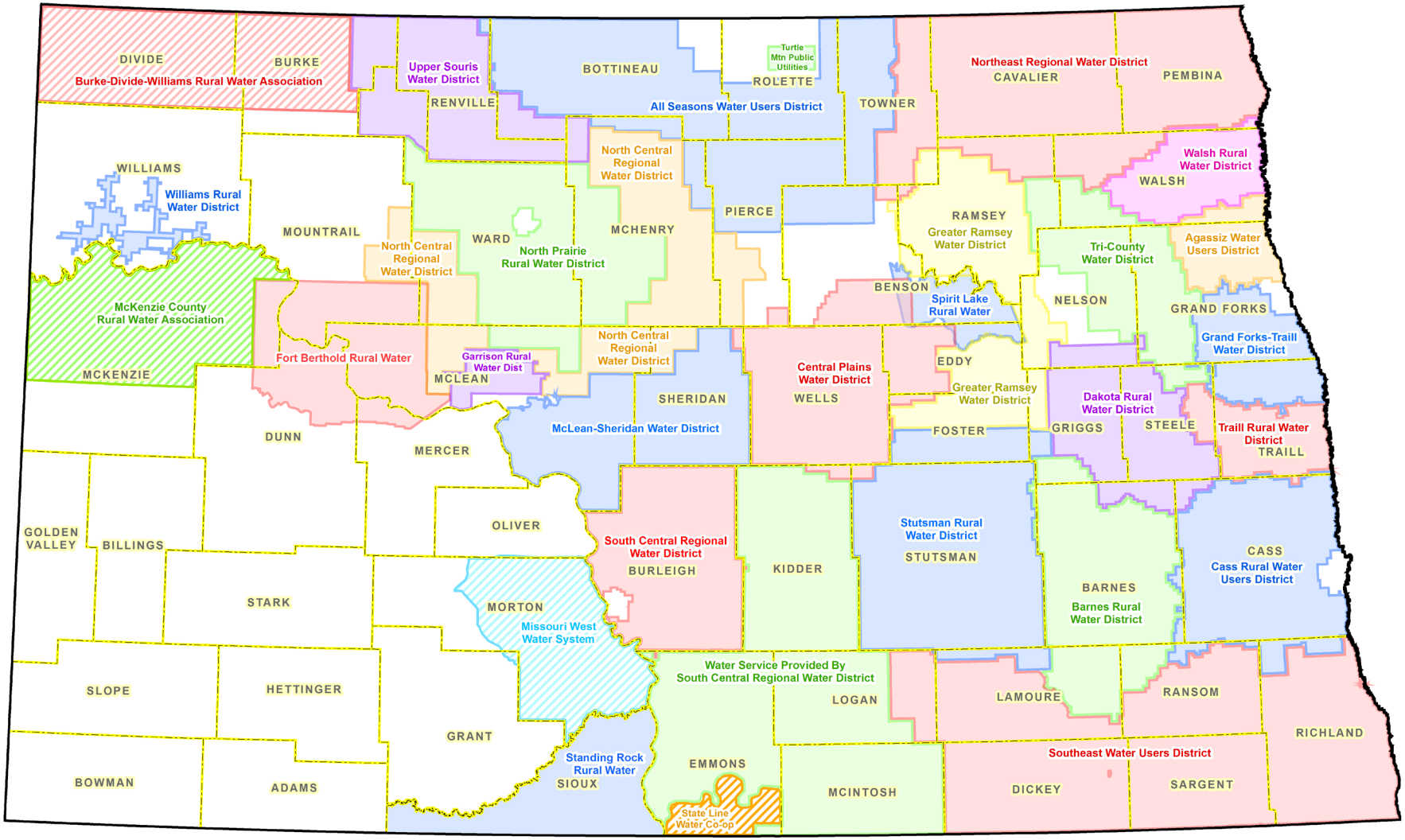


Red River Valley Water Supply

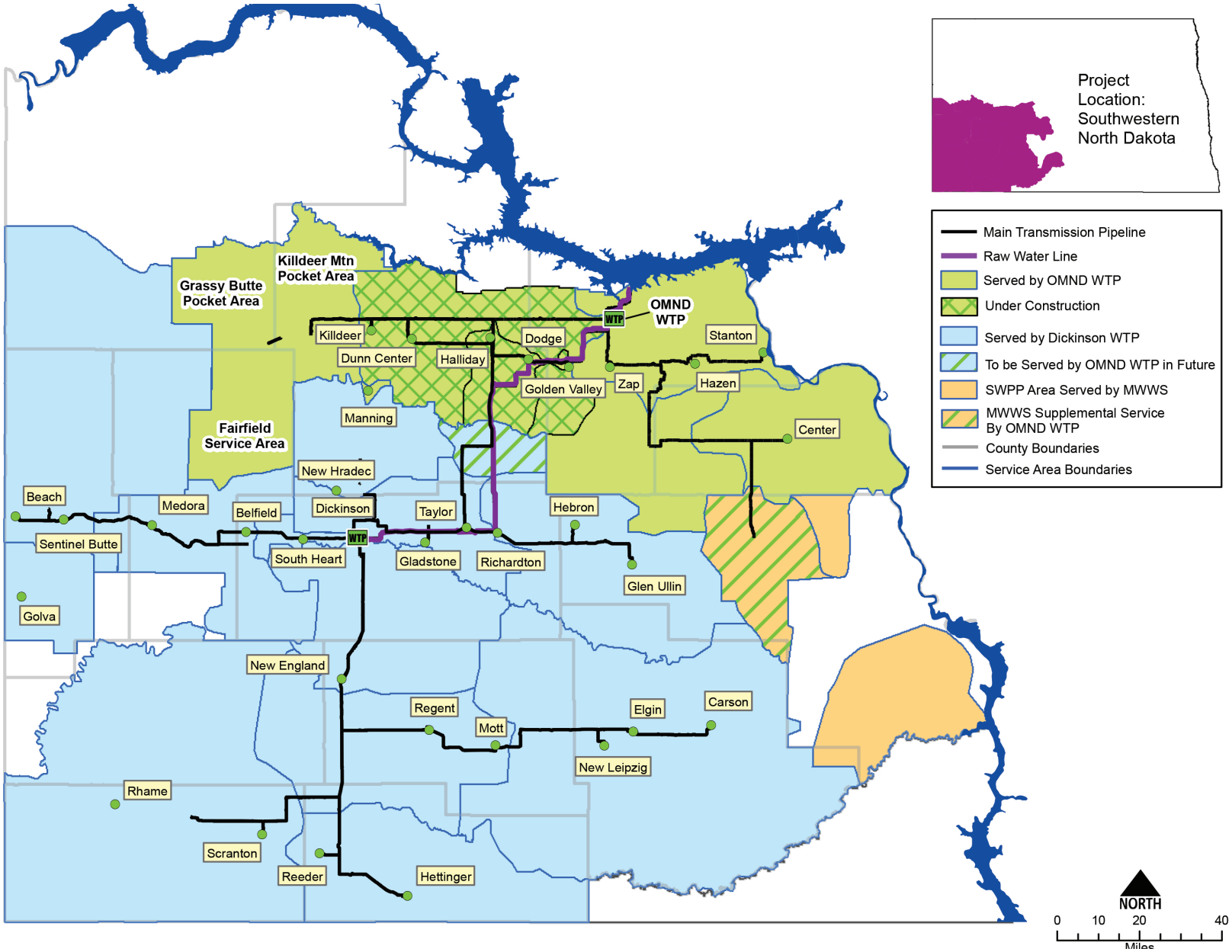


