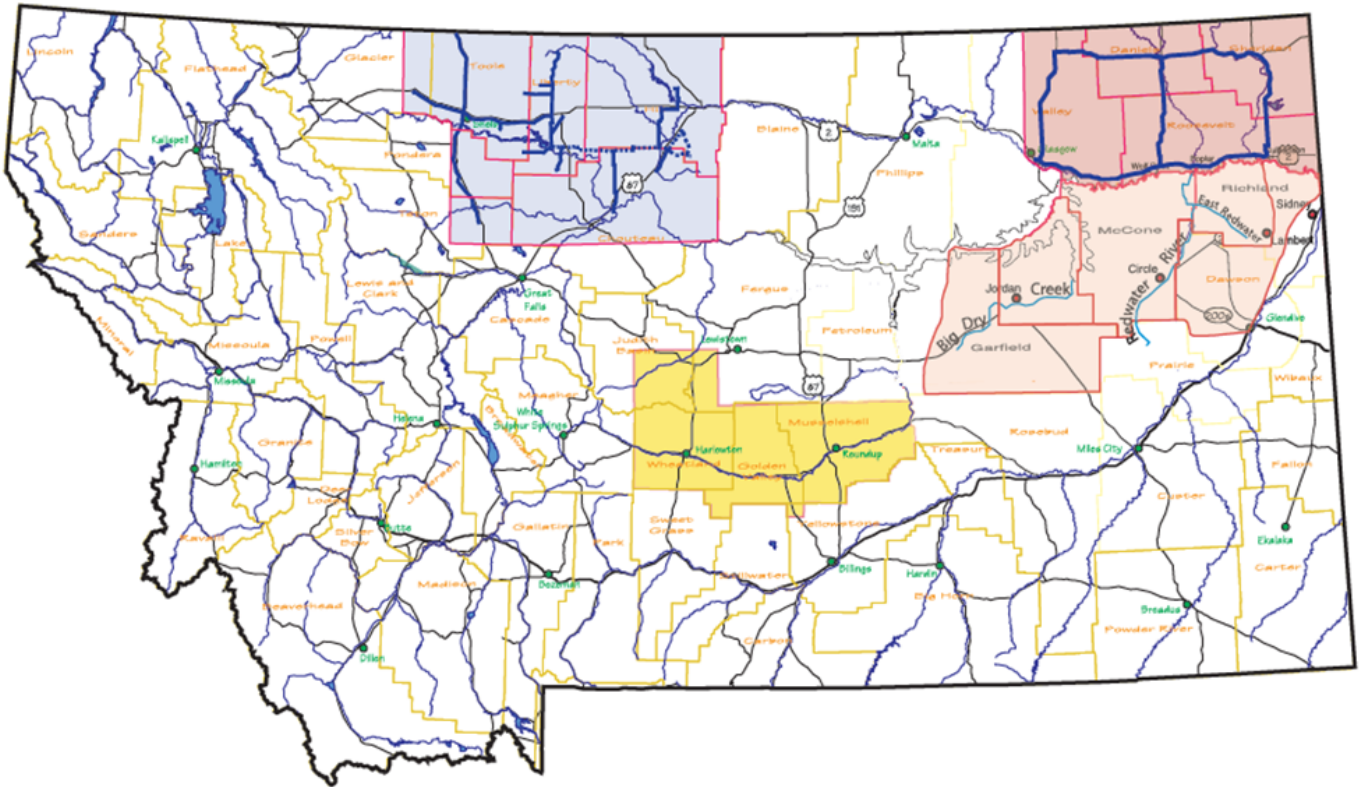


Montana's Regional Water Systems



Department of Natural Resources and Conservation

January 2023

Montana's Regional Water Systems

Most of us have an ample supply of high quality drinking water. There are areas of Montana, however, where the tap water looks bad, smells or tastes worse, and does not meet federal drinking water standards. Some sources are highly mineralized or limited in quantity. Many rural water users and residents of some small communities haul their drinking water.

Four rural water systems are currently in various stages of development. The Fort Peck-Dry Prairie regional system has been under construction for more than 17 years, and Rocky Boy's-North Central for nearly 15 years. Currently, in total, these systems deliver water to at least 26 communities or water districts, several public entities, and thousands of rural customers. The other two systems have progressed through planning and development stages and are currently designing or constructing pipeline projects. When these systems are all complete, tens of thousands of Montana households will receive clean and plentiful drinking water from regional water systems.

Every system is successful because of partnerships.

- The Dry Prairie Rural Water Authority began through efforts of local conservation districts and has teamed with the Assiniboine and Sioux Tribes of the Fort Peck Reservation; this system is slated for completion by 2025.
- The North Central Montana Regional Water Authority has teamed with the Chippewa-Cree Tribe of the Rocky Boy's Reservation.
- The Dry-Redwater Regional Water Authority has received State Revolving Fund construction loans and worked with county and local governments.
- The Central Montana Regional Authority is now Federally authorized (2020) and is in process of developing stronger relationships with State and Federal agencies.
- All four systems have relied on cooperation and funding from local communities, the U.S. Bureau of Reclamation, and the State of Montana.

