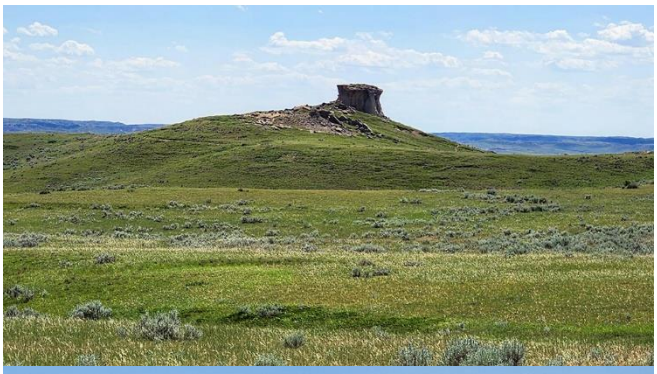
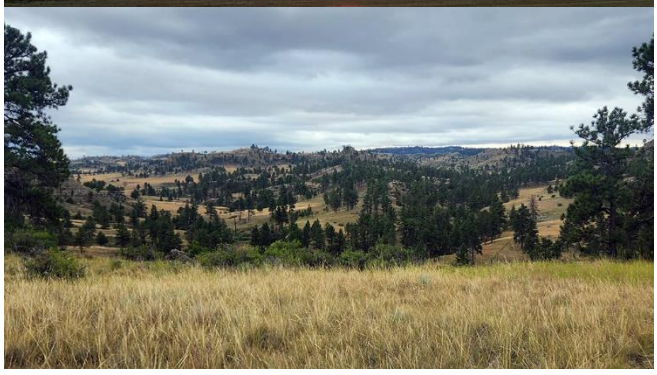
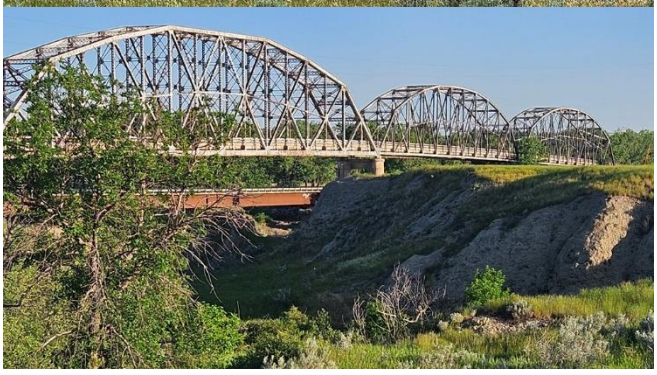
BUREAU OF RECLAMATION

Public Draft

Environmental Assessment

Dry-Redwater Rural Water Project, Montana

Missouri Basin Region

MTAO-EA-2024-003

U.S. Department of the Interior **October 2024**

Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Public Draft

Environmental Assessment

Dry-Redwater Rural Water Project, Montana

Missouri Basin Region

prepared by:

United States Department of the Interior
Bureau of Reclamation
Montana Area Office

Cover Photos: Courtesy of Dry-Redwater Regional Water Authority

October 2024

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Abbreviations and Acronyms

°F	degrees Fahrenheit
AADT	average annual daily traffic
ACS	American Community Survey
APE	area of potential effect
BEPC	Basin Electric Power Cooperative
BIA	U.S. Bureau of Indian Affairs
BLM	U.S. Bureau of Land Management
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWRCA	Clean Water for Rural Communities Act of 2020
dBA	A-weighted decibels
DNRC	Montana Department of Natural Resources and Conservation
DRWA	Dry-Redwater Regional Water Authority
EA	environmental assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973, as amended
FAS	Fishing Access Site
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
gpm	gallons per minute
HDD	horizontal directional drilling
HPTP	Historic Properties Treatment Plan
HQT	Habitat Quantification Tool
HUC	Hydrologic Unit Code
kV	kilovolt
L_{eq}	A-weighted equivalent noise level
LCS	Load Connection Study
LYREC	Lower Yellowstone Rural Electric Company
MBTA	Migratory Bird Treaty Act of 1918
MCA	Montana Climate Assessment
McCone Electric	McCone Electric Cooperative
MCL	EPA enforceable standards for maximum contaminant level
MDEQ	Montana Department of Environmental Quality
MDOT	Montana Department of Transportation
MDU	Montana-Dakota Utilities Company
MGD	million gallons per day
Montana FWP	Montana Fish, Wildlife and Parks
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide

NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSO	No Surface Occupancy
OHV	off-highway vehicle
PALA	Public Access Land Agreement
PFYC	Potential Fossil Yield Classification
PM_{10}	particulate matter with a nominal aerodynamic diameter of less than 10 micrometers
$PM_{2.5}$	fine particulates with a nominal aerodynamic diameter of less than 2.5 micrometers
PR&G	Principles, Requirements, and Guidelines for Water and Land Related Resources Implementation Studies
PVC	polyvinyl chloride
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
Reservoir Intake	Fort Peck Reservoir Intake
RMP	Resource Management Plan
RO	reverse osmosis
ROW	right-of-way
RWSA	2006 Rural Water Supply Act
SHPO	State Historic Preservation Office
SMRA	Special Resource Management Area
SPP	Southwest Power Pool, Inc.
SUT	seasonal use timeframe
SWPPP	Storm Water Pollution Prevention Plan
Tariff	SPP's Open Access Transmission Tariff
TCP	traditional cultural property
TMDL	Total Maximum Daily Load
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management
WAPA-UGPR	Western Area Power Administration – Upper Great Plains Region
WAPA	Western Area Power Administration
WMA	Wildlife Management Area
WSA	Wilderness Study Area
WTP	water treatment plant

Chapter 1 Introduction

1.1 Background

In 2004, Montana Conservation Districts in McCone, Dawson, Richland, and Garfield Counties created the Dry-Redwater Regional Water Authority (DRWA) after a local steering committee identified the need for a rural water project. In 2005, DRWA was formed and is a recognized public water authority in the state of Montana. DRWA is governed by a board of directors appointed by each Conservation District. The focus of DRWA is to develop a rural water project that would supply reliable, high-quality drinking water for residents of five counties in northeastern Montana: Garfield, McCone, Richland, Dawson, and Prairie. Figure 1-1 below depicts the DRWA service area boundary (all figures can be found in Appendix A).

The 2006 Rural Water Supply Act (RWSA) was intended to facilitate the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) approval of rural water system feasibility studies to achieve federal authorization in the 17 western states where rural areas either had limited or poor water quality. With the passage of the RWSA, DRWA initiated analyses that were documented in its 2010 Appraisal Investigation Report for a Dry-Redwater Rural Water Project. Reclamation authored its Appraisal Report in 2010 and informed DRWA they could progress to a Feasibility Study. In 2012, DRWA submitted a Draft Feasibility Study. In turn Reclamation issued a Feasibility Study Concluding Report in 2016, which resulted in deferring future study efforts because the benefits were low when compared to costs, and Reclamation's authority under the RWSA had expired.

The Clean Water for Rural Communities Act of 2020 (CWRCA) authorized the Dry-Redwater Rural Water Project for study and directed Reclamation to refocus efforts on a feasibility study. In 2021 study funding was provided under the Bipartisan Infrastructure Investments & Jobs Act, in addition, DRWA was successful in obtaining funding from Montana Department of Natural Resources and Conservation (DNRC). Through these renewed efforts, DRWA expanded its project to consider additional satellite intake/treatment plants downstream from Fort Peck Reservoir on the Missouri River.

Under the Proposed Action in this environmental assessment (EA), DRWA would receive federal authorization and funding to construction and maintain a regional water system that would provide clean drinking water to residents of eastern Montana. This would include the construction of reservoir or river intake facilities, a water treatment plant, electric transmission and distribution lines, and water delivery facilities (pipeline, pumps, tanks). This EA has been prepared in compliance with the National Environmental Policy Act (NEPA) consistent with the Principles, Requirements, and Guidelines (PR&G) for Water and Land Related Resources Implementation Studies (CMP 09-04) and Agency Specific Procedures for Implementing the Council on Environmental Quality's PR&Gs for Water and Land Related Resources Implementation Studies.

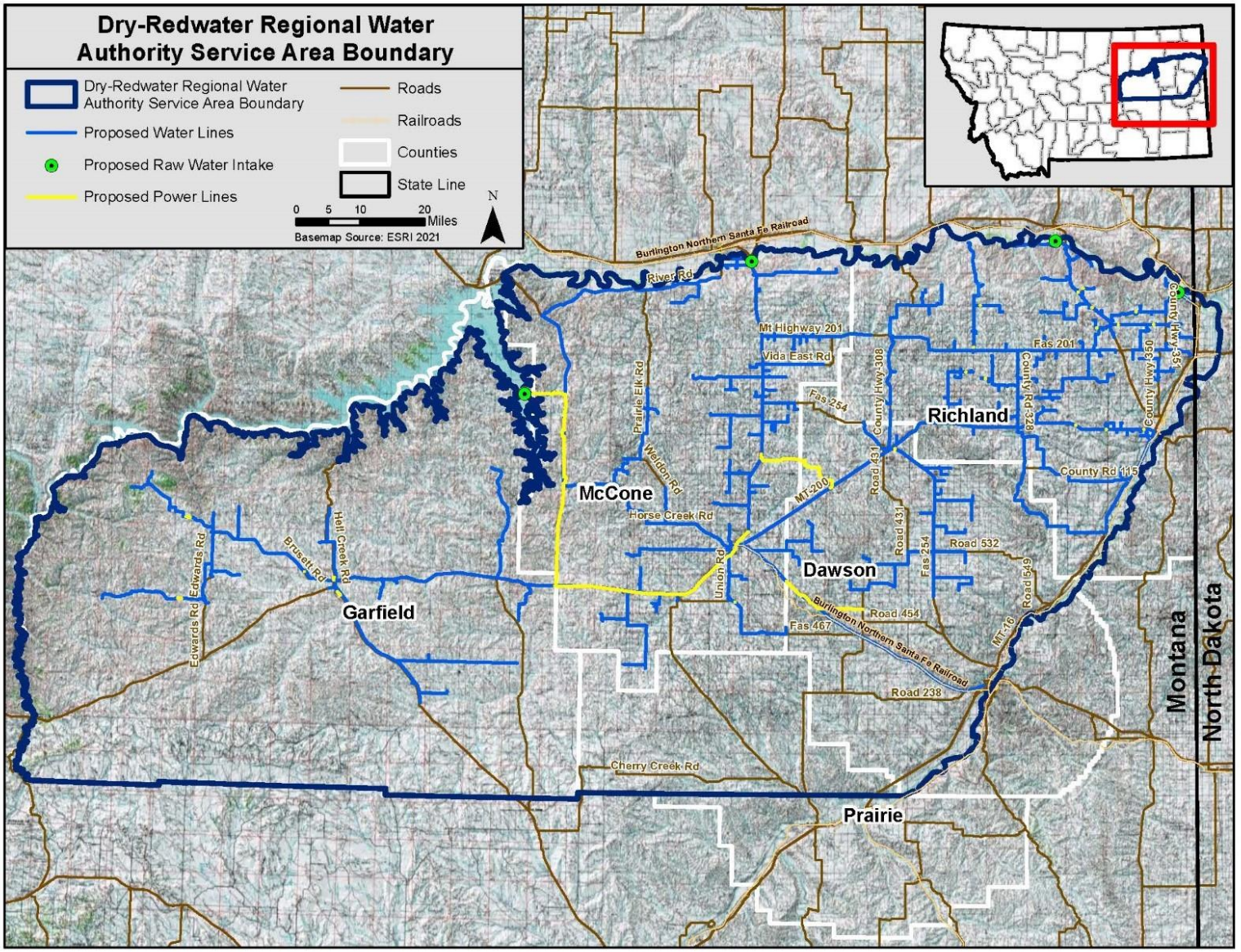


Figure 1-1. Dry-Redwater Regional Water Authority Service Area Boundary

1.2 Purpose and Need of the Proposed Action

Under NEPA, an EA "shall briefly specify the underlying purpose and need to which the agency is responding with the Proposed Action" (40 Code of Federal Regulations (CFR) 1502.13). Under the CWRCA, Reclamation is moving forward with a feasibility study which, if feasible, the Proposed Action would be eligible for federal funds, if authorized by Congress.

The purpose of the Proposed Action is to provide consistent and reliable good quality water within the DRWA service area. This area includes the following communities:

- the towns of Circle, Richey, and Jordan;
- the unincorporated towns of Lambert, Savage, Bloomfield, Brockway, Brusett, Cohagen, Lindsay, and Vida; and
- the water districts of Highland Park, Forrest Park, and Whispering Tree.

Throughout the DRWA service area, residents, schools, and communities struggle to obtain reliable, good quality drinking water via private or public groundwater wells. The groundwater throughout the service area is limited in quantity and is high in inorganic chemicals like sodium and sulfates. The deeper wells are high in fluoride and sodium that require expensive treatment options to meet the Primary Drinking Water Standards. Figure 1-2 provides a visual example of groundwater quality throughout the service area. Table 1-1 in Appendix B lists groundwater samples since 2000 that exceed U.S. Environmental Protection Agency (EPA) enforceable maximum contaminant levels (MCL), and Table 1-2 in Appendix B lists groundwater samples since 2000 that exceed EPA non-enforceable secondary MCLs. All water samples presented in these tables have contaminant levels that are above at least one of the EPA recommended drinking water standards. Some samples have contaminant levels over five times the standard. Some residents haul all their water for drinking and cooking because their well water is undrinkable or of insufficient quantity to meet their basic needs.

Note: Samples are from private wells from west to east in DRWA service area

Figure 1-2. DRWA Service Area Groundwater Quality

Three communities (Circle, Richey, and Lambert) treat water using reverse osmosis (RO) or nanofiltration facilities because of high levels of fluoride, a health hazard and regulated contaminant. Jordan does not treat its water other than disinfection, but its water source has high levels of sodium and total dissolved solids and may require more advanced treatment if regulations change. Although the water provided by the community of Jordan does not currently exceed federal or state standards, it may have detrimental physical effects on those drinking it.

The regulations for safe drinking water are expected to become more stringent over time, and increased regulations (e.g., Montana's Ground Water Rule or potential zero liquid discharge requirements for RO facilities) equal increased costs to all public water systems. Small systems would be affected financially for even minor modifications needed to meet new effluent discharge or drinking water treatment standards in the future. The availability of qualified operators to supervise s water treatment facilities in the area is low, adding to concerns about future viability of localized facilities.

1.3 Coordination and Cooperation

Since the inception of the DRWA, Reclamation and DRWA have participated in extensive outreach and communication with federal, state, and local agencies that may have jurisdiction or a regulatory responsibility over the Proposed Action. In October 2023, Reclamation reached out to the US Army Corps of Engineers (USACE), U.S. Bureau of Indian Affairs (BIA), U.S. Bureau of Land Management (BLM), Natural Resource and Conservation Services (NRCS,) U.S. Fish and Wildlife Service (USFWS), and the Western Area Power Administration (WAPA) to solicit interest on participating as a cooperating agency in this EA. To date, NRCS, USACE, and WAPA have agreed to function as Cooperating Agencies. Decisions and issues specific to these agencies are described in the following sections.

On November 7, 2023, Reclamation sent letters to the following Native American tribes:

- Fort Belknap Indian Community
- Crow Tribe
- Three Affiliate Tribes of the Fort Berthold Reservation, North Dakota
- Little Shell Chippewa Tribe
- Turtle Mountain Band of Chippewa
- Turtle Mountain (Trenton Indian Service Area)

The letters invited the tribes to participate in the NEPA process and NHPA Section 106 consultation process and requested information under Section 106 of the NHPA regarding the identification of cultural resources in the Project study area.

It is anticipated that the culmination of the NEPA process documented in this EA would result in a Finding of No Significant Impact (FONSI) that would accompany the Feasibility Study prepared to support a decision on funding. If Reclamation's Feasibility Study culminates in a decision to move forward to design and construction, additional coordination and authorization would be required with federal, state, and local agencies. If this EA is deemed insufficient a supplemental NEPA document may be required. Appendix B, Table 1-3, provides a list of the agencies that may have an action, approval, or consultation responsibility. Appendix C (Regulatory Requirements) provides additional information on applicable regulatory requirements of federal, state, and local agencies.

1.3.1 Natural Resource Conservation Service

Under the provisions of the 1954 Watershed Protection and Flood Prevention Act (Public Law 83-566), the NRCS anticipates seeking funding authorization to support specific components of the Proposed Action. As a potential source of federal funding, NRCS serves as a cooperating agency for purposes of this EA. NRCS acknowledges that funding under its Watershed Protection and Flood Prevention Program, specifically under the authorization as an Agricultural Water Management-rural water supply project is limited to components related to intake and delivery of raw water. In conjunction, the NRCS would provide Reclamation with technical expertise as applicable for the whole of the Proposed Action.