Credit: Garrison Diversion Conservancy District

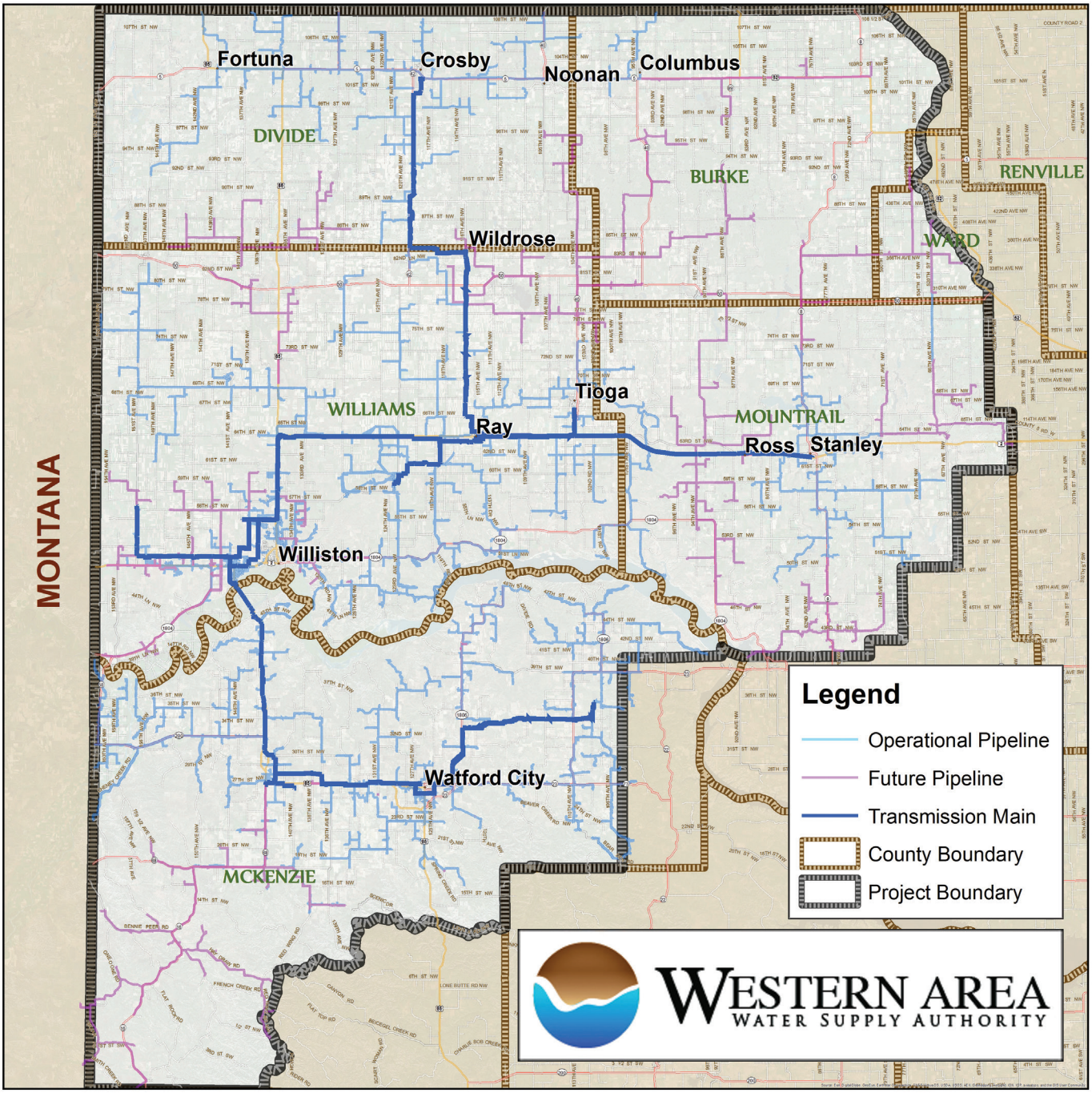
Rural Water Systems



Southwest Pipeline Project



Western Area Water Supply



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