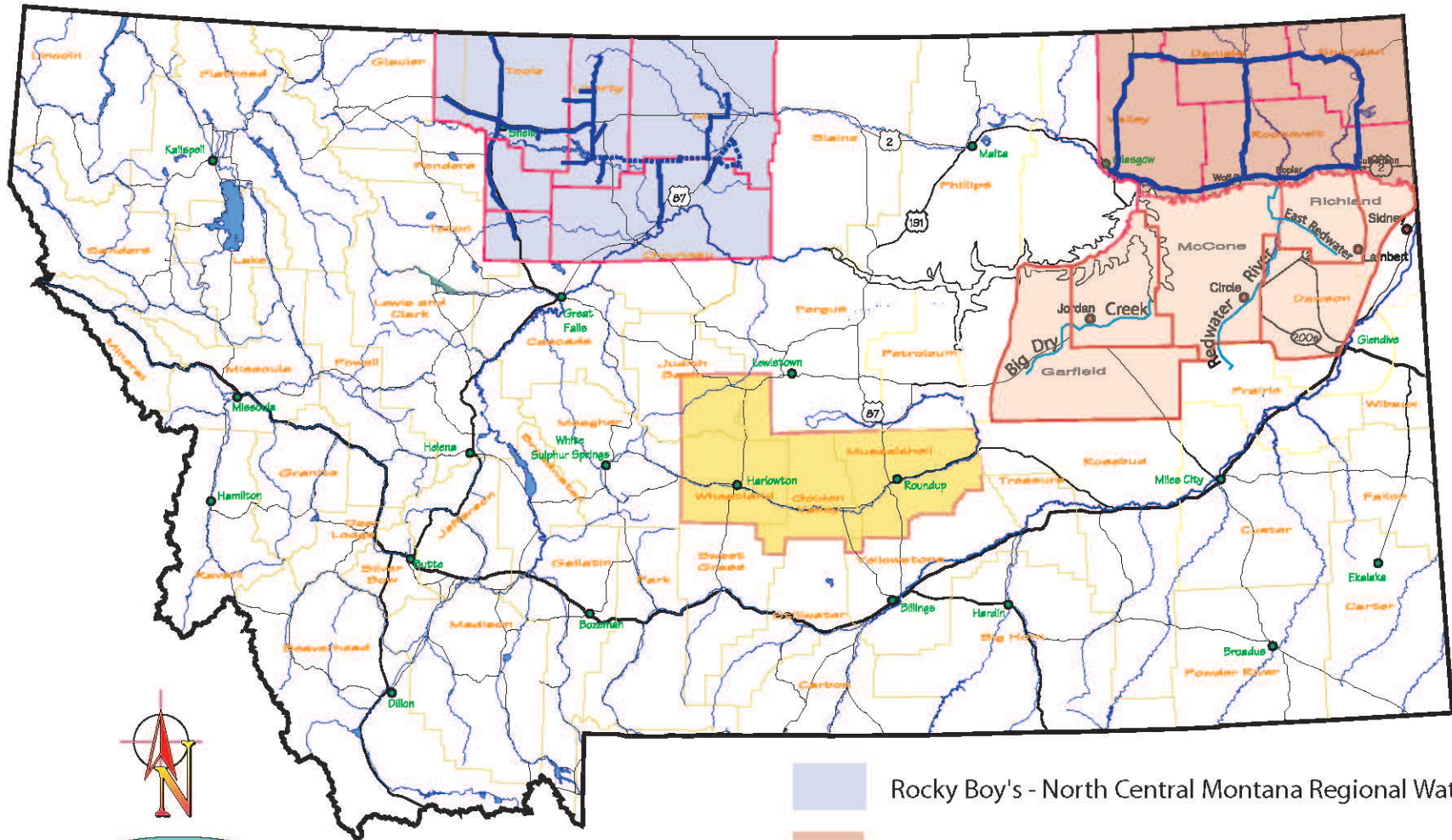






The Montana Department of Natural Resources and Conservation supports these systems by providing funding for all related activities including planning, community outreach, project coordination, design, construction and operational assistance.



Rick Duncan, DNRC
January 2023

AREAS TO BE SERVED BY REGIONAL WATER SYSTEMS



-  Rocky Boy's - North Central Montana Regional Water System
-  Fort Peck Dry Prairie Rural Water System
-  Dry - Redwater System
-  Central Montana Regional Water

Fort Peck – Dry Prairie Regional Water System

The Fort Peck/Dry Prairie system is testimony that rural residents can work together to address long-standing drinking water problems.

– Clint Jacobs, Former General Manager of the
Dry Prairie Regional Water Authority (1997-2014)



*Wambdi Wahachanka Water Treatment Plant
near Wolf Point*

The Need

Northeast Montana has had an historical need for clean plentiful drinking water. Traditionally, groundwater has been the primary source of potable water in the area, with concentrations of dissolved solids and sulfates generally higher than Federal secondary standards for drinking water. Consequently, tap water in the region has often been unusable for drinking and cooking. More recently, the region has experienced population growth as development of oil reserves in the region intensified, increasing the demand for drinking water.

Formation of a Regional Water System

This system is the result of a successful joint venture between the Assiniboine and Sioux Tribes of the Fort Peck Reservation and nontribal individuals and communities adjacent to the Reservation. The Assiniboine and Sioux Rural Water Supply Company partnered with the Dry Prairie Rural Water System to build a regional water system that is actively improving the quality of life for residents of northeast Montana. In October 2000, Congress authorized the Fort Peck - Dry Prairie regional water system. Construction began in 2003.