NRCS has acknowledged that the EA being prepared by Reclamation may have applicability in meeting NRCS regulations and policies but may not be adequate to fully meet NRCS requirements. NRCS anticipates using the EA and associated Feasibility Study prepared by Reclamation to request a plan waiver per National Watershed Program Manual, Title 390-502(A) 502.2, as content would be duplicative. NRCS would perform any additional non-delegable duties, including additional tribal consultation, and complete additional Endangered Species Act (ESA) of 1973 (as amended) consultation if effects to any species is anticipated to be other than insignificant, beneficial, or discountable. An authorized watershed plan is a necessary step in requesting federal cost-share for design and construction funding as outlined in a Watershed Agreement with an eligible sponsor (i.e., DRWA).

1.3.2 U.S. Army Corps of Engineers

The USACE administers the federal lands and resources associated with Fort Peck Reservoir, including the shoreline within and surrounding the Project study area. As the administrator of federal lands under its jurisdiction, the USACE is functioning as a cooperating agency for the purposes of this EA. While USACE authorization would be required to construct and operate the proposed intake and associated infrastructure on USACE managed lands, the USACE acknowledges that a subsequent NEPA process would be required for the use and occupancy of these federal lands as well as to support compliance with Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act (CWA).

1.3.3 Western Area Power Administration

The WAPA -Upper Great Plains Region (UGPR) joined Southwest Power Pool, Inc. (SPP), a Regional Transmission Organization, in October 2015 and as a result, most of WAPA-UGPR's facilities are subject to SPP's Open Access Transmission Tariff (Tariff). McCone Electric

Cooperative (McCone Electric) is proposing an interconnection at the Circle Substation, due to unplanned load growth related to facilities proposed by the DRWA. The Circle Substation is subject to SPP's Tariff and therefore, a load interconnection request is required to be submitted to SPP, through Basin Electric Power Cooperative (BEPC), pursuant to the Delivery Point Addition Process, as described in Attachment AQ of the Tariff.

If a request for load interconnection, or AQ Request, at WAPA-UGPR's Circle Substation is submitted to SPP, SPP and WAPA-UGPR would study the specific requirements for the AQ Request via SPP's Delivery Point Network Study and WAPA-UGPR's Load Connection Study (LCS). In conjunction with the LCS, WAPA-UGPR utilizes its General Requirements for Interconnection to assess the feasibility of a project. WAPA must ensure that existing reliability and service is not degraded. If McCone Electric chooses to submit an AQ Request to establish a new point of delivery at the existing 115 kilovolt (kV) bay near Circuit Breaker 1162 at the Circle Substation, WAPA would work with McCone Electric after the AQ request is submitted to complete transmission and system studies to ensure that system reliability and service to existing customers are not adversely affected.

WAPA-UGPR acknowledges that it would have a discretionary action for the Proposed Action that would be subject to NEPA. The evaluation would include related construction activities and operation of the McCone Electric connection. When reviewing AQ Requests, WAPA-UGPR must ensure that its existing reliability and service is not degraded. If the AQ Request is submitted and approved through the Delivery Point Addition Process, WAPA would use this EA prepared by Reclamation as their NEPA compliance document, and a FONSI issued by WAPA-UGPR would be required before any required construction could commence. WAPA-UGPR anticipates that its decision would include issuing its own FONSI related to its decision.

1.4 Scoping

The scoping period began on November 14, 2023, with the publication of the scoping meeting notices, and closed on December 15, 2023. Scoping meeting notices were mailed to all government agencies, tribal governments and individuals determined to be a stakeholder in the DRWA service area. Reclamation and DRWA hosted three public scoping meetings to present the proposal. These meetings occurred from 4:00 to 6:00 pm in Billings on November 14, 2023; Jordan from 10 am to 12 pm on November 15; and Circle from 4pm to 6 pm on November 15, 2023. Overall, seven comments were submitted to Reclamation (two comment cards, five e-mails) from individuals by December 30, 2023. All seven submittals made brief statements of support for the Proposed Action; no adverse issues were identified. Appendix D documents the scoping process to-date.

1.5 Preparers and References

The list of preparers and contributors is in Appendix E. Please refer to Appendix F for references included in the EA.

Chapter 2 Alternatives

2.1 Project Study Area

The area of analysis for the Proposed Action includes the DRWA service area as described in Chapter 1 and illustrated on Figure 1-1. While the DRWA service area encompasses five counties, Prairie County is not included for purposes of the Project study area, as the Proposed Action would be constructed and operated only within Dawson, Garfield, McCone, and Richland counties. Specifically, the area of analysis for the Proposed Action is designated as the Project study area, and includes all areas of proposed surface disturbance associated with the construction and operation of the Proposed Action, as shown in Figures 2-1 and 2-2. The Project study area encompasses the linear components, including a 50-foot buffer on either side of the centerline of these alignments. In addition, it includes areas for aboveground facilities and areas identified for temporary and permanent access and short-term storage and staging areas.

2.2 No Action Alternative

Under the No Action Alternative, the federal government would not provide funding and/or technical assistance to the DRWA. The Proposed Action would not be developed and residents and businesses throughout the DRWA service area would continue to receive and use existing groundwater supplies.

2.3 Proposed Action

Under the Proposed Action, DRWA would receive federal authorization and funding to construct a regional water system that would provide clean drinking water to residents of eastern Montana. The DRWA would be responsible for the financial administration of the system, operation and maintenance, billing and collection, and all other duties and or items required for operations. The Proposed Action includes approximately 1,335 miles of pipelines, 116 miles of electrical lines, intake structures, water treatment plants (WTP), pump stations, and storage tanks. The type and general location of proposed infrastructure are described in the following sections.

2.3.1 Intake Structures

The following sections describe intake options at Fort Peck Reservoir and along the Missouri River. Intake structures and corresponding treatment plants along the Missouri River are satellite facilities and may be used with or in place of the intake at Fort Peck Reservoir after further cost effectiveness evaluations. The inclusion of the satellite facilities would be determined in final design but are evaluated in this EA as part of the Proposed Action.

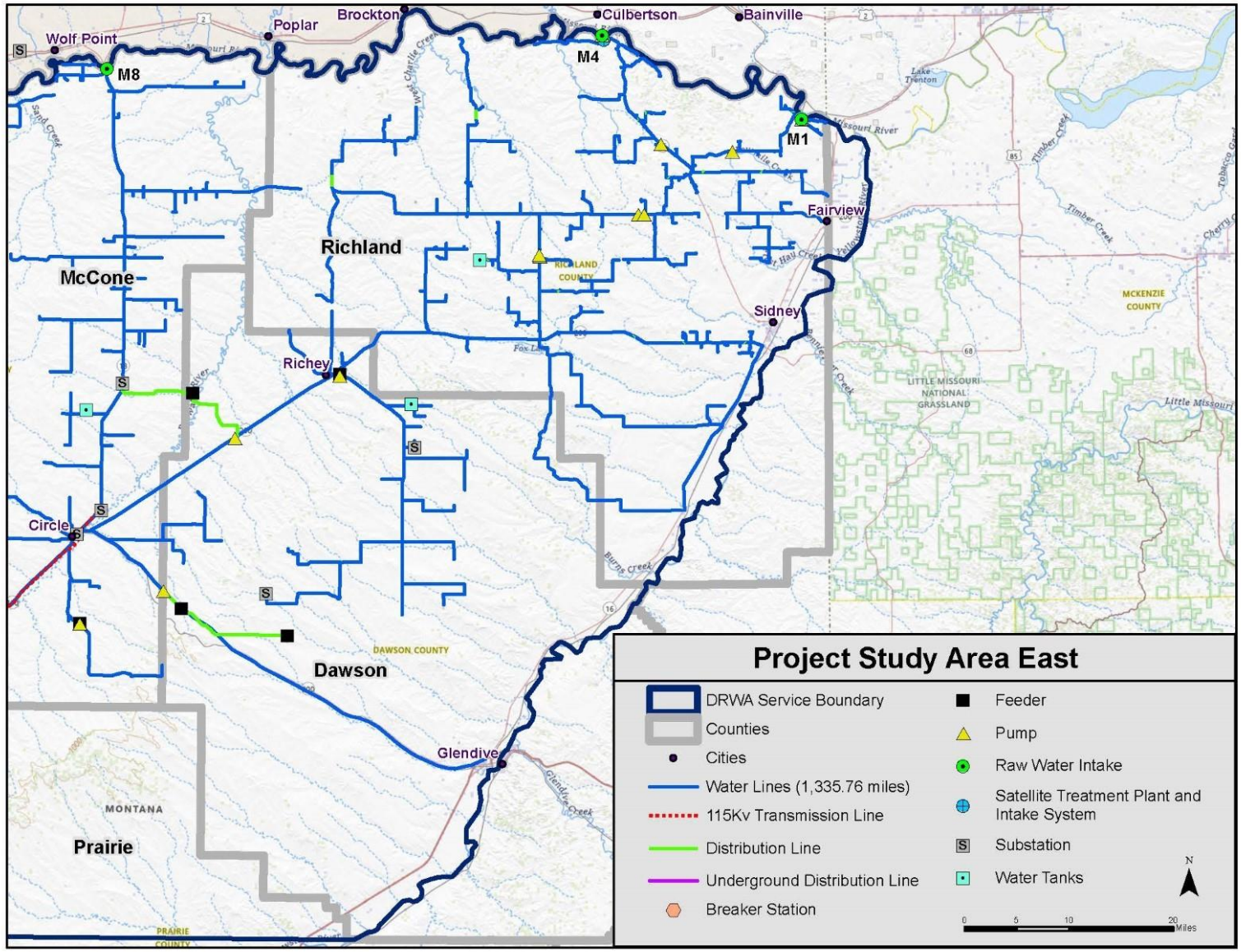


Figure 2-1. Project Study Area: Eastern Portion of DRWA Service Area

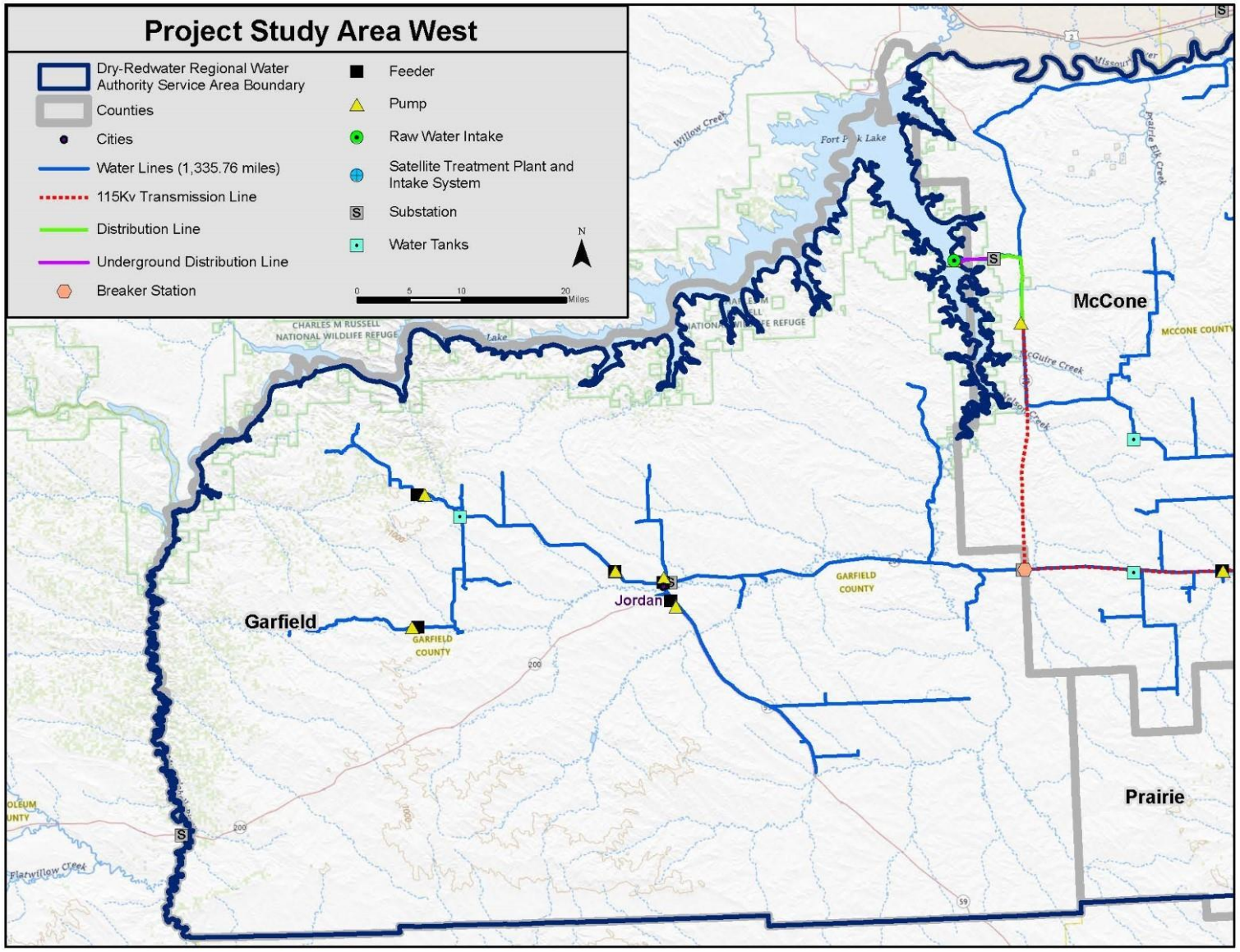


Figure 2-2. Project Study Area: Western Portion of DRWA Service Area

2.3.1.1 Fort Peck Reservoir Intake

The Fort Peck Reservoir Intake (Reservoir Intake) would be a sloped tube style direct intake that would withdraw water from the Big-Dry Arm/Rock Creek area of Fort Peck Reservoir in Garfield County, Montana. The sloped tube casing would have a diameter of 24 inches and design flow would be up to 4.4 million gallons per day (MGD). The intake screen would be submerged a minimum of 70 feet below full pool; the final elevation range would be based on site-specific bathymetric data during final design. The intake would have one working 350-horsepower pump, and one similar-sized pump as a backup. Water would be conveyed from the Reservoir Intake approximately 4 miles to the Fort Peck WTP. Figure 2-3 in Appendix A illustrates the details of the proposed Fort Peck WTP flow diagram from intake to the distribution network.

The Reservoir Intake would not require a protective structure surrounding the screens. At a depth of about 70 feet, the potential for screen restriction or damage would be minimal as debris or ice would be limited at that depth.

The planned elevation of the Reservoir Intake is approximately 2,167 feet above mean sea level based on initial discussions with USACE representatives. The final elevation determined during final design and USACE permitting would provide a minimum of 10 feet of water above the screen based on known historic low water levels. Using this criterion, no boating restrictions would be necessary after construction other than for periodic maintenance or repairs.

Installation of the sloped tube Reservoir Intake would require minimal disturbance to the reservoir. The casing pipe of the intake would be installed via directional drilling. The length of the bore would be approximately 1,800 feet (the length from the intake screen to the daylight). The only anticipated disturbance to the reservoir would be from the drilling in the water. No major excavations in the reservoir would be necessary.

A new permanent road approximately 1,000 feet long would be required to maintain the intake pump and ancillary facilities. This road would have a 15-foot travel surface width, with a 5-foot borrow ditch width on either side for a total width of 25 feet. The road would be surfaced with crushed aggregate adequate to support construction and maintenance vehicles and equipment. Crushed aggregate would be transported from commercial sources within the DRWA service area (e.g., Circle, Montana). In addition, North Rock Creek Road would be improved by adding one inch of aggregate to the existing gravel road from Highway 24 to the intake (approximately 7 miles). During construction and maintenance of the Reservoir Intake, all vessels necessary for these activities would be launched from the boat ramp at the nearby Rock Creek Fishing Access site.

2.3.1.2 Missouri River Intakes

Three Missouri River intake sites (M1, M4 and M8) are proposed as potential intake options.

- The Missouri River M1 Intake would withdraw water approximately 176 miles downstream of Fort Peck Dam and immediately downstream of the existing Snowden Bridge in Richland County, Montana.

- The Missouri River M4 Intake would withdraw water approximately 147 miles south of Fort Peck Dam, just south of the town of Culbertson, Montana, adjacent to Richland County Road 152.
- The Missouri River M8 Intake would withdraw water approximately 69 miles downstream of Fort Peck Dam, across the river from Wolf Point Montana and immediately downstream of the existing Highway 13 bridge.