Construction Status

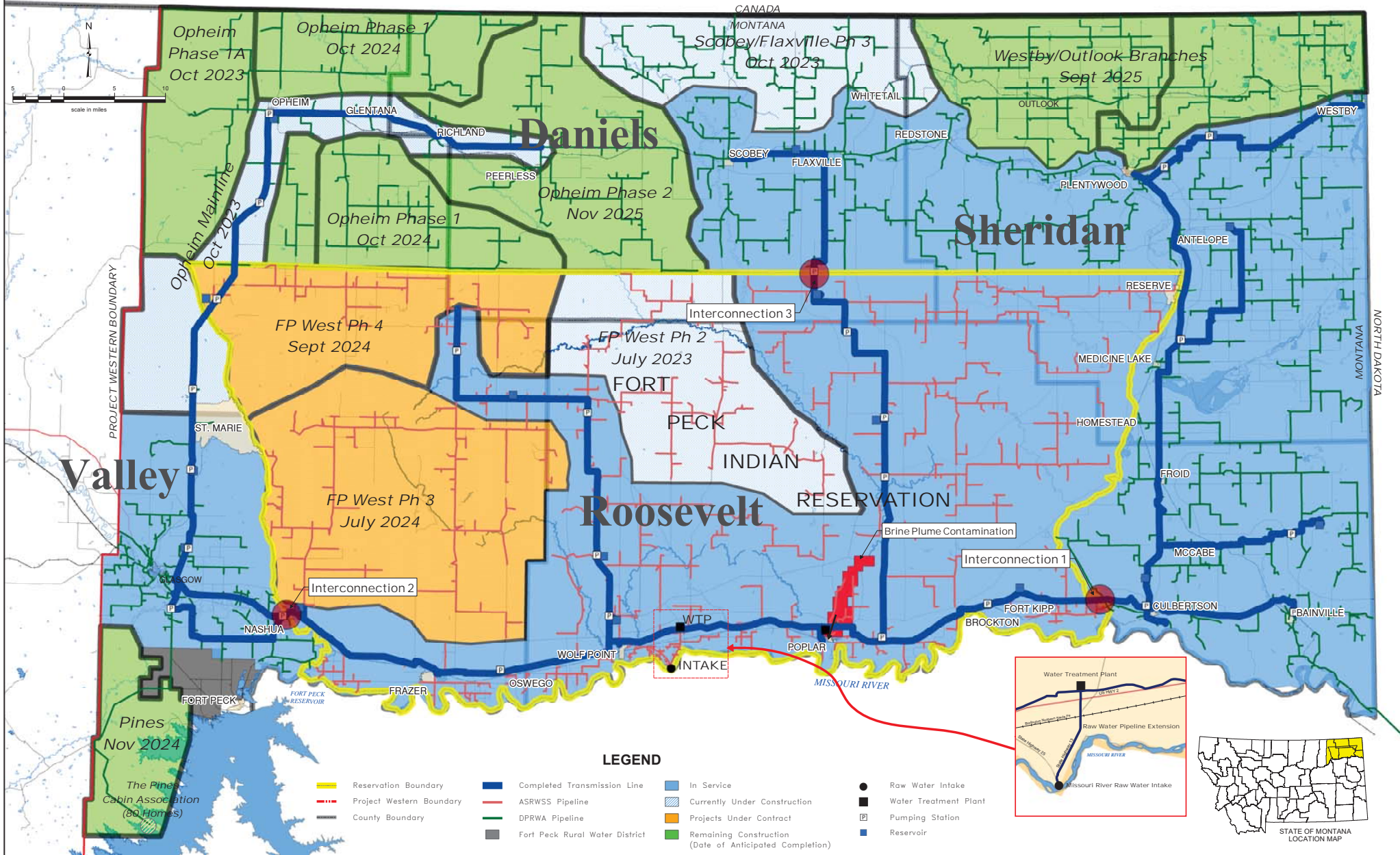
The Dry Prairie Rural Water System is currently delivering water to about 3,500 service connections in ten communities and to 1,500 more rural households in Sheridan, Roosevelt, Daniels and Valley Counties. The Fort Peck Tribes constructed a raw-water intake from the Missouri River and a water treatment plant (WTP) near Wolf Point. Completed in 2012, the regional WTP soon began serving rural water users and communities in the southern portion of the system. When the entire regional project is finished, over 3,000 miles of pipeline will deliver drinking water to more than 20 communities and nearly 4,000 farms, ranches and rural homes.

The WTP several miles east of Wolf Point initially provided water to Poplar. With completion of the main transmission line to the Big Muddy, the southeastern boundary of the Reservation, in 2014, and conversion from chlorination to chloramination disinfection at the WTP in 2015, Dry Prairie began accepting water from the Fort Peck Tribes in mid-2015, including service to the City of Plentywood. The Tribes also completed construction of the main transmission line to the southwestern boundary of the Reservation at Porcupine Creek in January 2016. In 2018 water was delivered to many more rural customers on the Reservation, and to Saint Marie and more housing developments around Glasgow. Early in 2021, service began to Scobey, Flaxville, and Whitetail. Current pipeline projects are being constructed in northwestern portions of the area.

Cost

Total estimated project cost indexed to 2023 is \$347 million dollars. The Dry Prairie RWS indexed cost is \$130 million. The federal share will be \$99 million. The combined State and local share, or 24%, is over \$30 million, of which the State has contributed over \$20 million.

ASSINIBOINE AND SIOUX AND DRY PRAIRIE RURAL WATER SYSTEMS



Rocky Boys – North Central Regional Water System



*Pipeline construction north of Loma, 2022
-KLJ Engineering*

The Need

Poor quality and/or insufficient quantity of drinking water, aging infrastructure, and increasing costs for communities to comply with State and Federal public water supply requirements drive the need for the Rocky Boy's-North Central Montana shared drinking water system. Numerous member communities have either been out of compliance with drinking water requirements, or anticipate difficulty meeting future standards.

The Partnership

A water rights compact between the Chippewa-Cree Tribe of the Rocky Boy's Reservation and the State of Montana allocates water to the Tribe from Tiber Reservoir located south of Chester. The North Central Montana Regional Water Authority (NCRMWA) was formed to partner with the Tribe in managing off-reservation water delivery systems.

System Design

The entire system when constructed will consist of: shared infrastructure, including the raw water intake in Tiber Reservoir, the water treatment plant (WTP) and main pipeline; and, two separately-managed systems that will distribute to on- and off-reservation communities and county water districts (CWD). The on-reservation system is managed by the Chippewa-Cree Tribe, which will also wholesale water to NCRMWA for distribution to off-reservation users. The completed system will serve over 10,000 households and a total estimated population of 28,000.

Construction Status

The Chippewa Cree Construction Company has finished construction on approximately 50% of the shared pipeline which will deliver water from the regional treatment plant to the Rocky Boy's Reservation. Until the regional WTP is constructed, NCRMWA supplies drinking water to North Havre (City of Havre), Riverview Hutterite Colony & South Chester CWD (Tiber CWD), Brady CWD (Conrad), and Oilmont CWD & Nine Mile CWD (Shelby) using interim water supplies (as noted). These temporary solutions have helped alleviate numerous compliance and historical supply issues. NCRMWA has also finished construction of a pipeline from Shelby to Cut Bank, and is at work on others to Loma CWD, Big Sandy and Havre which will ultimately receive water from the new WTP under construction just northeast of Tiber Dam on Lake Elwell.

Cost

Total estimated project cost indexed and recalculated to 2023 is \$436 million. Combined State and local share of that is over \$56 million, with the Federal Government responsible for \$380 million of the cost of the shared infrastructure and Tribal water system. Recent trends of increased pricing for materials and labor have significantly increased some project costs.



***SWEET GRASS CWD**
 • Risk of surface water treatment violations
***SEGMENT W5-A2**
\$4.4 Million

SUNBURST
 • Very poor water quality
 • Secondary drinking water violations

CUT BANK
 • Risk of drought
 • Risk of surface water treatment violations

SEGMENT W3
\$12.9 Million

SEGMENT W3-A
\$7.1 Million

SEGMENT W5-A1
\$13.0 Million

NINE-MILE CWD
 • No current water supply

OILMONT CWD
 • Risk of groundwater violations
 • Inadequate water quantity

SAGE CREEK CWD
 • Risk of groundwater violations
 • Inadequate water quantity

EAGLE CREEK COLONY
 • Inadequate water quantity and quality

GALATA CWD
 • Poor water quality

SEGMENT W2-A
\$19.1 Million

HILL CWD
 • Risk of groundwater violations
 • Inadequate water quantity

NORTH HAVRE CWD
 • Risk of drought
 • Surface water treatment violations

SEGMENT E6-A
\$2.3 Million

SHELBY
 • Risk of groundwater violations

SEGMENT W1
\$67.0 Million

SEGMENT W-2
\$24.5 Million

SEGMENT E3
\$11.2 Million

SEGMENT E6-B
\$50.4 Million

HAVRE
 • Risk of surface water violations

DEVON WATER, INC.
 • Surface water treatment violations

CORE SYSTEM WTP

CORE SYSTEM PIPELINE

SEGMENT W4-B1
\$5.5 Million

SEGMENT W4-B2
\$29.6 Million

TIBER CWD
 • Water surface treatment violations

SEGMENT E1-B
\$2.5 Million

SEGMENT E1-A
\$4.0 Million

SOUTH CHESTER CWD
 • Groundwater treatment violations

SEGMENT E1-B
\$6.0 Million

SEGMENT E4
\$9.7 Million

ROCKY BOY'S RESERVATION
 • Inadequate water quantity
 • Very poor water quality

CONRAD
 • Risk of surface water treatment violations

SEGMENT W4-A1
\$3.7 Million

RIVERVIEW COLONY
 • Groundwater treatment violations

BRADY CWD
 • Surface water treatment violations

SEGMENT W4-A2
\$3.4 Million

LOMA CWD
 • Risk of drought
 • Risk of surface water violations

BIG SANDY
 • Risk of drought
 • Secondary drinking water violations

DUTTON
 • Risk of groundwater violations
 • Secondary drinking water violations

-----	CORE SYSTEM
—————	NON-CORE SYSTEM
—————	PLANNED SYSTEM
—————	COMPLETED
—————	UNDER CONSTRUCTION OR DESIGN
●	UNSERVED SYSTEM
●	SERVED SYSTEM

15

87

223

2

Dry-Redwater Regional Water System



*DRWA Sidney Circle Water Improvements, Nov 2018
– Photo by Interstate Engineering*

Purpose and Need

The Dry-Redwater Regional Water Authority, formed in 2005 to own/operate a regional water system to provide household and livestock water to a large service area, was established due to interest from residents of Garfield, McCone, Richland, Dawson and a portion of Prairie counties in Montana. The System as planned would serve over 15,000 residents, primarily utilizing water from Fort Peck Reservoir on the Missouri River.