The structure at each site would sit on the channel bed and have side openings located a minimum of 1.64 feet above the channel bed. The intake screen centerline would be about 5 feet above the channel bed, keeping the entire screen above the pallid sturgeon free embryo drift elevation (the lower 1.64 feet of the water column). Each site would have a sloped tube style direct intake with a casing diameter of 24 inches and design flow that ranges between of 1.8 (M1 and M4) and 2.7 (M8) MGD. The intake would have one working pump, and one on standby. The proposed intake structure for each site would extend approximately 8 feet above the channel bed. Water would be conveyed from each intake to its respective WTP through an 18-inch pipe with distances ranging from 200 feet to 5,000 feet. The top of the structure would be a minimum of seven feet below the water surface during low-flow conditions to provide adequate clearance for vessels to navigate the river without restrictions. Figure 2-4 in Appendix A shows a diagram from intake to the distribution network applicable to all river intake locations.

Access to each Missouri River intake site to perform in-river work activities would be from the north riverbank in the proximity of each respective site. Each access route would be associated with existing disturbed area (e.g., two-track trail). Exact locations would be identified during final design efforts consistent with any right of entry and permitting requirements to access the river and use temporary staging areas adjacent to the access routes. Access to the proposed intake/pumphouse facilities on the south bank of the river would be from established access routes or alternate routes authorized by the land manager or property owner.

2.3.2 Water Treatment Facilities

2.3.2.1 Fort Peck Water Treatment Plant

The Fort Peck WTP would treat water delivered from Fort Peck Reservoir via the Reservoir Intake. Raw water would be delivered to the WTP by a 4-mile pipeline (24-inch diameter) installed via open trench (Figure 2-3 in Appendix A). Design flow would be 4.4 MGD. The WTP site would consist of two pre-sedimentation basins, two lagoons used for backwash and containment of solids, and a building to house all other process components and support facilities. The pre-sedimentation basins would be sited in a 745-foot by 730-foot (12.5 acre) area. The lagoons would be sited in a 388-foot by 375-foot (3.4 acre) area. The building would be a pre-engineered metal building with dimensions of 80 feet by 100 feet, and have a basement constructed of cast-in-place concrete.M1 and M4 Water Treatment Plants

The M1 and/or M4 WTPs would treat water delivered from the Missouri River via the M1 Intake. Raw water would be delivered to one or both WTPs via a one-mile 24-inch pipeline installed via open trench at one or both locations (Figure 2-4 in Appendix A). Design flow would be up to 1.8

MGD at either site. Either site would consist of one pre-sedimentation basin, three lagoons used for backwash and containment of solids, and a building housing all other process components and support facilities. The pre-sedimentation basins would have an area of 0.94 acres. The lagoons would each have an area of 0.22 acres (0.66 acres in total). The building would be a pre-engineered metal building with dimensions of 80 feet by 100 feet, and have a basement constructed of cast-in-place concrete.

2.3.2.2 M8 Water Treatment Plant

The M8 WTP would treat water delivered from the Missouri River via the M8 Intake. Raw water would be delivered to the M8 WTP via a 0.1-mile pipeline installed via open trench (Figure 2-4 in Appendix A). Design flow would be up to 2.7 MGD. The M8 site would consist of one pre-sedimentation basin, three lagoons used for backwash and containment of solids, and a building that would house all other process components and support facilities. The pre-sedimentation basins would have an area of 1.22 acres. The lagoons would each have an area of 0.22 acres (0.66 acres in total). The building would be a pre-engineered metal building with dimensions of 80 feet by 100 feet, and have a basement constructed of cast-in-place concrete.

2.3.3 Fort Peck Water Distribution System

The distribution system from the Fort Peck WTP[1] at full build-out would include over 1,335 miles of pipelines ranging in diameter from 3 inches to 20 inches. The system would include six aboveground and elevated water storage tanks, 12 pump stations and associated buildings, 17 pressure reducing valves, 323 Air/Vacs, 335 Blowoffs, 7 Meter Manholes, 2,004 water services with a flow meter, and other appurtenances.[2]

2.3.3.1 Pipelines

The distribution system would convey treated water from Fort Peck WTP or other satellite WTPs through subsurface pipelines made of polyvinyl chloride (PVC) or high-density polyethylene. The main conveyance pipeline would run for 48 miles from the Fort Peck WTP within or adjacent to rights-of-way (ROW) for state highways and county roads to Circle, Montana. It would have a diameter of 20 inches.[3]

Transmission, distribution, and service lines of various dimensions (3-20 inches) would be constructed to provide water to subscribers throughout the DRWA service area. Distribution pipeline alignments would generally follow the ROWs of state highways and county roads. With the exceptions where horizontal directional drilling (HDD) or other trenchless technology may be required to avoid existing infrastructure (e.g., railroad or sensitive resources), the pipeline would be placed at elevations approximately 7 to 8 feet below grade, where possible. Bedding and backfill

[1] For purposes of this EA, the water distribution system from the Fort Peck WTP would support distribution from one or more the Missouri River intake sites. There would be differences in water line diameter depending on the number and location of selected river intakes but the overall footprint of the water distribution system for purposes of the Proposed Action would be the same.

[2] Future updates of the hydraulic model may result in revisions to these appurtenances but the location of all these components would be within the Project study area developed for this EA.

[3] In the event that one or more satellite WTPs are included, the main 20-inch distribution system would be reduced to 18-inches in diameter with a corresponding reduction in intake volume.

would generally be sourced from on-site excavation. If specific bedding or backfill material is needed, it would be transported to the site from local authorized sources. In addition to the pipe used for the system, additional appurtenances (e.g., manholes, valves, and meters) would be necessary for operation and maintenance.

2.3.3.2 Storage Tanks

The distribution system from the Fort Peck WTP or other satellite WTPs would have a total of six elevated storage tanks. The storage tanks would supply two days of storage and would be welded single pedestal, elevated tanks. The heights of the tanks would vary from 42 to 100 feet, depending on site-specific topographic survey during final design, and the standard sizes would vary from 150,000 gallons to 1,500,000 gallons.

2.3.3.3 Pump Stations

The distribution system from the Fort Peck WTP or other satellite WTPs would have a total of 12 pump stations, including those for the intakes and WTPs. There are three types of pump stations: a distribution pump station, conveyance pump station with two pumps, and conveyance pump station with three pumps. Each pump station includes a prefabricated building, mechanical, electrical, integration controls and an on-site, permanent generator. Each pump station includes one redundant pump. Conveyance pump stations include an underground concrete reservoir that provides 48 hours of peak demand and ensures that the pump intake stays submerged. These concrete reservoirs would be 110-foot square with a depth of 12 feet. Approximately 5,000 cubic yards of material would be excavated at each location. This material would be spread throughout the pump station site to match existing contours consistent with individual landowner requirements. Each pump station location would be served by a permanent access road.

2.3.4 Powerlines

Powerlines would be needed for the pump stations, intakes, and WTPs (secondary supply could be needed elsewhere in the service area). Power would be provided via electrical transmission and distribution lines. In addition, a new substation would be constructed to service the new electrical transmission lines. A summary of these lines, capacities and lengths is provided in Table 2-1 in Appendix B.

2.3.4.1 Electrical Transmission Lines

The transmission lines would include an upgraded 33-mile three-phase 69 kV line from the WAPA Circle Substation to Flowing Wells. This upgraded line would replace an existing 69 kV transmission line with a 69 kV transmission line using existing poles. While pole replacement is not anticipated, there may be potential for replacement of poles at select locations in the event that the integrity of the pole is damaged or compromised. A new 34-mile three-phase 69 kV transmission line with a 25 kV underbuild would run from Flowing Wells to the proposed Fort Peck WTP. Approximately 600 poles (18 per mile) with an average height of 40 feet would be used.

2.3.4.2 Electrical Distribution Lines

Collectively, over 47 miles of distribution lines (15.7 miles of 25 kV, 1.6 miles of 14.4 kV, 30.3 miles of 12.5 kV and 1 mile of 7.7 kV) consisting of both single- and three-phase power would be necessary to provide power to the pump stations, intakes, and WTPs (Table 2-1 in Appendix B).

Approximately 0.3 miles of existing 12.4 kV line would be rebuilt to provide power to the M8 Intake. Distribution lines serving M8 pump station and WTP on lands managed by BLM would utilize underground construction techniques to minimize effects. To minimize effects to aesthetic values associated with recreational residences near the Reservoir Intake, approximately 1.1 miles of a 25 kV line would be placed underground from the Reservoir Intake pump station to a location coinciding with the boundary between federal lands managed by the USACE and private lands to the south. It is likely that the route of this line segment would follow the route of the proposed new access road to the Reservoir Intake pumps and maintenance building.

2.3.4.3 Connection to WAPA Circle Substation

As the power provider for a substantial portion of the Project study area, McCone Electric would submit an AQ Request to SPP through BEPC pursuant to the Delivery Point Addition Process, Attachment AQ of SPP's Tariff for a new load interconnection at WAPA-UGPR's Circle Substation. The Circle Substation has an existing 115 kV bay near Circuit Breaker 1162 and current analysis of the Proposed Action scope suggests WAPA-UGPR construction activities would entail installing jumpers from the Circle Substation bus work to the new transmission line proposed by McCone Electric to service DRWA's needs. In addition, relay setting and metering programming would need to be done. No surface disturbing activities would occur at the Circle Substation.

2.3.4.4 Substations

Three new substations would be constructed. One substation would serve distribution lines to the Fort Peck WTP and Reservoir Intake, and the other two would be at Flowing Wells and Circle. The proposed Circle substation would be near the WAPA-UGPR Circle substation and be owned and operated by McCone. If the satellite intakes and WTPs are built (M1, M4 and M8), none of these would require a new substation; the existing electrical transmission and distribution system would be adequate for these sites.

2.4 Construction Methods

2.4.1 Permanent and Temporary Access Construction Methods

Prior to large-scale construction activities of the Proposed Action, permanent and temporary access routes would be completed to facilitate construction crews and equipment entering and exiting construction areas. Temporary construction access roads would be connected to existing county road and state highways and facilitate transportation to the staging, disposal, and stockpile areas. The contractor would determine the optimum location and alignment of the temporary access roads within the proposed ROW. Construction sequencing of the permanent and temporary access roads would be developed in final design.

2.4.1.1 Permanent Access Roads

A permanent access road for the Fort Peck Intake and WTP would be required to support construction, operation, and maintenance activities. In addition, North Rock Creek Road would need to be improved by adding about one inch of aggregate to the existing gravel road from Highway 24 to the Fort Peck Intake location, a distance of approximately 7 miles. Both the new and existing roads would be graded and surfaced with aggregate base material. Aggregate would be from

commercial sources, likely in the vicinity of Circle Montana. Approximately 2,500 cubic yards of aggregate would be transported to one or more pre-approved staging/storage sites within the existing road ROWs. Permanent access to the proposed river WTPs would be via existing county roads. About 0.2 miles of additional permanent access roads would be constructed to access the portions of the electrical transmission lines realigned to avoid sensitive biological resources.

2.4.1.2 Temporary Construction Access Roads

Up to 14 miles of temporary construction access roads would be required to connect with existing gravel roads or paved roads to the various proposed WTPs, intake sites, and other areas. These roads would be temporary and would not be maintained following completion of construction. The proposed temporary construction access roads would be surfaced with aggregate (gravel) from commercial sources and would require roadway excavation and grading to provide access to staging, stockpiling, and disposal areas. Decommissioning of the temporary roads after construction of the Proposed Action would include replacement of topsoil where applicable (e.g., outside of new inundation area and in areas with suitable slopes). Decommissioning would include light grading to provide for long-term drainage, and removing potholes, ditches, or deep low spots, so that no water ponding on the restored surface would occur.

The contractor would be responsible for removing any temporary construction materials placed on the road alignment such as culverts or any other manufactured materials. Any aggregate (gravel) used for roadway surfacing or similar materials (e.g., rock) would be left in place or removed at the discretion of the land manager or property owner. After final grading, these areas would be revegetated with native species in consideration of physical characteristics (e.g., slope, soils, water availability). Restoration of temporary roads on state or federal lands would be coordinated with applicable agencies.

2.4.1.3 Water Intake Construction Methods

The proposed in-water construction of the Reservoir Intake would occur when the site is free of ice. Approximately three months of HDD, an additional month to assemble casing pipes and pull them into place, and another month to install the screens and anchors from a construction barge anchored in place (moved and serviced by a workboat) is anticipated. A six-month in-water construction window would be realistic for planning and design purposes.

It is anticipated that either drilled piers, driven piling, or large pre-cast concrete blocks would be installed to anchor the intake pipe and screens. Exact anchoring systems for the intake screen and pipe at each of the four locations would be determined once site-specific bathymetric and geotechnical survey data is gathered in final design. The duration of HDD activities from the shoreline to the proposed intake locations would be determined once site-specific geotechnical data is gathered during final design. Unknown or buried rocks/boulders or other unknown objects could impact the duration of proposed efforts.

There would be limitations on boating access around the proposed work area during construction of the Reservoir Intake. It is anticipated that access would be restricted for both in-water and upland construction areas, and recreational activities (e.g., boating, fishing, hiking) would not be permitted for a period of several weeks.

For the proposed river intakes, it is anticipated that coffer dam installation and construction activities would occur during low-flow river conditions, or periods when significant releases from Fort Peck Reservoir are not planned (May through November). Given the uncertainty of releases with respect to pallid sturgeon spawning timeframes (May and June), in-river work would require consideration of both hydrologic and biologic resources. Overall, it is anticipated that in-river work for all river sites would take approximately six months.

Dewatering

Construction of the Reservoir Intake would require use of drilling fluids for HDD efforts. All drilling fluids would be circulated to a collection point associated with the HDD entry point. Geotechnical data would be used to develop a contingency plan to prevent frac out of drilling fluids during HDD efforts. All drilling fluids would be captured and disposed of at an approved off-site location consistent with applicable permit requirements.

For the proposed river intakes, after the coffer dam is installed, the interior portion of the coffer dam would be dewatered consistent with requirements of Montana Department of Environmental Quality Construction Dewatering Permit. Any drilling fluids would be managed similar to the methods described for the Reservoir Intake.

2.4.1.4 Water Treatment Plants Construction Methods

Construction methods for the WTP facilities would consist of clearing and grubbing to prepare the site as necessary, followed by excavation and dewatering as necessary for the presedimentation basins, backwash/solids lagoons, and building subfloor and foundation. The lagoon areas would then be prepped, piping installed, followed by liners and any necessary process equipment. Building construction would consist of preparing formwork and pouring concrete for the below grade foundation and tankage, followed by the erection of the pre-engineered metal building. Installation of process equipment, interior piping, electrical and instrumentation, heating, ventilation, and air conditioning equipment, and final finishing of the building interior would be completed. Site grading would be performed to develop a gravel parking lot adjacent to the building, and site fencing installed around the property. One or more large cranes would be mobilized, used, and demobilized during construction.

2.4.1.5 Water Conveyance Pipeline Construction Methods

Open-trench construction methods would be used for most pipeline installation, including driveways and field crossings; trenchless methods would be used for all crossings where trenching methods are not feasible or where restrictions warrant other construction methods (e.g., natural drainages and existing infrastructure).

Open-Trench

The trench width for the conveyance pipeline installation would be approximately 8 feet wide depending on installation method and depths would range from 7 to 10 feet below grade. Where required for safety or to minimize excavation, trenches would be braced with a trench box or shoring. The active work area along the open trench would generally extend about 30 feet on both sides of the trench. When the new pipeline is in place, native backfill would be placed in the trench. Minimum soil coverage would be 7 feet. The as-built surface elevation would generally match the

original ground surface elevation. At initiation of pipeline construction, the topsoil would be stripped and stockpiled on site. Pipeline materials (e.g., piping, backfill material) would be stored temporarily along the pipeline route within the construction easement. Following pipeline installation, topsoil would be replaced, and the area would be revegetated with native species. Restoration of pipeline alignments on state or federal lands would be coordinated with applicable agencies.

Trenchless Methods

Based on the geological conditions and the conveyance pipe size, an entry pit excavation would be required for all trenchless crossings. At each crossing, entry and exit pits up to 12 feet in diameter wide by 12 feet deep would be excavated to minimize ground settlement and meet tolerance standards of the counties and Montana Department of Transportation. Table 2-2 in Appendix B provides a summary of the type and potential number of features that would be crossed using this method.

2.4.1.6 Water Storage Tank Construction Methods

Construction methods for the water storage tanks would consist of excavation and dewatering for subfloors, foundations, and building pads; preparing formwork and pouring concrete; assembly and installation of tank components and painting/lining of tanks; and final finishing of the tanks and appurtenances. Site grading would be performed to develop a gravel parking lot adjacent to the building. One or more large cranes would be mobilized, used, and demobilized during construction.

2.4.1.7 Pump Station Construction Methods

Construction methods for the pump stations would consist of excavation and dewatering for subfloors, foundations, underground reservoirs and building pads; preparing formwork and pouring concrete; installation of pumps and equipment; and final finishing of the pump station building interior. Site grading would be performed to develop a gravel parking lot adjacent to the building. One or more large cranes would be mobilized, used, and demobilized during construction.