Authorization Status

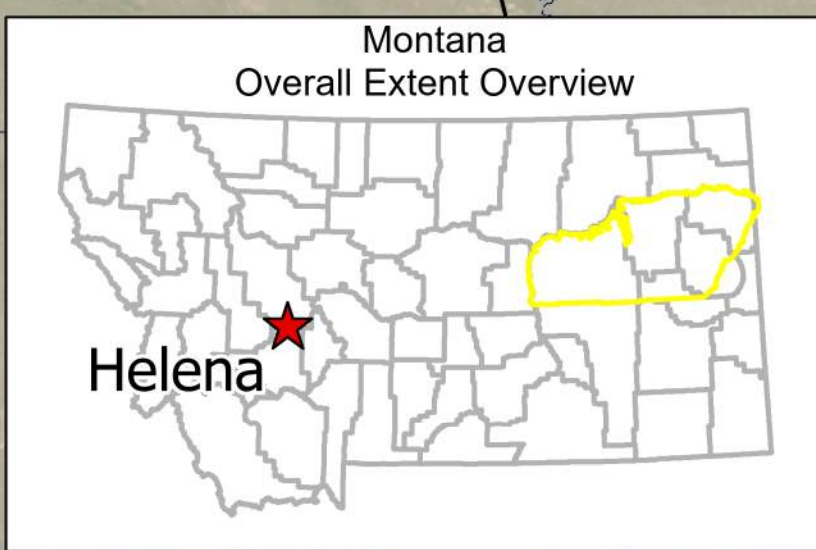
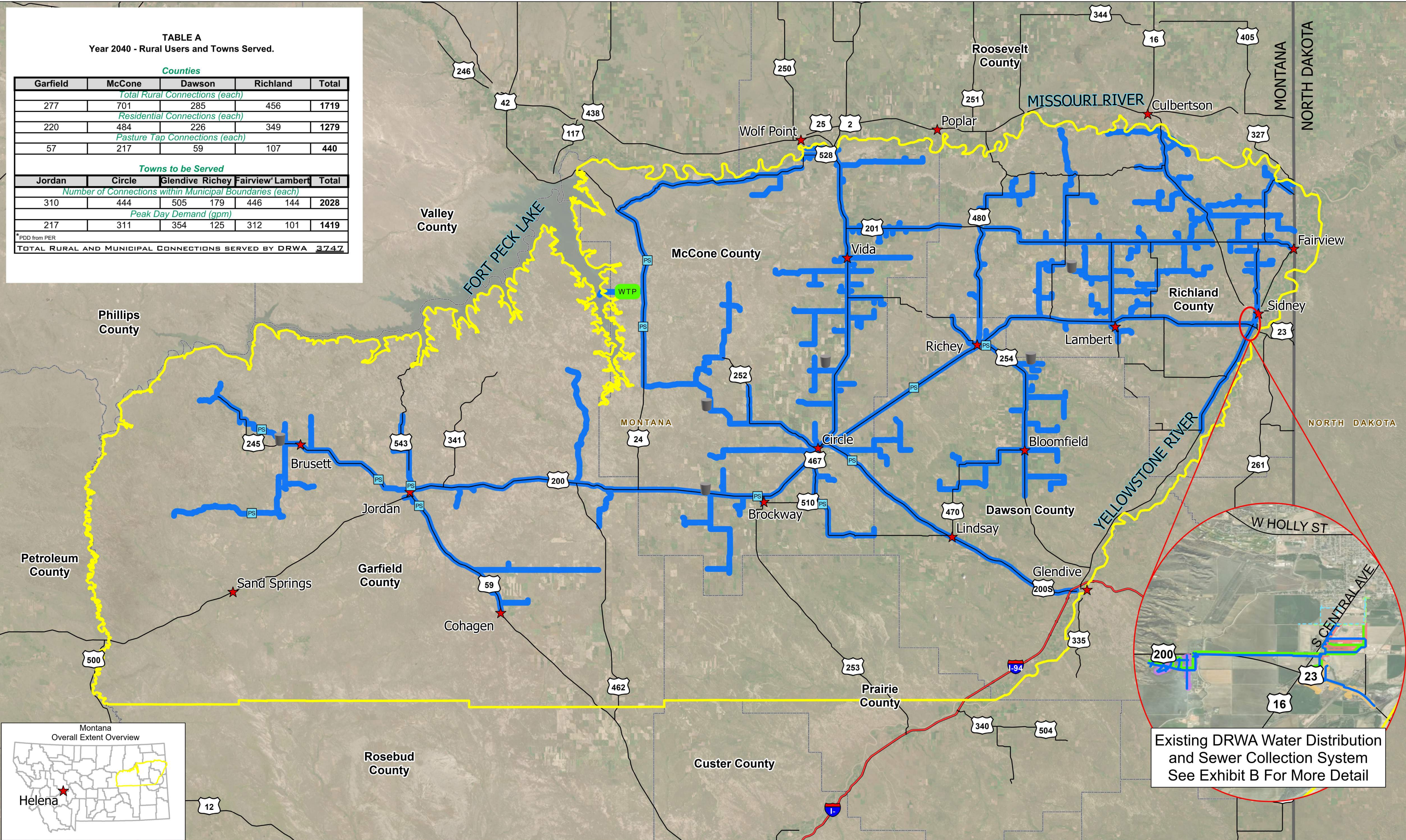
A bill to authorize Dry-Redwater regional system, co-sponsored by Senators Daines and Tester, was introduced in 2015 and again in 2017 and 2019. The Water and Power Subcommittee of the Senate Energy and Natural Resources Committee held hearings on these bills. Companion bills were introduced in the House. The legislation was incorporated into other bills also intended to address larger western water issues. Following considerable efforts on the part of the Congressional delegation and by a D.C.-based lobbyist for the water authority, legislation which included directives to the US Bureau of Reclamation to resume work on feasibility studies and related work with the Dry-Redwater Authority was passed in the 116th Congress and signed into law by the President on December 27, 2020.