2.4.1.8 Powerline Construction Methods

69 kV Electrical Transmission Line Conventional Construction

Construction of electrical transmission lines would require transport of all grading equipment, drilling equipment, power poles, and spools of transmission wire necessary to construct new or underbuild of these transmission lines. While conventional construction techniques would typically be used, where access, safety or resource protection is a concern, some construction may require the use of helicopters.

Due to distinct types of environmental constraints (e.g., wind, temperature) and seasonal restrictions (e.g., sage grouse habitat), power line construction would occur over several construction years, beginning in year 1.

The transmission line would be strung (i.e., wire would be installed) via linemen from the ground. This construction approach would eliminate the need for road improvements and limit the amount of land disturbance required to install the transmission line. For 69 kV transmission lines, a 100-foot corridor would be cleared of vegetation to allow for construction, operation, and maintenance.

Based on the proposed construction approach for installing the wire (i.e., "pole-to-pole"), separate pulling/tensioning areas are unlikely to be needed. The overall approach would be to utilize wire reels with sufficient wire capacity to string the wires pole-to-pole continuously to the extent of reel capacity. The sag would be accomplished individually pole-to-pole with a relatively small tensioning rig or by aerial assistance. Installing the wire would be sequenced with the drilling operations so that the wire installation can be accomplished after the drilling and backfilling at pole site(s) are completed.

Electrical Distribution Line Construction Methods
Installation of the distribution lines (ranging from 7.7kV to 25kV) would be the same as transmission lines but with single poles. Construction of underground electrical transmission lines would require clearing, grading and excavation prior to placement of conduit containing electrical distribution lines and associated infrastructure (e.g., vaults, communication). After placement, excavated areas would be backfilled and restored to match existing grade. Additional restoration and revegetation may be required by the respective federal, state, local agencies, and private landowners.

2.4.2 Construction Program

2.4.2.1 Construction Schedule and Sequencing
The proposed in-field construction duration for the Proposed Action ranges from 8-10 years. While the durations vary, the sequencing of the construction activities would be similar regardless of the construction period. Construction activities would occur typically five days a week throughout the year for the Proposed Action as seasonal conditions allow; in some instances, this may extend to 10-15 days consecutively.

2.4.2.2 Vegetation Clearing and Removal Methods
Vegetation clearing techniques would include manual (human power) and mechanized. In addition to chainsaws of various sizes, hand tools (e.g., brush hog) may be used to cut vegetation where equipment access is restricted by physical or regulatory requirements (e.g., fire restrictions). When manual techniques are used, the scale of the area requiring clearing would be a key consideration.

Mechanized techniques would be used to clear vegetation dependent on the site conditions (i.e., diameter and density of vegetation, slope, and access). Mechanized equipment used for clearing would include bulldozers and excavators (machines that have the ability to push/pull over trees and scrape vegetation).

2.4.2.3 In-Water Access, Construction Staging Areas, and Temporary Work Areas
As previously described, the Proposed Action would include construction staging areas and temporary work areas (e.g., roads, boat ramp) for staging, storage, and site access during construction. These areas would be connected to existing private drives, county roads and state highways and facilitate transportation to the staging, work, and disposal areas.

Rock Creek North Fork Boat Ramp
The existing two-lane cement boat ramp and adjacent parking area would be used to launch and recover work vessels (e.g., barge, work boat) necessary to transport personnel, materials, and

equipment for in-water construction efforts at the Reservoir Intake and water conveyance system. All materials necessary for construction and installation of the intake would be stored on DRWA-owned land associated with the proposed Fort Peck WTP several miles east of the proposed intake. This facility would initially be used for up to six months during the first year of construction and periodically as needed for maintenance.

Missouri River Intake Sites
Access to each of the Missouri River intake sites (M1, M4, and M8) to perform river work activities would be from the north bank of the river in the proximity of the various sites. Access to the north bank of the river would be from various currently established roads, with the contractor coordinating with landowners for permission to access the area and stage materials and facilitate construction activities, as necessary.

Access to the proposed intake/pump house facilities on the south bank of the river, and at the river sites would be from various established roadways. On private property it is assumed DRWA would either purchase, gain easements, or obtain permits for use of each site.

Construction Staging/Storage Areas
Facilities construction would require the use of a number of staging/storage areas to allow for temporary storage of materials and equipment, contractor and construction management offices, and parking for workers and construction vehicles. As is typical for rural construction, staging areas for the Proposed Action would likely be on private property along pipeline alignments as determined by the contractor. Any use of federal, state or county lands may require site-specific authorization prior to construction. All locations would be finalized during the final design and permitting phase.

On-Site Disposal Areas
Unsuitable or excess material at the intakes, WTP, tanks and pump stations sites would be minimal. The excess material would be spread out on these properties and graded to prevent onsite ponding.

2.4.2.4 Commercial Sources for Construction Materials
No onsite borrow sources would be developed. Mineral materials (e.g., road aggregate, drain rock) would be obtained from commercial sources within and adjacent to the DRWA service area. Concrete would likely be sourced from ready mix plants located within and adjacent to the DRWA service area. Durable construction supplies (e.g., pipe, power poles, pumps) would likely be transported from locations outside the DRWA service area (e.g., Billings, Montana).

2.4.2.5 Water Sources and Facilities During Construction
Various water supply sources or facilities would be used during construction and would most likely be existing federal (i.e., U.S. Army Corps of Engineers), municipal (e.g., DRWA), private or commercial sources or facilities. Dust control would require substantial water quantities and would be needed during the entire construction duration. The major areas requiring dust control are the temporary access roads within the construction corridor. Other construction water needs would vary throughout the construction period, depending on the type of construction activities occurring.

2.4.2.6 Work Force and Equipment

Construction would be phased over an 8-to 10-year period. Work would typically be restricted to daytime weekday hours. Within the DRWA service area, construction would occur essentially year-around. Typically, a crew size would be between 10 and 25 people. Multiple crews could be mobilized at the same time on the various components. Table 2-3 in Appendix B provides a list of equipment that would typically be used to construct various Proposed Action components. While not all types of equipment would be used to construct every component, many of these equipment types (e.g., excavator, dump truck, water truck) would be used on a daily basis.

2.4.2.7 Truck Trips and Haul Routes

Construction activities would lead to increased traffic generation throughout the DRWA service area. These activities would include hauling equipment and material and daily arrival and departure of construction workers. Construction trucks on state highways, county roads and private drives would include dump trucks, concrete trucks, water tankers, and other delivery trucks. Dump trucks and water trucks would be used for import of materials (e.g., road aggregate, common backfill) and water and removal of construction waste. Other trucks would be used to deliver heavy construction equipment, job trailers, concrete forming materials, piping materials, piles, other facility equipment and supplies, and other miscellaneous deliveries. Some deliveries of large construction equipment (e.g., excavators), equipment to be installed at facilities (e.g., pumps, valves), and construction materials (e.g., power poles, pipe) would be transported as over-sized loads.

2.4.2.8 Construction and Implementation Schedule

The construction schedule would be divided into multiple phases. The number of phases required for the Proposed Action to be completed would be dependent on the annual appropriations granted authorized by Congress. Should the annual budget not be sufficient to complete a full phase, a phase may be divided into further subphases. Table 2-4 in Appendix B shows the phasing plan for the Proposed Action with respect to location, construction year and phase.

2.5 Environmental Commitments

Environmental commitments are implemented to avoid, minimize, or monitor environmental effects associated with the Proposed Action. These commitments have been developed in coordination with federal, state, and local agencies. These commitments would be implemented before construction and operation unless otherwise specified. If authorized, DRWA would further identify resources associated with the natural and human environment and development of site-specific measures to minimize, avoid, or mitigate effects during subsequent design and planning efforts. All environmental commitments in the Proposed Action are fully described in Appendix G.

2.6 Alternatives Considered but Eliminated

In 2010, DRWA released an appraisal study that documented formulation of 16 alternative plans to supply water. Two alternatives were reliant on groundwater sources, the remaining 14 relied on surface water from Fort Peck Reservoir or the Missouri River. At that point in the DRWA planning

process, one alternative was carried forward for further review in the 2012 Feasibility Study: Fort Peck Reservoir – Dry Arm – Rock Creek. During the feasibility investigation documented in the DRWA 2012 Feasibility Study, three additional raw water source alternatives were developed:

- Yellowstone River – North of Glendive;
- Groundwater purchase from City of Sidney; and
- Missouri River – South of Culbertson

Ultimately, 19 action alternatives were considered during the feasibility study process. Extensive coordination and consultation with agencies throughout the feasibility investigations to-date resulted in exclusion of the 18 alternatives listed in Table 2-5 in Appendix B due to agency concern or were technically or economically infeasible.[4]

2.7 Summary Comparison of Alternatives

Table 2-6 summarizes the effects of the alternatives on resources evaluated in this EA. Additional detail on the environmental consequences of the alternatives is in the respective sections of Chapter 3.

Table 2-6. Comparison of Alternatives

Resource	No Action	Proposed Action
Vegetation and riparian areas	No adverse effects	Minor adverse effects with mitigation
Fish and wildlife	No adverse effects	Minor adverse effects with mitigation
Climate change	No adverse effects	No adverse effects on greenhouse gas emissions; no adverse effects of climate change on Proposed Action
Hydrology & water quality	No adverse effects	Minor adverse effects
Geology, soils, & paleontology	No adverse effects	Minor adverse effects with mitigation
Cultural resources	No adverse effects	Minor adverse effects with mitigation
Socioeconomics	Minor adverse effects	Beneficial effects
Environmental justice	Minor adverse effects	Beneficial Effects
Land use	No adverse effects	Minor temporary adverse effects of underground waterline on BLM and state lands with mitigation; minor permanent adverse effects of powerlines on BLM and state lands
Visual resources	No adverse effects	Minor adverse effects with mitigation
Recreation	No adverse effects	Minor adverse effects with mitigation
Traffic	No adverse effects	Minor adverse effects with mitigation

[4] A comprehensive discussion of each alternative rejected is provided in the 2012 DRWA Feasibility Report, specifically Section 4.7 (Alternatives considered but eliminated).

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the existing conditions of the physical, biological, cultural, and socioeconomic resources that have the potential to be affected by activities related to the Proposed Action and the No Action Alternative described in Chapter 2. Project-specific and cumulative effects on resources are evaluated within the Project study area, as defined in this section.

3.1.1 Resources

To comply with NEPA, Reclamation is required to address specific elements of the environment that are subject to requirements specified in statutes, regulations, or by Executive Order. Table 3.1-1 lists the resources considered in this EA, and either the corresponding section of the EA where each resource is discussed or a rationale as to why it was excluded from analysis. The analysis for each resource analyzed in the EA are detailed in resource-specific sections of Chapter 3. Appendix C provides a comprehensive discussion of the regulatory environment applicable to the resource discussed in this EA.

3.1.2 Cumulative Effects

Cumulative effects are effects on the environment that result from the incremental effects of the Proposed Action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) undertakes such other actions.

Consultation with federal, state, and local agencies with jurisdiction throughout the DRWA service area did not identify any federal or state projects for consideration in this section. DRWA is designing a new project extension in Richland County titled *Highway 200W Project*. This project would use the City of Sidney as an interim source to provide high-quality, potable drinking water to the residents along Highway 200, west of Sidney. There are 58 connections signed up for service, including a new 30-lot subdivision.

The *Highway 200W Project* comprises installing new pumps within DRWA's existing booster station, upgrading DRWA's existing generator, and expanding DRWA's existing water system to extend nearly 7.5 miles of water main line, 6.0 miles of water lateral lines, and 2.75 miles of water service lines. Construction of the project is scheduled to begin as early as Fall 2024 and will be complete by Fall 2026. Cumulative effects of the Proposed Action added to effects of DRWA's pending *Highway 200W Project* will be independently analyzed for each of the resource sections discussed in this chapter.

Table 3.1-1. Resources Considered for Inclusion in Environmental Assessment

Resource	Not Present	Present/ Not Affected	Present/ Potentially Affected	Assessed in this EA	Rationale or Analysis Section
Air Quality			X	No	Resource not affected or effects would be negligible
Areas of Critical Environmental Concern	X			No	Not present in or near the Project study area
Bald and Golden Eagles			X	Yes	Refer to Section 3.3
Climate Change			X	Yes	Refer to Section 3.4
Cultural Resources			X	Yes	Refer to Section 3.7
Environmental Justice			X	Yes	Refer to Section 3.9
Floodplains			X	Yes	Refer to Section 3.5
General Fish and Wildlife			X	Yes	Refer to Section 3.3
Geology			X	Yes	Refer to Section 3.6
Grazing		X		No	Resource not affected or effects would be negligible
Hazardous Materials	X				Not present in or near the Project study area
Historic Trails			X	Yes	Refer to Section 3.7, 3.12
Indian Trust Assets		X		No	Resource not affected or effects would be negligible
Land Use			X	Yes	Refer to Section 3.10
Migratory Birds			X	Yes	Refer to Section 3.3
Minerals		X		No	Resource not affected or effects would be negligible
Noise			X	No	Resource not affected or effects would be negligible
Noxious Weeds/Invasive, Non-native Species			X	Yes	Refer to Section 3.2
Paleontological Resources			X	Yes	Refer to Section 3.6
Prime or Unique Farmlands and Farmland of Statewide Importance			X	Yes	Refer to Section 3.6
Public Services and Utilities			X	No	Resource not affected or effects would be negligible
Recreation			X	Yes	Refer to Section 3.12

Resource	Not Present	Present/ Not Affected	Present/ Potentially Affected	Assessed in this EA	Rationale or Analysis Section
Riparian/Wetlands			X	Yes	Refer to Section 3.2
Socioeconomics			X	Yes	Refer to Section 3.8
Soils			X	Yes	Refer to Section 3.6
Special-Status Species			X	Yes	Refer to Section 3.2, 3.3
Traffic			X	Yes	Refer to Section 3.13
Vegetation			X	Yes	Refer to Section 3.2
Visual Resources			X	Yes	Refer to Section 3.11
Water Quality and Quantity			X	Yes	Refer to Section 3.5
Wild and Scenic Rivers	X			No	Not present in or near the Project study area
Wilderness	X			No	Not present in or near the Project study area

3.2 Vegetation and Riparian Areas

3.2.1 Affected Environment

The affected environment in the DRWA service area specific to the Proposed Action in northeastern Montana includes 30 general vegetation communities, 12 invasive and noxious weeds, 6 aquatic and wetland habitat types, and 6 special-status plants within the Project study area. The riparian and wetland habitats include approximately 255 acres within the Project study area.[5]

3.2.1.1 Vegetation Communities

The Project study area includes a diversity of vegetation communities common to eastern Montana and the Upper Great Plains region. These vegetation communities support a wide variety of native plant and wildlife species. Acreages of vegetation communities within the Project study area are provided in Table 3.2-1. Aside from agricultural lands, grasslands and sagebrush are the dominate vegetation communities and are described below. A brief description of each community is provided in Appendix H.

Altered Herbaceous

This vegetation community includes grasslands with 30 percent or more cover from the dominant species list. Total herbaceous cover ranges from 20-80 percent. It is typically associated with disturbed lands and can have bare soil coverages from 10-50 percent. Dominant species include bull thistle (*Cirsium vulgare*), Canada thistle (*Cirsium arvense*), cheat grass (*Bromus tectorum*), common dandelion (*Taraxacum officinaie*), crested wheatgrass (*Agropyron cristatum)*, Japanese brome (*Bromus japonicus)*, leafy spurge (*Euphorbia esula*), smooth brome (*Bromus inermis*), spotted knapweed (*Centaurea maculosa*), St. John's-wort (*Hypericum performatum*), western ragweed (*Ambrosia* spp.), and yellow sweet-clover (*Melilotus officinatis*). It occurs across the state in low and high elevation areas.

Low/Moderate Cover Grasslands

Low to moderate cover grasslands have total grass cover from 20-70 percent. It includes rangelands and non-irrigated pastures. It is dominated by short to medium height grasses and forbs, including arrowleaf balsamroot (*Balsamorhiza sagittata*), bluebunch wheatgrass (*Agropyron spictatum*), blue grama (*Bouteloua gracilis*), bluestem (*Andropogon* spp.), sedges (*Carex* spp.), green needlegrass (*Stipa viridula*), Idaho fescue (*Festuca idahoensis*), lupine (*Lupinus* spp.), needle-and-thread (*Stipa comata*), rough fescue (*Festuca scabrella*), Timothy (*Poa pratensis*), and western wheatgrass (*Agropyron smithii*). It occurs across the state in valleys and foothills, and on middle to high elevation mountain slopes on south-facing aspects.

Moderate/High Cover Grasslands

Moderate to high cover grasslands have total grass cover from 50-100 percent. It is dominated by medium-to-tall grasses in prairie areas. Dominant species include bluebunch wheatgrass (*Agropyron spictatum*), big bluestem (*Andropogon gerardii*), sedges (*Carex* spp.), green needlegrass (*Stipa viridula*), Indian grass (*Sorghum nutans*), little bluestem (*Andropogon scoparium*), needle-and-thread (*Stipa comata*), prairie sandreed (*Calamovilfa longifolia*), switchgrass (*Panicum virgotum*), Timothy (*Poa pratensis*), and

[5] Existing data from USGS and other published sources was used to estimate potential jurisdictional waters of the US and state; no aquatic resource delineation has been prepared for the Project study area.

western wheatgrass (*Agropyron smithii*). It is associated with wet sites and occurs primarily in central and eastern Montana valleys.