Construction Status and Cost

Dry-Redwater negotiated with the U.S. Army Corps of Engineers for a water intake location on the Dry Arm of Fort Peck Reservoir and obtained a purchase option for 40 acres in McCone County for a water treatment plant site. Cost estimates for the system have varied, from \$270 million upward for infrastructure including a surface water treatment plant, and pipeline installation from Sand Springs to Fairview, from south of the Missouri to just north of the Yellowstone. The Authority, at Richland County's request, has assumed responsibility for construction, operation and maintenance of small pipeline projects south and southwest of the City of Sidney. Water supply and sewage treatment are being provided by Sidney. Several pipeline projects have been completed in the area. Included are water supply pipelines to businesses and rural homes south of Sidney (2014) north of the Yellowstone (2016), and rural subdivisions (2018); and a sanitary sewer main project (2020-2021). The Bureau of Reclamation is proceeding with completion of a feasibility study to determine project extent, through determination of benefit-to-cost ratio and related analyses.

TABLE A
Year 2040 - Rural Users and Towns Served.

Counties						
Garfield	McCone	Dawson	Richland	Total		
<i>Total Rural Connections (each)</i>						
277	701	285	456	1719		
<i>Residential Connections (each)</i>						
220	484	226	349	1279		
<i>Pasture Tap Connections (each)</i>						
57	217	59	107	440		
Towns to be Served						
Jordan	Circle	Glendive	Richey	Fairview	Lambert	Total
<i>Number of Connections within Municipal Boundaries (each)</i>						
310	444	505	179	446	144	2028
<i>Peak Day Demand (gpm)</i>						
217	311	354	125	312	101	1419
*PDD from PER						
TOTAL RURAL AND MUNICIPAL CONNECTIONS SERVED BY DRWA 3,747						



Existing DRWA Water Distribution and Sewer Collection System See Exhibit B For More Detail

- Water Tanks
- Pump Stations
- DRWA Water Treatment Plant
- 2022 DRWA Water Lines
- DRWA Service Area
- Interstate
- Highways
- Montana Counties