Sagebrush

Sagebrush habitat comprises shrublands dominated by sagebrush (*Artemisia* spp.) with 20-80 percent cover. Dominant sage species include basin big sagebrush (*Artemisia tridentata*), black sagebrush (*Artemisia nova*), mountain big sage (*Artemisia vaseyana*), and Wyoming big sage (*Artemisia wyomingensis*). Associated grass and forb species include bluebunch wheatgrass (*Agropyron spictatum*), blue gamma (*Andropogon gracilis*), Idaho fescue (*Festuca idahoensis*), and western wheatgrass (*Agropyron smithii*). It occurs across the state, primarily in valleys. Occasionally it occurs on low-mid elevation mountain slopes.

Table 3.2-1. Vegetation Communities Within the Project Study Area

Vegetation Communities	Area (acres)
Agricultural Lands - Dry	6,247
Agricultural Lands - Irrigated	987
Altered Herbaceous	926
Badlands	102
Broadleaf Riparian	149
Conifer Riparian	14
Graminoid and Forb Riparian	486
Limber Pine	60
Low Density Xeric Forest	14
Low/Moderate Cover Grasslands	5,822
Mesic Shrub-Grassland Associations	260
Mixed Barren Sites	9
Mixed Broadleaf and Conifer Forest	2
Mixed Broadleaf and Conifer Riparian	16
Mixed Broadleaf Forest	176
Mixed Mesic Shrubs	318
Mixed Riparian	41
Mixed Xeric Shrubs	112
Moderate/High Cover Grasslands	915
Ponderosa Pine	26
Rock	12
Rocky Mountain Juniper	133
Sagebrush	620
Salt-Desert Shrub/Dry Salt Flats	27
Shrub Riparian	162
Silver Sage	152
Urban or Developed Lands	84
Very Low Cover Grasslands	192
Water	69
Xeric Shrub-Grassland Associations	57
Total Acres	**18,189**

3.2.1.2 Invasive and Noxious Weeds

Invasive and noxious weeds have a destructive effect on Montana's landscape by displacing native plant species, increasing soil erosion, and decreasing wildlife habitat and recreation opportunities (MNHP 2024). The Montana Department of Agriculture oversees Montana's Noxious Weed List and designates species into an appropriate management prioritization category. Invasive plants are a potential threat to native plants and their associated habitats. Invasive and noxious weeds potentially found in the DRWA service area include both Priority 1 Weeds Not Present or Having Limited Presence in Montana) and Priority 2 (Weeds Common in Isolated Areas of Montana or Are Not Abundant in Many Counties) species. Brief descriptions of invasive and noxious weeds potentially occurring in the DRWA service area are provided in Appendix H.

3.2.1.3 Wetlands and Riparian Areas

The DRWA service area includes wetlands and riparian areas that may be subject to jurisdiction as Waters of the U.S. regulated by the CWA. Potential types and total areas/linear miles of wetlands and riparian areas in the Project study area are listed in Table 3.2-2. The total area covered by wetlands and riparian areas was based on desktop analysis of data obtained from the National Wetlands Website (USFWS 2024).[6]

Table 3.2-2. Wetlands and Riparian Areas Within the Project Study Area

Wetland Category	Total Area or Distance
Fresh Emergent Wetland	100 acres
Freshwater Forested Wetland	<1 acre
Freshwater Ponds	19 acres
Lakes	25 acres
Riverine Environment	246 acres
Intermittent Creeks	24 miles

3.2.1.4 Special-Status Plants

Montana Species of Concern are native taxa that are at risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. Montana Species of Concern occurring within the DRWA service area include painted milkvetch (*Astragalus ceramicus var. filifolius*), American bittersweet (*Celastrus scandens*), silky prairie clover (*Dalea villosa*), pale-spiked lobelia (*Lobelia spicata*), bractless blazingstar (*Mentzelia nuda*), and prairie goldenrod (*Solidago ptarmicoides*). Further detail on these species is in Appendix H.

3.2.2 Environmental Consequences

3.2.2.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed, and the existing vegetation and waters would be undisturbed. No project-specific effects to vegetation or wetlands would occur.

[6] A comprehensive delineation encompassing the entire Project study area has not been performed in support of this EA.

3.2.2.2 Proposed Action

Vegetation Communities

Temporary and permanent effects to vegetation communities are provided in Table 3.2-3. Vegetation communities would be permanently affected owing to construction of aboveground facilities such as pumping plants, water treatment plants, water storage tanks, transmission line towers, permanent access roads, and an electrical substation. Temporary effects to vegetation communities would occur during the construction of linear water pipeline infrastructure, buried electrical distribution lines and temporary access roads. The environmental commitments, including those specific to lands administered by BLM, would minimize or avoid potential minor adverse effects on vegetation communities.

Table 3.2-3. Effect to Vegetation Communities

Vegetation Communities	Temporary Effects (acres)	Permanent Effects (acres)
Agricultural Lands - Dry	6,171.25	73.30
Agricultural Lands - Irrigated	948.50	38.56
Altered Herbaceous	908.04	17.73
Badlands	90.83	10.82
Broadleaf Riparian	117.60	31.15
Conifer Riparian	14.00	0.00
Graminoid and Forb Riparian	474.62	11.11
Limber Pine	59.99	0.00
Low Density Xeric Forest	13.90	0.00
Low/Moderate Cover Grasslands	5,594.96	199.71
Mesic Shrub-Grassland Associations	228.16	31.69
Mixed Barren Sites	8.68	0.00
Mixed Broadleaf and Conifer Forest	2.21	15.93
Mixed Broadleaf Forest	145.67	30.51
Mixed Mesic Shrubs	288.23	29.36
Mixed Riparian	31.06	10.03
Mixed Xeric Shrubs	111.96	0.00
Moderate/High Cover Grasslands	870.71	38.26
Ponderosa Pine	26.49	0.00
Rock	11.79	0.00
Rocky Mountain Juniper	97.74	35.62
Sagebrush	557.16	55.77
Salt-Desert Shrub/Dry Salt Flats	21.86	5.50
Shrub Riparian	132.03	29.65
Silver Sage	152.01	0.00
Urban or Developed Lands	84.06	0.00
Very Low Cover Grasslands	141.81	49.61
Water	11.49	57.51
Xeric Shrub-Grassland Associations	46.67	10.01
Total	**17,363.48**	**781.82**

Invasive and Noxious Weeds

The Proposed Action has the potential to spread invasive and noxious weeds by creating disturbed soils favored by invasive weeds, and by introducing their seeds to disturbed areas by inadvertently spreading weed seeds and rhizomes into areas not previously infested. The environmental commitments, including those specific to lands administered by BLM, would minimize or avoid potential minor adverse effects related to the spread of invasive and noxious weeds.

Wetlands and Riparian Areas

Temporary and permanent effects to wetlands and riparian areas are provided in Table 3.2-4. Temporary effects would be those associated with construction of proposed water line and electrical lines. Permanent effects would be associated with construction of permanent aboveground facilities (e.g., WTP, pump stations).

Table 3.2-4. Preliminary Effects to Wetlands and Riparian Areas

Wetland Category	Temporary Effects (Acres)	Permanent Effects (Acres)
Fresh Emergent Wetland	87.92	12.05
Freshwater Forested Wetland	0.34	0.00
Freshwater Ponds	19.16	0.00
Lakes	0.45	25.04
Riverine Environment	138.94	107.27
Intermittent Creeks	27.77	0.77
Totals	**274.58**	**145.14**

Construction activities would have minor to moderate short-term and temporary effects to wetlands and riparian areas associated with construction of intakes in Fort Peck Reservoir or up to three locations in the Missouri River downstream. Intake construction in the Missouri River would require temporary use of a coffer dam but would not permanently modify the overall cross section of the riverbed. Water used for construction purposes along the alignment of the pipelines and electrical lines would be provided by DRWA under its existing water right or from local public and private groundwater sources throughout the DRWA service area. As described in Appendix G, the environmental commitments, including those specific to lands administered by the BLM, would be implemented to avoid and/or minimize effects of the Proposed Action, including applicable permits necessary to comply with the Clean Water Act and MDEQ requirements.

As described in Chapter 2, all proposed intake conveyance facilities would be constructed using HDD technology. The intake screen would be permanently installed within each water body. All drilling fluids would be circulated to a collection point associated with the HDD entry point, and geotechnical data would be used to develop a contingency plan to prevent frac out of drilling fluids during HDD efforts. All drilling fluids would be captured and disposed of at an approved off-site location consistent with applicable permit requirements.

The Proposed Action's linear components would have minor to moderate temporary adverse effects to potential jurisdictional waters within and/or close to the Project study area. While the

environmental commitments introduced in Chapter 2, like documented delineation, sediment control measures, and use of HDD technology, are intended to avoid or minimize effects, Mitigation Measure BIO-1 has been developed to further reduce potential effects and ensure compliance with Section 404 of the Clean Water Act.

Special-Status Plants

Construction of proposed components would involve actions such as vegetation clearing, soil excavation, piling of soil materials, and increased vehicle, equipment, and human traffic, which could result in losses of individual special-status plants and degradation of habitat. Effects may include increased erosion, dust deposition, and spread of invasive species and noxious weeds. Indirect effects as a result of soil disturbance and vegetation removal increases the potential for colonization of invasive species and noxious weeds, as previously discussed, which could affect special status plants and habitats through competition and increased fire regimes.

Drift of herbicides associated with treatment of noxious weeds within the ROWs may inadvertently cause mortality to special status plants. Increased access on new and existing access roads could result in dust deposition, which could inhibit photosynthesis, reproductive ability, and various metabolic processes for individual plants. Increased access in the ROWs could increase potential for illegal collection of commercially desirable special status plants. Effects would be temporary and minor during construction after implementation of environmental commitments in Appendix G and mitigation described below.

3.2.2.3 Mitigation

The following mitigation measures, in addition to the environmental commitments described in Appendix G, are designed to avoid or minimize potential effects on vegetation communities, riparian areas, and spread of invasive and noxious weeds because of Proposed Action construction activities.

Mitigation Measure BIO-1 Wetland and Riparian Areas Effects.

If wetlands or riparian areas cannot be fully avoided, the following measures shall be implemented to minimize effects:

a. For jurisdictional aquatic resources, DRWA shall work with the USACE to obtain authorization under Section 404 of the Clean Water Act for wetland impacts.

b. Construction activities within wetlands or riparian areas shall be performed during the dry season, typically defined as between July 1 through October 15.

c. All construction in and near wetlands or waters shall utilize temporary matting or other protection measures (e.g., rig mats, timber roads, plating, or tracked vehicles [preferably rubber tracked]) to avoid soil compaction or mixing.

d. All affected wetlands or waters shall be restored consistent with any federal, state, or local permit requirements.

Mitigation Measure BIO-2 Avoid and Minimize Effects on Special-Status Plants

a) If special-status plant populations cannot be avoided, mitigation measures may include transplanting perennial species, seed collection and dispersal for annual species, and other

conservation strategies that would protect the viability of the local population. If these mitigation measures are implemented, monitoring of plant populations would be conducted annually for 5 years to assess effectiveness. The performance standard for the mitigation would be no net reduction in the size or viability of the local population.

3.2.3 Cumulative Effects

There are no cumulative effects for vegetation, invasive and noxious weeds, or riparian resources under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.

3.3 Fish and Wildlife

3.3.1 Affected Environment

The fish and wildlife species present in the Project study area are representative of species found within the Northwestern Great Plains Ecoregion. Habitats supporting terrestrial, avian, and aquatic wildlife habitat are described in the Vegetation and Riparian Areas Resources section and Hydrology and Water Quality sections of this EA.

3.3.1.1 Fish

Typical fish species in the Missouri River, Yellowstone River, and smaller streams like Big Dry Creek include walleye (*Sander vitreus*), brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), smallmouth bass (*Micropterus dolomieu*) and channel catfish (*Ictalurus punctatus*). Other sport fish, often occurring in Fort Peck Reservoir or the larger rivers, include northern pike (*Esox lucius*), lake trout (*Salvelinus namaycush*), shovelnose sturgeon (*Sacphirhynchus platorynchus*), sauger (*Stizostedion canadense*), Chinook salmon (*Oncorhynchus tshawytscha*), and burbot (*Lota lota*).

3.3.1.2 Wildlife

This region offers a wide variety of both game and nongame species, including many migratory birds and raptors. Typical mammal species include mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), black-tailed prairie dog (*Cynomys ludovicianus*), badger (*Taxidea taxus*), and mountain cottontail (*Sylvilagus nuttallii*). Mule deer are the most abundant game species throughout the Project study area. Rocky Mountain elk (*Cervus elaphus*) are native to the Fort Peck Reservoir area, although current populations occur west and north of Project study area (USACE 2008).

Typical bird species include black-billed magpie (*Pica hudsonia*), American kestrel (*Falco sparverius*), common raven (*Corvus corax*), sharp-tailed grouse (*Tympanuchus phasianellus*), and mourning dove (*Zenaida macroura*). Typical reptile species include gopher snake (*Pituophis catenifer*), Plains garter snake. (*Thamnophis radix*), prairie rattlesnake (*Crotalus viridis viridis*) and sagebrush lizard (*Sceloporus graciosus graciosus*). Typical amphibians include Great Plains toad (*Bufo cognatus*), plains spadefoot toad (*Spea bombifrons*), Woodhouse's toad, (*Bufo woodhousii*), and tiger salamander (*Ambystoma tigrinum*).

3.3.1.3 Endangered Species Act Listed Species

An endangered species is any species that is in danger of extinction throughout all or a substantial part of its range. A threatened species is any species that is likely to become an endangered species in the foreseeable future throughout all or a substantial part of its range. Species with status under the ESA named for this analysis (Table 3.3-1) were derived from online reviews and an updated Threatened and Endangered Species List for the Project study area requested from USFWS on July 15, 2024. Additional details on ESA species is in Table 3.3-2 in Appendix B.

Table 3.3-1. Threatened and Endangered Species List in DRWA Service Area

Species Name	Endangered Species Act Status	Potential Occurrence in DRWA Service Area
northern long-eared bat *Myotis septentrionalis*	endangered	Missouri River corridor
whooping crane *Grus americana*	endangered	western areas
pallid sturgeon *Scaphirhynchus albus*	endangered	Missouri and Yellowstone rivers
rufa red knot *Calidris canutus rufa*	threatened	exceedingly rare throughout
piping plover *Charadrius melodus*	threatened	northern areas (breeding)
paddlefish *Polyodon spathula*	candidate	Missouri and Yellowstone rivers
monarch butterfly *Danaus plexippus*	candidate	Missouri and Yellowstone river corridors

3.3.1.4 Bald and Golden Eagles

The bald eagle and golden eagle are protected under the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668c). This act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." In addition to immediate impacts, this definition also covers effects that result from human-induced alterations initiated around a previously used nest site, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment. No nests of either eagle species have been observed directly in the Project study area, although the eagles are known to nest in the vicinity of the Project study area, particularly along the Big Dry Creek arm of Fort Peck Reservoir, along Highway 24 and Highway 200 near the Big Dry Creek arm, and along the Yellowstone River. Project -specific surveys have not been conducted within the Project study area.

3.3.1.5 Migratory Birds

The Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. 703-712) implements treaties between the U.S. and Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of migratory bird species. The MBTA prohibits the take

(including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by USFWS. Birds protected under the MBTA in the DRWA Service Area are listed in Table 3.3-2 in Appendix B.

3.3.1.6 BLM Special Status Species

BLM special-status species are native plant and wildlife species that could occur on BLM-administered lands based on habitat characteristics or have historic or suitable but unoccupied habitat on BLM-administered lands. They must be one of the following criteria:

- Endangered Species Act endangered, threatened, candidate, or proposed
- BLM sensitive species requiring special management to avoid future listing under the Endangered Species Act

Special-status fish and wildlife species are listed in Table 3.3-2 in Appendix B. A few species are discussed below, and further detail on all species is in Appendix H.

Greater Sage Grouse (*Centrocercus urophasianu* s)

Greater sage grouse is loosely associated with sagebrush habitat types and especially prevalent in the western portions of the DRWA service area. Adapted to a broad mosaic throughout range, including tall sagebrush, low sagebrush, forb-rich mosaics with low and tall sagebrush, riparian meadows, steppe, scrub willow, and sagebrush savanna (with juniper, ponderosa pine, aspen). Leks in Montana are often in clearings surrounded by sagebrush, including natural clearings, old burns, and clearings around abandoned homesteads. In Montana, males gather at leks March to May, with up to 80 or more males attending a lek. Females visit one or more leks, beginning a week or more after males arrive, with as many as 115 visiting a lek at one time.

Mating occurs primarily from early April to late May, with most copulations occurring only slightly before sunrise to an hour or two after sunrise. Nests are generally located between 2.5 km to 6 km of leks (about 1.5 to 3.75 mi). Hens brood eggs for approximately one month, and chicks fledge within about two weeks. In Montana, new activities proposed in greater sage-grouse habitats designated as core, general, or connectivity habitats must undergo review by the DNRC's Montana Sage Grouse Project Submittal Site to estimate potential effects. "Seasonal use timeframe" (SUT) is the sage grouse breeding, nesting, and early brood-rearing period from March 15 to July 15.

There are four types of buffer zones prescribed by the State of Montana for the preservation of greater sage grouse leks.

- Lek No Surface Occupancy Area (0.6 mi around lek boundaries in Core Habitat)
- Lek No Surface Occupancy Area (0.25 mi around lek boundaries in General Habitat)
- 4-Mile Buffer Zone around lek boundaries in Core Habitat
- 2-Mile Buffer Zone around lek boundaries in General Habitat

The No Surface Occupancy (NSO) areas are the most sensitive areas. Buried infrastructure may be installed within the NSO areas for leks if construction/installation occurs:

- outside of the SUT (before March 15 and after July 15), and
- no above-ground infrastructure remains.

Sprague's Pipit (*Anthus spragueii*)
Although population trends in Montana appear to be relatively stable in recent years, populations have been in decline over the long run and the species faces threats from habitat conversion, overgrazing, exotic plant invasions, altered fire regimes, and mowing prior to fledging of young. In 2016, USFWS determined that listing the Sprague's pipit as an endangered or threatened species was not warranted throughout all or a significant portion of its range and removed the species from candidate status.

Baird's Sparrow (*Centronyx bairdii*)
Baird's sparrows prefer to nest in native prairie, but structure may ultimately be more important than plant species composition. Evidence of breeding in the DRWA service area is scant. This sparrow has also been found to use drier areas during unusually wet years, and wet areas during unusually dry years. Because a relatively complex structure is so important for nesting, areas with little to no grazing activity are required. Management recommendations specific to the Baird's sparrow in Montana include preservation of remaining native grassland habitat; prescription burning of areas to prevent encroachment by woody vegetation; delayed mowing until mid-July or August (later, rather than sooner, if spring weather has been adverse); light grazing; and maintaining vegetative diversity. Management priorities should include securing scattered patches of forbs and grasses of various heights in areas of grassland large enough to support many nesting territories.

3.3.1.7 State of Montana Species of Concern
Montana Species of Concern are native taxa that are at risk due to declining population trends, threats to their habitats, restricted distribution, and/or other factors. Species of Concern are defined as vertebrate animals with a state rank of S1, S2, or S3 (See Key under Table 3.3-2 in Appendix B for definitions). Because documentation for invertebrates is typically less complete than for vertebrates, only those ranked S1 or S2 are included as Species of Concern. The special-status fish and wildlife species presented in Table 3.3-2 in Appendix B are further described in Appendix H.

3.3.2 Environmental Consequences

3.3.2.1 No Action Alternative
Under the No Action Alternative, the Proposed Action would not be constructed, and existing fish and wildlife or habitat would not be affected by proposed ground-disturbing activities or proposed transmission lines. No direct or indirect effects related to special-status fish and wildlife would occur.

3.3.2.2 Proposed Action

Special-status species that potentially occur in the Project study area could be susceptible to permanent, long-term and temporary, short-term minor to moderate adverse effects from the proposed construction, operations and decommissioning of the Proposed Action.

Fish

Construction of intakes would have similar effects on general fish populations and habitat as those described below for federally-listed species. Construction of linear components would affect streams within and/or close to the Project study area. The environmental commitments introduced in Chapter 2, like documented delineation, sediment control measures, and use of HDD technology, are intended to avoid or minimize effects, and Mitigation Measure BIO-1, described in the Vegetation and Riparian Areas section of this EA, would further reduce potential effects on fish habitat.

Wildlife

Land disturbance activities associated with the Proposed Action would occur within the 50-foot-wide construction easement width on either side of the proposed trench for pipeline installation. Most of the pipeline construction and installation activities would occur within or immediately adjacent to state and county ROWs. These areas are adjacent to roads and receive regular physical and noise disturbance due to traffic and road maintenance activities. The distribution of wildlife is low within these areas relative to the region.

Construction activities would temporarily displace wildlife present in the immediate area of the activities, like mule deer or sharp-tailed grouse. Disturbance and associated displacement would be temporary and disturbed areas would be reclaimed and reseeded upon completion of construction and installation. Any wildlife displaced during the pipeline installation phase would resume to normal activities upon completion of the activities.

Endangered Species Act Listed Species

Prior to construction of the Proposed Action, Reclamation would complete Section 7 ESA consultation with the USFWS to analyze the effects of the Proposed Action on all federally-listed species. Additional requirements and mitigation than what is proposed in this EA may be necessary based on the outcome of that consultation.

Federally-Listed Fish

The proposed action would install intake structures into the Fort Peck Reservoir or downstream into the Missouri River. If the intake is installed in Fort Peck Reservoir it would be a sloped tube intake and would require minimal disturbance to the reservoir. The casing pipe of the intake would be installed primarily via directional drilling. The only anticipated disturbance to the reservoir during construction would be from when the drilling daylights in the sidewall of the reservoir and during screen installation, which may release negligible amounts of sediment to the reservoir. No major excavations in the reservoir or the shoreline would be necessary and effects during construction on federally-listed fish would be negligible.

During operations, the Reservoir Intake would divert up to 332.5 acre-feet per month on average from Fort Peck Reservoir or the Missouri River (in the case of the satellite intakes). Diversions at the satellite intakes on the Missouri River (MI-1, MI-4, MI-8) would result in storage or release from Fort Peck Reservoir being minimally adjusted as necessary to reflect the overall use of water under the DRWA's water right. These diversions would not result in adverse effects to either the reservoir or the river downstream. The Environmental Assessment for Routine Actions with Limited Environmental Impact (DRNC 2013) concluded that there would be no significant effect to Fort Peck Reservoir's levels due to use of the water right.

For the proposed river intakes, it is anticipated that coffer dam installation and construction activities would occur during low-flow river conditions. Given the uncertainty of releases with respect to pallid sturgeon spawning timeframes (April 15 through June), in-river work would require consideration of both hydrologic and biologic resources. Intake construction in the Missouri River would not permanently modify the overall cross section of the riverbed.

Screens would be placed on all intakes. Any river intake screen centerline would be about 3 feet above the channel bed, reducing the chances of entraining free embryo and larval pallid sturgeon. Although the screen would be elevated off the channel bed, there is still a chance pallid sturgeon would become entrained in the pump. Entrainment monitoring would likely need to take place during the first couple of years to determine levels of entrainment. Screens would be designed to prevent fish entrainment and impingement to the extent practicable. Effects to federally-listed fish would be minor with implementation of fish screens and other environmental commitments listed in Appendix G.

Federally-Listed Wildlife

Direct effects to federally-listed wildlife could occur from habitat disturbance as a result of cutting, clearing, and removal of vegetation, which would reduce the amount of cover, nesting, and foraging habitat available to species directly within the ROWs. Pipeline trenching during construction may cause temporary barriers to species moving through an area that are unable to cross the trench during construction; however, this situation would be short term and localized within the ROWs. Construction effects along linear features would be short term, and most habitats within the ROWs are expected to return to preconstruction conditions following restoration.

Dust generated from construction and use of unpaved access roads may affect plants valuable to sensitive species. The use of herbicides to control noxious and invasive species within the ROW could affect sensitive species from contact with or ingestion of treated materials. Noise could have a short-term effect during clearing and grading of the ROWs, during construction, cleanup, and restoration activities, and during O&M activities. Construction at stream crossings would alter channel hydrology and disturb existing aquatic habitat, although most stream crossings would be bored under to avoid effects.

Direct effects to birds during operation of electric lines include risk of mortality and injury from in-flight collision and electrocution with transmission lines, which would be minimized with incorporation of Avian Power Line Interaction Committee guidelines per the environmental commitments (described below under Bald and Golden Eagles).

Prior to construction, surveys would be conducted for federally-listed wildlife in the Project study area. If species are detected, then timing and methods of construction would be adjusted, as described in the environmental commitments in Appendix G and mitigation described below for sensitive species. Effects to federally-listed wildlife would be minor.

Bald and Golden Eagles

Collisions with and electrocutions from high voltage powerlines could be a threat to golden and bald eagles. Direct effects to birds during operation of electric lines include risk of mortality and injury from in-flight collision and electrocution with transmission lines, which would be minimized with incorporation of Avian Power Line Interaction Committee guidelines per the environmental commitments. These guidelines include providing minimum separation or isolation between phase conductors and grounded hardware (or added insulation where isolation is not possible) to limit electrocution risk. Measures would include providing safer landing places or measures to discourage perching. Effects would be minor after implementation of additional environmental commitments in Appendix G. These commitments include the following:

- Prior to each construction season, the pipeline route would be surveyed for the presence of bald and golden eagles. The surveyor would be provided a current list of all known nests.
- To avoid potential disturbance of occupied eagle nests during construction, the U.S. Fish and Wildlife Service recommends avoiding construction activities between January 1 and August15 (or until eaglets have fledged the nest and left the immediate area or the nest has failed). The actual buffer for each nest would be selected based on site-specific conditions, including history, demonstrated tolerance, screening, topography, etc.
- Permanent development changes or habitat alterations within 2-miles of an active nest must be coordinated with the U.S. Fish and Wildlife Service and Reclamation. This may require design changes, or mitigation.

Migratory Birds

Direct effects to migratory birds would be similar to those described above in the Endangered Species Act Listed Species section. Effects would be minor with implementation of environmental commitments in Appendix G and mitigation described below for sensitive species.

BLM Special Status Species

Greater Sage Grouse

In Montana, new activities proposed in greater sage grouse habitats designated as core, general, or connectivity habitats must undergo review by the DNRC's Montana Sage Grouse Project Submittal Site to estimate potential effects. That review process is underway for the Proposed Action as both "Core Habitat" and "General Habitat" for this species occurs within some portions of the Project study area. The proposed electric transmission lines would traverse 29.14 miles of Core Habitat and 28.20 miles of General Habitat. The proposed electric distribution lines would traverse 13.97 miles of Core Habitat and 17.17 miles of General Habitat. There are 32 leks potentially affected by the

Proposed Action owing to encroachment into lek buffer zones. Of those 32 leks, four No Surface Occupancy Zones are potentially affected by the Proposed Action.

Direct effects to birds during operation of electric lines include risk of mortality and injury from in-flight collision and electrocution with transmission lines, which would be minimized with incorporation of Avian Power Line Interaction Committee guidelines per the environmental commitments (described above under Bald and Golden Eagles).

Effects to greater sage grouse would be minor following the mitigation measure described below, which are designed to avoid or minimize potential effects.

Other Species

Direct effects to other BLM special status species would be similar to those described above in the Endangered Species Act Listed Species section. Effects would be minor with implementation of environmental commitments in Appendix G and mitigation described below for sensitive species.

State of Montana Species of Concern

Direct effects to other Montana Species of Concern would be similar to those described above in the Endangered Species Act Listed Species section and the BLM Special Status Species section. Effects would be minor with implementation of environmental commitments in Appendix G and mitigation described below for sensitive species.

3.3.2.3 Mitigation

The following mitigation measures are designed to avoid or minimize potential the Proposed Action's effects on special-status wildlife species in the Project study area after implementation of environmental commitments in Appendix G.

Mitigation Measure BIO-3 Avoid and Minimize Effects on Special-Status Wildlife

a) Within one year prior to the commencement of ground-disturbing activities, habitat assessment surveys for the special-status wildlife shall be conducted by qualified wildlife and fisheries biologists, at the appropriate times of year when the target species would be identifiable.

b) Wildlife biologists shall conduct pre-construction nesting bird surveys during the nesting season (January 1 to September 30) within 100 feet of the construction workspaces for non-raptors and within 0.5 mile for raptors. Pre-construction nest surveys for non-raptors will be valid for one week, and surveys for raptors will be valid for the full season if conducted after May 1. Biological monitors shall establish exclusionary buffers, in which no activity will be allowed around active nests until young have fledged or it has been determined that the nest has failed. Buffer zones will be 100 feet for non-raptors, 0.25 mile for raptors, and 1 mile for bald eagles and golden eagles. In addition, no vegetation clearing will be allowed within 250 feet of an active non-raptor nest. Construction activities will not be prohibited within the exclusionary buffer until the nest has fledged or failed. To the extent possible, work will be scheduled during the non-breeding season or in construction areas that lack active nests. Any deviation from these mitigations for nesting birds, such as allowing construction within a buffer zone when young appear ready to fledge and risk of abandonment is minimal, shall require approval from agency biologists.

Mitigation Measure BIO-4 Avoid and Minimize Effects on Greater Sage Grouse

a) "Seasonal use timeframe" (SUT) is the sage grouse breeding, nesting, and early brood-rearing period from March 15 to July 15. For No Surface Occupancy (NSO) areas, buried components such as pipelines are permitted with no mitigation if installed outside of the SUT and no aboveground infrastructure remains after installation. If installed during the SUT period, the effects would be included as a multiplier in the Habitat Quantification Tool (HQT) mitigation calculation.

b) Overhead transmission lines would constitute "surface occupancy" within NSO areas, even if installed outside of the SUT, and would be included as a long-term (50-year) multiplier in the HTQ mitigation calculation. Transmission lines would be rerouted around the four NSO areas to the greatest extent practicable.

c) Lek buffers entail 4-mile radii for leks in Core Habitat, and 2-mile radii for leks in General Habitat. The HQT tool would assess multipliers for each lek buffer encroachment during both construction and operation. Operation effect multipliers would include long-term encroachment of transmission lines in buffer zones.

d) The output of the HQT tool calculation would determine the mitigation costs for effects to NSOs, Core Habitat, and General Habitat. The design and raw HQT score may be later readjusted to reduce the Proposed Action's effects to greater sage grouse habitat and reduce mitigation costs.

3.3.3 Cumulative Effects

There are no cumulative effects for fish and wildlife resources under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.

3.4 Climate Change

3.4.1 Affected Environment

3.4.1.1 Climate

Montana's unique geography creates climate variability across the state, ranging from the wet western side, the high peaks of the Rocky Mountains, and the dry great plains to the east. Climate conditions of the DRWA service area are characterized by a cold, semi-arid climate, marked by distinct seasons. Summer temperatures are often hot, and winters are cold, often with blizzard conditions. The area has high evaporation rates due to the hot summer temperatures, low humidity, and winds. The two main weather collecting stations within the DRWA service area are at Fort Peck Reservoir and in Sidney, Montana.

Fort Peck Reservoir
Fort Peck Reservoir is located on the northern border of the DRWA service area. The average monthly minimum, maximum, and mean temperatures for all months for the 30-year period, 1991-2020, are shown in Table 3.4-1 in Appendix B. Winter temperatures are extremely variable, the mean temperature often falls below freezing. Temperatures drop below 0 degrees Fahrenheit (°F) when Arctic air masses from the north combine with snow cover. Fort Peck Reservoir usually freezes over by January and remains frozen through March. The ice thickness varies from about 16 inches to 3 feet. On the larger streams tributary to, or downstream of the reservoir (e.g., Missouri River, Big Dry Creek), ice jams cause high flood stage levels. The ice typically breaks up in April (USACE 2008).

For the 30-year period of 1991-2020, the average annual precipitation at the Fort Peck Dam weather station is 12.8 inches, with the majority of it occurring between April and October. Snowfall in the winter is minimal, with occasional drifting and blizzard conditions. The average annual snowfall is approximately 13.8 inches, though records are incomplete. Table 3.4-2 in Appendix B illustrates data for precipitation and snowfall for water years 1991 to 2020. Table 3.4-3 in Appendix B illustrates mean monthly precipitation data.

Sidney, Montana
Sidney, located in the eastern portion of the DRWA service area, experiences the cold, semi-arid climate. Sidney's temperature data is similar, though slightly cooler, to Fort Peck Reservoir's. Sidney's monthly mean temperatures range from 0.2 to 1.8°F less than Fort Peck Reservoir. The average monthly minimum, maximum, and mean temperatures for all months for the 30-year period, 1991-2020, are shown in Table 3.4-4 in Appendix B.

Sidney experiences between 0.07 to 0.57 more inches of precipitation per month than the Fort Peck Reservoir, and almost three more inches of precipitation annually. Between the 30-year period of 1991-2020, the average annual precipitation at the Sidney weather station is 15.7 inches, with the majority of it occurring between April through October. Snowfall in the winter is moderate, with occasional drifting and blizzard conditions. The average annual snowfall is approximately 32.1 inches, averaging about 18 more inches than Fort Peck Reservoir. Annual precipitation and snowfall are shown in Table 3.4-5 in Appendix B. Average monthly precipitation in Sidney, Montana is shown in Table 3.4-6 in Appendix B.