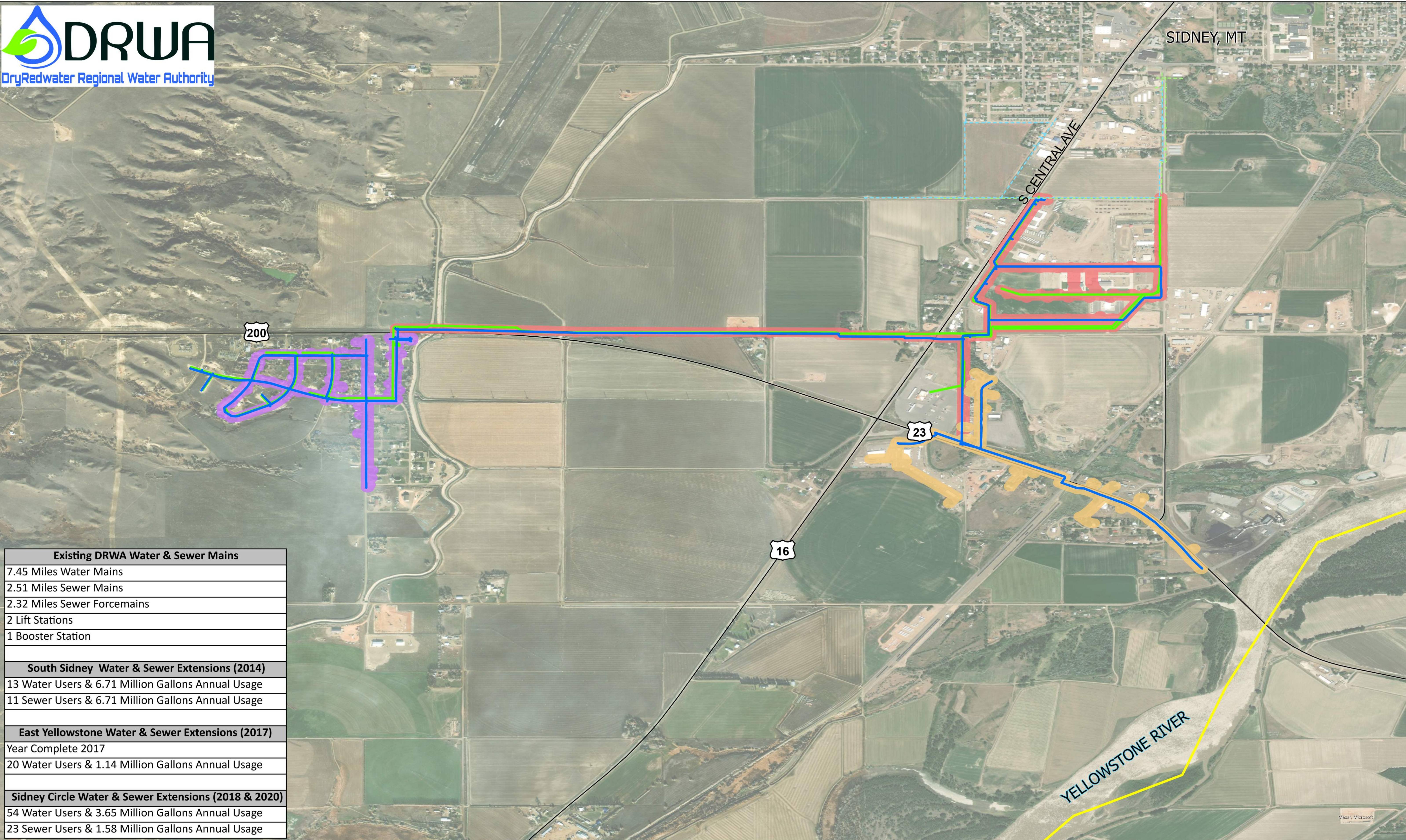
Updated: 1/9/2023

Interstate Engineering, Inc.
P.O. Box 648
2177 Lincoln Ave SE
Sidney, MT 59270
(406) 433-5617



DRY-REDWATER REGIONAL WATER AUTHORITY
FULL PIPELINE BUILDOUT
EXHIBIT A

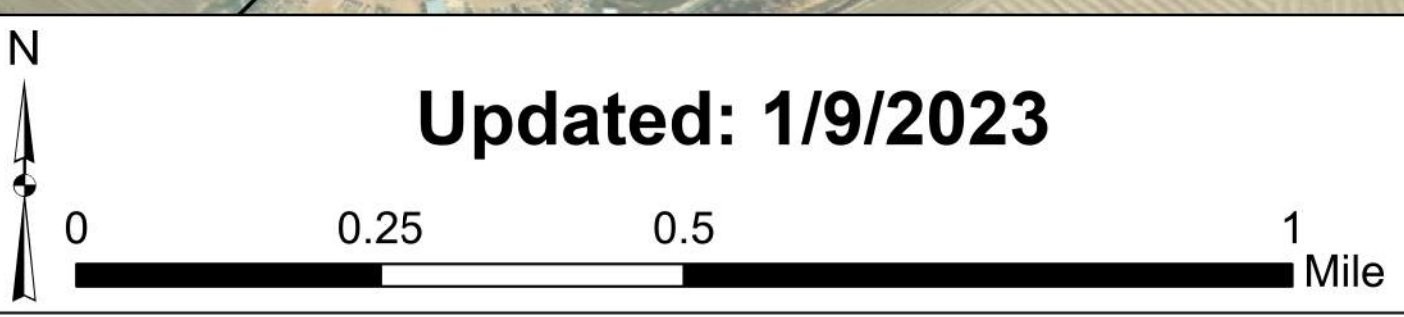




Existing DRWA Water & Sewer Mains	
7.45 Miles Water Mains	
2.51 Miles Sewer Mains	
2.32 Miles Sewer Forcemains	
2 Lift Stations	
1 Booster Station	
South Sidney Water & Sewer Extensions (2014)	
13 Water Users & 6.71 Million Gallons Annual Usage	
11 Sewer Users & 6.71 Million Gallons Annual Usage	
East Yellowstone Water & Sewer Extensions (2017)	
Year Complete 2017	
20 Water Users & 1.14 Million Gallons Annual Usage	
Sidney Circle Water & Sewer Extensions (2018 & 2020)	
54 Water Users & 3.65 Million Gallons Annual Usage	
23 Sewer Users & 1.58 Million Gallons Annual Usage	

DRWA-Built Water Line	DRWA-Sidney Built Sanitary Sewer Line	DRWA Service Area	Interstate
DRWA-Built Sanitary Sewer Line	DRWA-Sidney Built Water Line	South Sidney Extension	Highways
		East Yellowstone Extension	
		Sidney Circle Extension	

Updated: 1/9/2023



0 0.25 0.5 1 Mile

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Central Montana Regional Water System



Drilling the first Ubet Well – 2012

Purpose and Need

The Central Montana Regional Water Authority (Authority) was established in September 2005, with a board of directors representing each community to be served. The Authority was organized to help towns and rural residents in Central Montana that have been plagued for decades by poor water quality and quantity. Communities along the Musselshell River drainage have long had difficulty in obtaining drinking water from reliable sources.

A Groundwater Supply System

Motivated by prolonged drought, the City of Roundup and Musselshell County began work twenty years ago on a project to explore the Madison Aquifer on the northeast end of the Little Belt Mountains as a potential water source. Using groundwater to supply a regional water system will save the cost of building and maintaining a surface water treatment plant, and will provide more source diversity throughout the system than a conventional surface water supplied system. A ground water study of the Judith Basin, authorized by the 2015 Legislature, ran for three monitoring years, with data used to verify that the Madison Aquifer will adequately supply this project.

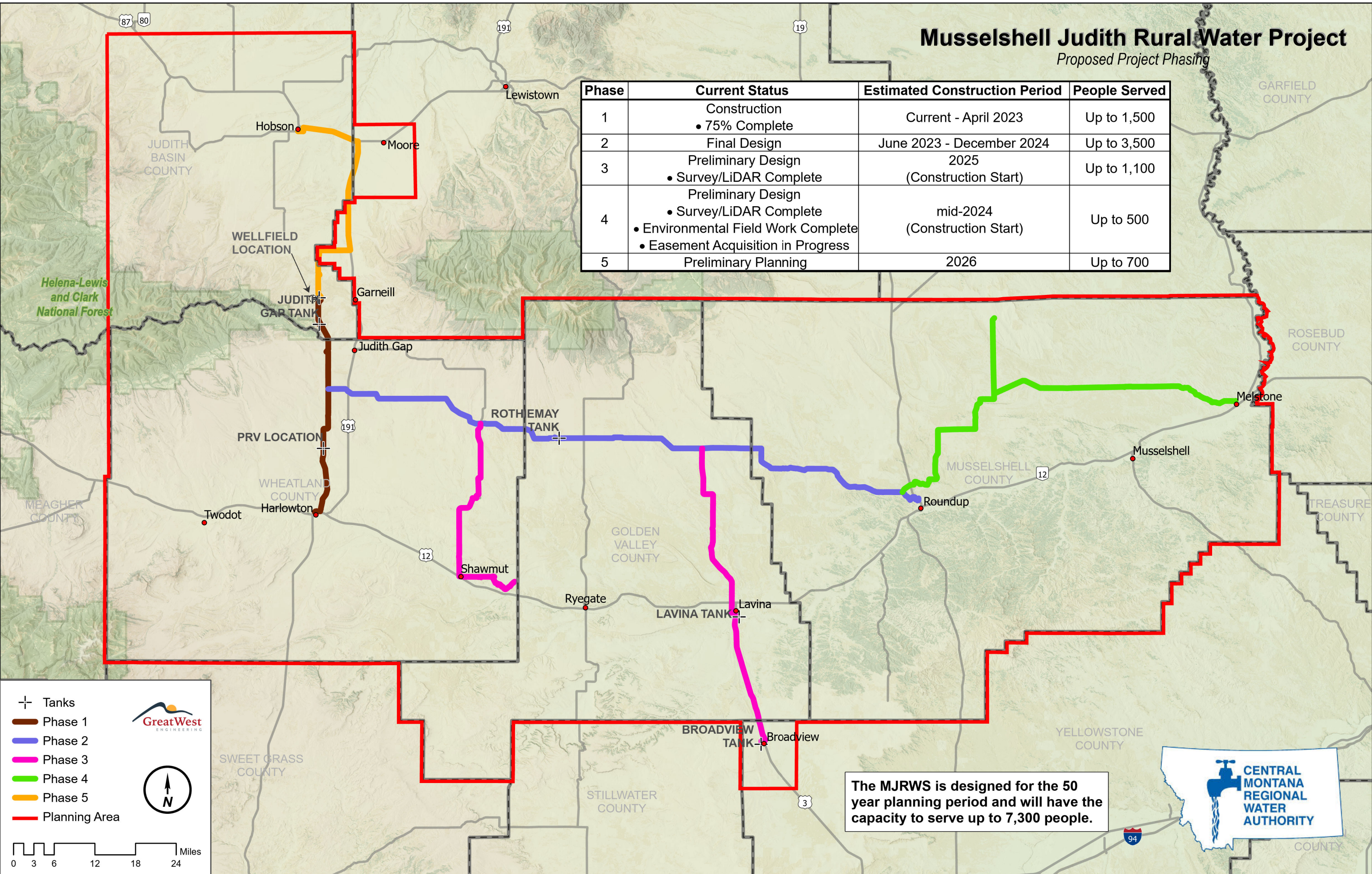
Construction Status and Cost

One exploratory test well into the Madison was drilled near Utica in 2003. The Regional Authority drilled and tested a second well at the Ubet location west of Judith Gap in 2012. A third well, and the second at Ubet, was drilled and developed late in 2019. After completion of a feasibility study and alternatives analysis, the Authority began pursuing congressional authorizing legislation. This legislation, the Clean Water for Rural Communities Act, passed late in 2020, and was signed into law by the President on December 27th, 2020. The Musselshell-Judith Central Montana Regional Water System project's estimated cost is \$87 million (2014 dollars) for well development and the distribution pipeline system. Combined State and local share was \$30 million, or 35% of the total. Total project cost indexed to Federal Fiscal Year 2024 is \$122 million, per a Reclamation memo from February 2022.

Musselshell Judith Rural Water Project

Proposed Project Phasing

Phase	Current Status	Estimated Construction Period	People Served
1	Construction • 75% Complete	Current - April 2023	Up to 1,500
2	Final Design	June 2023 - December 2024	Up to 3,500
3	Preliminary Design • Survey/LiDAR Complete	2025 (Construction Start)	Up to 1,100
4	Preliminary Design • Survey/LiDAR Complete • Environmental Field Work Complete • Easement Acquisition in Progress	mid-2024 (Construction Start)	Up to 500
5	Preliminary Planning	2026	Up to 700



+ Tanks
 — Phase 1
 — Phase 2
 — Phase 3
 — Phase 4
 — Phase 5
 — Planning Area

0 3 6 12 18 24 Miles

The MJRWS is designed for the 50 year planning period and will have the capacity to serve up to 7,300 people.