3.4.1.2 Greenhouse Gas Emissions
Greenhouse gas (GHG) emissions are gas emissions that trap heat in the atmosphere. These emissions occur from natural processes and human activities. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHG emissions from human activities (Whitlock et al. 2017). The climate change associated with this global warming is predicted to produce negative environmental, economic, and social consequences across the globe.

GHG emissions in Montana are minimal compared to the national average, as seen in Table 3.4-7, shown by both sector and GHG emission type. For example, the state of Montana's average transportation emissions is 0.4% of all transportation emissions in the U.S. In the state of Montana, agriculture is the largest contributor to GHG emissions and contributes almost twice as much as transportation emissions (Table 3.4-7).

The DRWA service area contains many oil and gas wells that contribute to GHG emissions. According to the Montana Board of Oil and Gas Conservation, there are over 62,000 oil and gas wells that have been constructed and reported since 1914 within the DRWA service area (Montana Board of Oil and Gas Conservation 2024). Oil and gas production contributes to GHG emissions both at the site of the well and at the location of fuel usage. GHGs can leak into the atmosphere from oil and natural gas wells, storage tanks, pipelines, and processing plants (EIA 2024a, 2024b). During combustion of fuels, carbon dioxide, methane, nitrous oxide, and other compounds are created and released.

Table 3.4-8 in Appendix B shows the number of actively producing oil wells by county. Oil production has significantly decreased since the 1980s in Garfield and McCone Counties. Dawson County's production peaked in the early 2000s and has stayed relatively constant since 2012. Richland County's production has been trending upward since the early 2000s (ShaleXP 2024d).

The EPA's tool, Facility Level Information on Greenhouse Gases Tool, provides public access to reported GHG emissions data. Facilities that emit more than 25,000 metric tons per year of carbon dioxide equivalent are required to report emissions on an annual basis. Regulations for this reporting program were promulgated under the Greenhouse Gas Mandatory Reporting Rule in 40 CFR Part 98. As of 2022, there are four reporting facilities in Richland County and one reporting facility in Dawson County (U.S. EPA 2023b).

Table 3.4-7 Montana's Greenhouse Gas Emissions Compared to the U.S., Broken Down by Sector or Type of Greenhouse Gas

Economic Sector	Montana's 2021 Values (Million Metric Tons CO_2 Equivalent)	United States 2021 Values (Million Metric Tons CO_2 Equivalent)	United States Emissions
Agriculture	19.5	634.0	3.1%
Electric power industry	12.8	1577.5	0.8%
Transportation	8.1	1801.5	0.4%
Industry	7.5	1452.5	0.5%
Commercial	2.3	463.7	0.5%
Residential	1.9	391.3	0.5%
Carbon dioxide	29.5	5017.2	0.6%
Nitrous oxide	13.8	408.9	3.4%
Methane	10.8	782.6	1.4%
Fluorinated gases	0.5	193.0	0.3%
Gross total	52.3	6343.2	0.8%

Source: U.S. EPA 2024

3.4.1.3 Climate Change

The 2017 Montana Climate Assessment (MCA) conducted analyses to determine changes in climate during the 1950-2015 period, as well as future climate predictions, for the northeast region of Montana (Whitlock et al. 2017).

Historical Climate Changes

There are statistically significant increases in historical temperature per decade for winter, spring, and summer in the northeast region of Montana. These are shown in Table 3.4-9 in Appendix B. Climate extremes, such as periods of intense warm or cool temperatures and significant wet or dry spells across seasons, were analyzed and reported as statewide variables, and are shown in Table 3.4-10 in Appendix B. All variables report evidence of a warming climate.

The northeast region of Montana is warming faster than all but one other region (the north central region). Furthermore, average annual temperatures have increased for the entire state of Montana and Montana has warmed at a faster rate than the national average (Whitlock et al. 2017). Historically, the statewide average annual precipitation did not change.

Future Climate Projections

Future climate projections are based on two future periods, the Mid-Century projection (2040-2069) and the End-of-Century projection (2070-2099) (Whitlock et al. 2017). Projections are modeled for two emissions scenarios, the "Stabilization Scenario" in which greenhouse gas emissions peak in 2040 followed by a decline, and the "Business as Usual Scenario" in which greenhouse gas emissions increase through the 21st century. Table 3.4-11 in Appendix B are temperature and precipitation changes based on the two greenhouse gas emissions scenarios. Under either projection, both scenarios show increases in annual and daily temperatures. The number of days above 90°F is shown to increase, while the number of freeze days is shown to greatly decrease.

The 2017 MCA (Whitlock et al. 2017) concluded that future precipitation projections in both the Upper Missouri River Basin and within the DRWA service area show moderately high model agreement that precipitation would increase. There is moderately-high model agreement about precipitation increases in winter, spring, and fall, with decreases in the summer.

The quantity and timing of melt of Montana's snowpack is projected to change, which would affect how water is delivered to streams and rivers. Using NRCS Snow Course Observations over the period of the late 1930s – 2017, the MCA determined that snow water equivalent, the determination of how much water the snowpack contains, has declined 14% at high elevations (> 7,000 feet) and 27% at low elevations (< 7,000 feet). According to future climate projections, the MCA concluded that snowpack volumes are "very likely" to continue declining, with more precipitation coming as rainfall.

The year-round contribution of groundwater to streamflow is known as baseflow and is important for sustaining flow in streams outside the spring months (DNRC 2015). East of the continental divide and in the Missouri River Basin, groundwater contributes 0 – 67% of baseflow in streams, shown in Figure 3.4-1 in Appendix A from the 2015 Montana State Water Plan. Overdraft of groundwater stored in aquifers may affect surface water baseflows. The gradual character of

snowmelt is more favorable to infiltration than rainfall events; therefore, as an increasing percent of precipitation falls as rain instead of snow, infiltration is likely to decrease, despite projected increases in winter and spring precipitation (Whitlock et al. 2017). Less infiltration into groundwater aquifers may increase surface water contributions and annual flow.

3.4.2 Environmental Consequences

3.4.2.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed, and project-specific GHS emissions would not occur. Resources in the DRWA service area would continue to be affected by projected climate change, including declining groundwater levels. Recharge into the Fox Hills – Hell Creek aquifer, which underlies most of the eastern third of Montana and is used for current domestic and livestock watering purposes, is likely to be reduced due to projected shifts in temperature and precipitation (Whitlock et al. 2017).

3.4.2.2 Proposed Action

Greenhouse Gas Emissions

GHGs disperse into the atmosphere and become less concentrated as they travel away from the source, and therefore are not confined to defined boundaries (BLM 2024). GHGs produced by construction equipment would disperse globally and would have a negligible effect on regional or global climate change.

Climate Change Effects

The MCA climate projections determined that, in watersheds with headwaters at relatively high elevations, such as those in the northwest portion of the Upper Missouri River Basin, January through April runoff is likely to increase due to increases in precipitation as rainfall and earlier snowpack melting. As peak runoff shifts earlier, stream flows would likely be reduced in the summer months. Water in the Fort Peck Reservoir, as well as in the upstream portion in the Missouri River Basin, is regulated by dams (i.e., Tiber Dam, Clark Canyon Dam, and Canyon Ferry Dam). As runoff shifts earlier in the year, reservoirs would fill earlier, and deliveries would begin earlier.

Another metric of climate change assessed in the MCA was annual streamflow, which derives from a variety of sources, including rainfall, snowmelt runoff, and groundwater discharge. "Annual streamflow is critical because it defines the potential volume of water available each year to influence groundwater, fill reservoirs and lakes, and support consumptive and non-consumptive uses of water" (Whitlock et al. 2017). Over long-time scales, annual streamflow and precipitation variations are driven by large-scale climate variability. MCA climate projections show moderately high to high agreement that total annual streamflow would increase in Montana east of the continental divide, which drains into the Upper Missouri River Basin.

Because MCA projections show that annual streamflow would increase in eastern Montana under climate change, Fort Peck Reservoir water levels and availability would not be adversely affected related to diversions at the Reservoir Intake. This finding is supported by Reclamation's Missouri Headwaters Basin Study, which found that annual water supply would increase under climate change in the Upper Missouri Basin watershed in Montana (Reclamation and DNRC 2021). The reservoir

would continue to capture peak runoff periods, even if occurring earlier, for storage and later release. The river intakes, however, could be impacted if summer streamflows decrease due to earlier runoff patterns. Lower streamflows could lower water levels below intake operating elevations.

3.4.3 Cumulative Effects

There are no cumulative effects for climate change under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects related to GHGs or regional water availability.

3.5 Hydrology and Water Quality

3.5.1 Affected Environment

3.5.1.1 Surface Water

Montana is known as a "headwaters state" due to three major rivers beginning in this state, including the Missouri River Basin. The majority of rivers in the Upper Missouri River Basin are classified as snowmelt dominated. Thus, winter and spring precipitation, coupled with seasonal patterns of warming spring temperatures, heavily influence the timing and amount of streamflow in these tributaries. Spring precipitation and additional snowmelt augment the streamflow, leading to large peaks in May or June.

Other tributaries in the Missouri River Basin are fed by both high- and low-elevation snowpack. These rivers are generally located in the central and eastern parts of the state, such as the Musselshell River. Due to two types of snowmelts, there are two distinct streamflow peaks. The first is fed by low-elevation prairie snowpack melt and is typically seen in March or April. High-elevation snowpack melt generally occurs in June. As most of the tributaries of the Missouri River are influenced strongly by high- and low- elevation snowmelt in the headwaters, the hydrograph of the Missouri River itself is dominated by snowmelt.

The DRWA service area is in the Missouri River Basin. The major streams and reservoirs within the DRWA service area are described below in more detail. The USGS stream gage data for waterbodies within the DRWA service area are described in Table 3.5-1 in Appendix B.

Watersheds

The Hydrologic Unit Code (HUC) is a numbering system for watersheds developed by the USGS to provide a common coding system for state and federal agencies. There are 13 sub-regions (Figure 3.5-1), 91 watersheds, and 371 sub-watersheds within the DRWA service area. Major watersheds are described in the following sections.

Missouri River

The Missouri River begins at the junction of the Jefferson, Madison, and Gallatin Rivers near the Three Forks in the Rocky Mountains of south-central Montana. Fort Peck Dam is approximately 550 miles from the headwaters. Downstream of Fort Peck Dam, the water flows eastward towards

Lake Sakakawea near Williston, North Dakota in an unchannelized river for 204 miles (USACE 2006).

Major tributaries of this reach of the Missouri River include the Milk, Poplar, and Yellowstone Rivers. In addition to the Missouri River, the Musselshell River, and Big Dry Creek flow into Fort Peck Reservoir. These streams are discussed below in their respective sections.

Yellowstone River

The Yellowstone River begins in northeast Wyoming and then flows into Montana to the west of Billings. The river flows for an uninterrupted 700 miles through Billings, Forsyth, Miles City, and Sidney before its confluence with the Missouri River in North Dakota (National Park Service 2024). The Yellowstone River forms the eastern boundary of the DRWA service area.

Musselshell River

The Musselshell River forms at the confluence of the North and South Forks of the river near Martinsdale, Montana. The river's length is approximately 342 miles, and its drainage basin is approximately 9,500 square miles (Musselshell County 2017). The Musselshell River flows directly east from Martinsdale to Melstone, before turning due north towards Fort Peck Reservoir. The Musselshell River forms the western boundary of the DRWA service area.

Big Dry Creek

The headwaters of Big Dry Creek are southwest of Fort Peck Reservoir and are within the boundary of the DRWA service area. It flows north until its confluence with Sand Creek, then flows east until its confluence with Little Dry Creek. Finally, it flows north into the Big Dry Creek arm of Fort Peck Reservoir. The total length of Big Dry Creek is approximately 43 miles, and it flows past Jordan, Montana, within the DRWA service area.

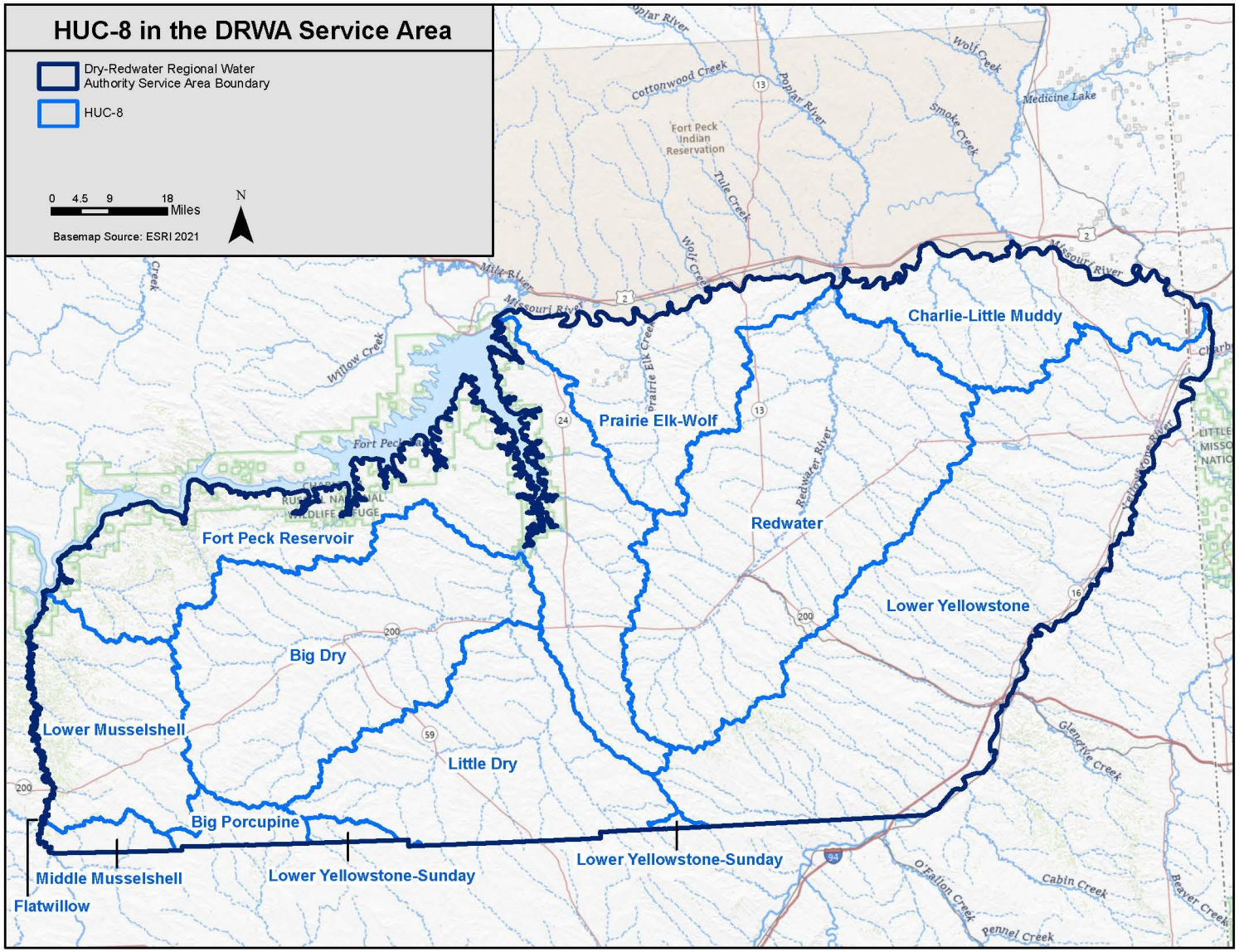


Figure 3.5-1. Sub-Basin Watershed (HUC-08) in the DRWA Service Area

Fort Peck Reservoir

Fort Peck Reservoir, the largest body of water in Montana, is 134 miles long and has 1,520 miles of shoreline. The total storage capacity of the lake is 18.7 million-acre feet. The drainage area is approximately 57,500 square miles (USACE 2008). The reservoir stores water for downstream navigation, hydroelectric power generation, and other purposes. It provides recreational benefits, such as fishing, wildlife viewing, and boating. Fort Peck Dam is one of six multipurpose mainstem dams that operate as part of the Missouri River flood control system (USACE 2008). Fort Peck Dam is the largest hydraulically filled dam in the U.S. The dam measures 21,026 feet in length with a maximum height of 250.0 feet. The total combined capacity of the five turbines generates 185,250 kilowatts of power. The USACE note that the primary functions of the Fort Peck Reservoir are (USACE 2008):

- To capture the mountain and the plains snowmelt and localized rainfall runoffs from the large drainage area above Fort Peck Dam, which are then metered out at the controlled release rates to meet the entire reservoir system's authorized purposes while reducing flood damages in the Fort Peck Dam to Lake Sakakawea reach.
- To serve as a secondary storage location for water accumulated in the system of six mainstem dams from reduced system releases because of major downstream flood control regulation, thus helping to alleviate large reservoir level increases in Garrison, Oahe, Big Bend and Fort Randall reservoirs.
- To provide the extra water needed to meet all Congressionally authorized project purposes within the system of six mainstem dams that draft storage during low-water years.

Table 3.5-2 in Appendix B (USACE 2008) contains annual statistics for the Fort Peck Reservoir from 1937 to 2006, including maximum elevation, mean discharge, minimum discharge, and maximum discharge, all in cubic feet per second.

Table 3.5-3 in Appendix B (USACE 2019) summarizes the capacity curve of Fort Peck Reservoir, containing information on the relationship between surface area, volume, mean depth, retention time, and pool elevations. Note that this curve does not show full capacity for the reservoir.

Floodplains

Floodplains are mapped to identify flood risks. Identifying risk works to keep people, homes, communities, and infrastructure safe from future flood events. The state of Montana works with the Federal Emergency Management Agency (FEMA) to create floodplain maps. FEMA has designated five flood zones within the DRWA service area, their definitions and acreage are found in Table 3.5-4 in Appendix B. Flood Zone D encompasses about 30 percent of the DRWA service area. Additionally, portions of the Project study area have been designated in the FEMA maps as flood zones. The amount of designated flood zones in the Project study area are shown in Table 3.5-5 in Appendix B.

3.5.1.2 Groundwater

There is a wide array of geological formations throughout the DRWA service area that are the source of groundwater resources. The quantity and quality of these groundwater resources is generally low as described in Chapter 1. Table 3.5-6 in Appendix B lists well log reports from the Ground Water Information Center on the Montana Bureau of Mines and Geology website (Dry-Redwater 2023). Production rates are in gallons per minute (gpm). A map showing the location of the 15 wells (orange symbol) and their logs can be found in Figure 3.5-2 in Appendix A.

3.5.1.3 Water Quality

In accordance with the CWA, states and authorized tribes or the EPA are responsible for developing and adopting water quality standards for their jurisdictions that meet or exceed the federal regulations. Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop lists of impaired waters, such as stream/river segments or lakes, to submit to the EPA. A state's 303(d) impaired waters list is comprised of all waters where the state has identified that required pollution controls are not sufficient to attain or maintain applicable water quality standards. Table 3.5-7 in Appendix B describes types of impaired water and the associated definitions. The CWA requires that states (and designated tribes) establish a prioritized schedule for waters on the lists and develop Total Maximum Daily Loads (TMDL) for the identified waters based on the severity of the pollution and the sensitivity of the uses (USEPA 2009). A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. Table 3.5-8 in Appendix B lists the 48 303D listed waters within the DRWA service area.

Water Quality of Fort Peck Reservoir

Based on a 2019 USACE water quality report, the state of Montana has assigned Fort Peck Reservoir a B-3 classification in the state's water quality standards. As such, the reservoir is to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of non-salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply. Fort Peck Reservoir is not assigned a coldwater fishery use by the state in its water quality standards; however, the reservoir supports a stocked salmon fishery and a naturally reproducing lake trout and lake cisco fishery – all are considered coldwater species. Since a coldwater fishery is currently supported in Fort Peck Reservoir, it is seemingly an existing use and must be protected pursuant to the CWA and antidegradation policy provisions (40 CFR 131.3).

Pursuant to Section 303(d) of the CWA, Montana has placed Fort Peck Reservoir on the state's 2020 list of impaired waters citing impairment to the uses of aquatic life and drinking water. The impairment of the uses is attributed to the pollutants of lead and mercury. The identified sources of these pollutants are atmospheric deposition, historic bottom deposits (not sediment), and effects from abandoned mine lands (inactive). The state of Montana has issued a fish consumption advisory for Fort Peck Reservoir due to mercury concerns (USACE 2019).

The most recent documented water quality sampling, relevant to the proposed Fort Peck Reservoir intake, occurred between July 2021 and June 2022 at a location in the Rock Creek Arm near the proposed Reservoir Intake (Dry-Redwater, 2023). Parameters analyzed between July 2021 and April

2022 include hardness, nutrients, total organic carbon, dissolved metals, and total metals. Odor precursors, microbes, algae and algal biproducts, dissolved organic carbon, ions, radionuclides, oil and grease, volatile organic compounds, semi-volatile organic compounds, per and polyfluoroalkyl substances were analyzed between May and June of 2022. A summary of the sampling results is presented in Table 3.5-9 in Appendix B, full sampling results are listed in Appendix 6.14 in the Predesign Report (Dry-Redwater 2023). Lead was not found during any sampling periods. One sampling period detected 0.0001 mg/L mercury (below the MCL of 0.002 mg/L); other sampling periods did not detect mercury.

Water Quality in the Missouri River Downstream of Fort Peck Reservoir

The USACE monitored water quality in the Missouri River directly downstream of Fort Peck Reservoir during a five-year period (2014 to 2018). The Missouri River downstream of Fort Peck Reservoir has a B-2 classification.[7] The sole water quality parameter of concern within Fort Peck Reservoir and the Missouri River directly downstream of Fort Peck Reservoir is the dissolved oxygen concentration. The USACE concluded that the 1-day dissolved oxygen minimum criterion of 8.0 milligrams per liter for the protection of coldwater B-2 early life stages was not met for 23 percent of the dissolved oxygen measurements (USACE 2019).

There are two USGS gages downstream of Fort Peck Reservoir that are used to monitor water quality. Table 3.5-10 in Appendix B lists parameters monitored at each location and their average values over the period of measurement.

Groundwater Quality

The quality of groundwater varies greatly throughout the DRWA service area but generally has levels exceeding the EPA Primary and Secondary Health Standards with high levels of total dissolved solids, sulfates, iron, manganese, and areas of high fluoride. Other EPA Primary and Secondary Health Standards are exceeded, though at lesser rates. Although there are no EPA standards for alkalinity, bicarbonate, hardness, and sodium, the groundwater samples indicate high levels for these substances. Tables 1-1 and 1-2 in Appendix B provide a summary of the groundwater quality sampling analysis and potential health effects for both primary and secondary MCLs exceeded.[8]

3.5.1.4 Fort Peck Reservoir Water Rights

On November 12, 2014, the DRWA was granted a Beneficial Water Use Right Permit (NO. 40E 30064997) by the DNRC. This permit authorized use of up to 4,200 gpm (3,990 acre-feet per year)

[7] Both B-2 and B-3 waters are to be maintained suitable for drinking, culinary, and food processing purposes, after conventional treatment; bathing, swimming, and recreation; waterfowl and furbearers; and agricultural and industrial water supply. In addition, B-2 waters are to maintain growth and marginal propagation of salmonid fishes and associated aquatic life, and B-3 waters are to maintain growth and propagation of non-salmonid fishes and associated aquatic life (USACE 2019).

[8] The quality of groundwater within the DRWA service area data was downloaded from Montana's Ground Water Information Center. All available groundwater well data were downloaded for the four counties in the DRWA service area. The data was filtered for well samples in and after the year 2000. If there were multiple samples for a location, the latest data sample was chosen, and the older samples were discarded. Sample readings that were detected but below the reporting limit were not included. Samples taken but not detected were discarded. Inconclusive samples were discarded.

from the North Fork Rock Creek Arm of Fort Peck Reservoir for water marketing in the DRWA service area (DNRC 2014).

The physical and legal availability of water at Fort Peck Reservoir as described in the permit were determined using the 06115200 Missouri River near Landusky MT USGS gage data and existing water rights data, shown in Table 3.5-11 in Appendix B. The permit uses data from 1934 – 2012. This table shows that the permit would use less than 1 percent of legally available water in Fort Peck Reservoir. The minimum flow and volume remaining after consideration of the proposed appropriation are 477 cubic feet per second and 37,623 acre-feet, respectively, and occur during September.

3.5.2 Environmental Consequences

3.5.2.1 No Action Alternative

Without implementation of the proposed action, surface disturbance would not occur, and there would be no effect on the use quality or quantity of surface or groundwater. The residents would continue to be reliant on insufficient quality and quantity of reliable water sources similar to those described in the affected environment.

3.5.2.2 Proposed Action

Fort Peck Reservoir and Missouri River Streamflow

As illustrated in Table 3.5-11 in Appendix B, the Proposed Action would require diversion of about 332.5 acre-feet per month on average from Fort Peck Reservoir or the Missouri River (in the case of the satellite intakes). By month, the percent change of legally available water in Fort Peck Reservoir associated with the Proposed Action ranges between -0.88% and -0.05%. In DRWA's Beneficial Water Use Right Permit (NO. 40E 30064997), DNRC concluded that water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested; and that the water rights of a prior appropriator would not be adversely affected (DNRC 2014). The Environmental Assessment for Routine Actions with Limited Environmental Impact (DRNC 2013) concluded that there would be no significant effect to Fort Peck Reservoir's levels due to use of the water right.

In the event that one or more of the satellite intakes on the Missouri River (MI-1, MI-4, MI-8) are developed the reduction in storage or release from Fort Peck Reservoir would be adjusted as necessary to reflect the overall use of water under the Dry-Redwater Authority's water right. This would not result in adverse effects to either the reservoir or the river downstream.

Other Watersheds and Streams

In addition to Fort Peck Reservoir and the Missouri River, there is a wide array of waterbodies within, or adjacent to the Project study area. Many of these waterbodies are intermittent or ephemeral streams; there are a number of small stock ponds and seasonal reservoirs as well. The Proposed Action would use underground construction activities such as HDD to avoid larger waterbodies that may occur within or adjacent to the Project study area, including those waterbodies subject to jurisdiction by the USACE or the state.

Water Quality
At the time of the Beneficial Water Use Right Permit, Fort Peck Reservoir was listed as impaired with respect to not fully supporting aquatic life and drinking water due to lead and mercury (MDEQ 2012). It was determined that the proposed diversion would not increase deposition; thus, the proposed action would not further impair the reservoir (DNRC 2013).

As described in Chapter 2, the proposed action includes installing an intake structure into the Fort Peck Reservoir. Installation of the sloped tube Reservoir Intake would require minimal disturbance to the reservoir. The casing pipe of the intake would be installed primarily via directional drilling. The length of the bore would be approximately 900 feet (the length from the intake screen in the reservoir to the shoreline above the reservoir). The only anticipated disturbance to the reservoir during construction would be from when the drilling daylights in the sidewall of the reservoir and during screen installation, which may release negligible amounts of sediment to the reservoir. No major excavations in the reservoir would be necessary and effects during construction on water quality would be negligible.

As described, the Proposed Action would use underground construction activities such as HDD to avoid larger or jurisdictional waterbodies within or adjacent to the Project study area. The proposed action would not affect stream water quality or 303d status of stream segments listed in Table 3.5-8 in Appendix B.

Groundwater
The Proposed Action avoids all known well locations. In some instances, the new water service available to DRWA customers may result in a change of use from groundwater sources. This could reduce the current use of groundwater in a manner that may be beneficial to groundwater resources over time.

3.5.3 Cumulative Effects
There are no cumulative effects for hydrology and water quality under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects related to decreasing water availability or water quality degradation.

3.6 Geology, Soils, and Paleontological Resources

3.6.1 Affected Environment

3.6.1.1 Geology
The Project study area is in the Great Plains physiographic province (Jensen and Varnes 1964) and topographically the area is predominantly an undulating grassy treeless prairie upland which rises gradually to the north. Figure 3.6-1 illustrates the regional geology, which is further described in Appendix I. The geologic formations at the local level are listed in Table 3.6-1 in Appendix B and

include Quaternary[9] age surface deposits, landslide features and deposits; Tertiary age Flaxville gravel and Fort Union formations; and Cretaceous age Hell Creek, Fox Hills, and Bearpaw shale formations.

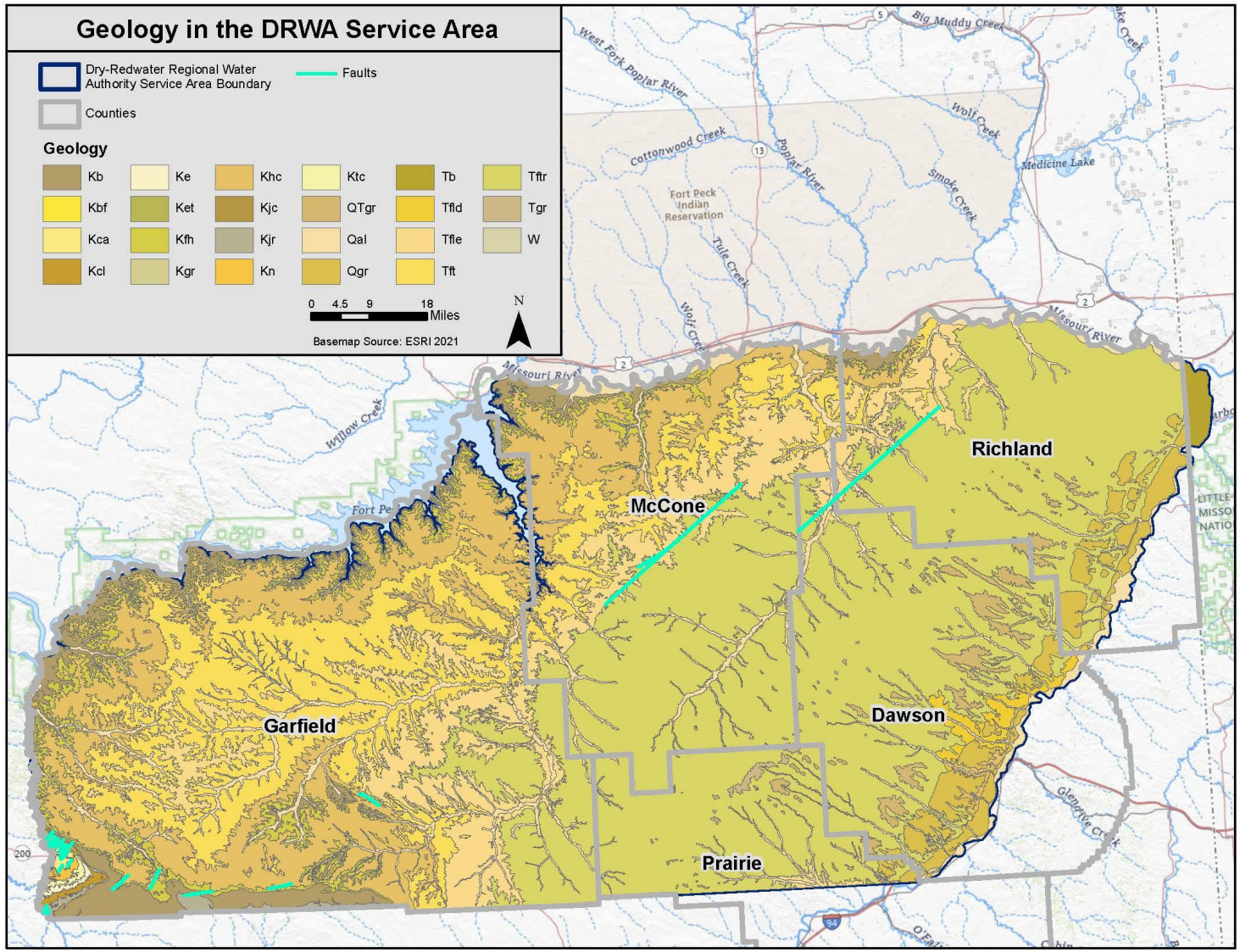
Fluvial and hillslope erosional processes dominate the geomorphic setting. In addition to floodplain features, both erosional and depositional terraces are evident that reflect base levels of the Missouri and Yellowstone rivers in Quaternary time. Throughout the Project study area, there is evidence of both recent and historic slope instability (e.g., landslide), typically associated with steeper slopes and drainage features. Landslide types observed on steeper slopes throughout the Project study area include rockfall, rock topple, and debris slides. The hillslope geomorphology in the Project study area is topographic flat between rivers and streams but changes to very steep to vertical near water courses where the hillslopes have been stream-cut.

Much of the fluvial geomorphology is influenced by the glacial lakes formed during the Pleistocene. A lobe of the continental ice sheet west of the Project study area pushed the Missouri River into its present channel. Periodically the ice sheet dammed the Missouri River creating glacial lakes in the vicinity of the current communities of Jordan, Circle, Glendive, and Musselshell. Glacial Lake Jordan inundated the landscape where the present Fort Peck Lake is located. Glacial Lake Musselshell inundated the landscape approximately 20 miles upstream from the convergence of the Musselshell River and the Missouri River. These ice dams periodically failed resulting in downstream flooding.

Northeastern Montana has no active faults and seismic events are extremely rare, although Montana is the fourth most active seismic area in the U.S. with most of the activity occurring in western Montana (Hyndman and Thomas 2020). The Project study area is seismically quiet, and historically the only seismic event of note is the May 16, 1909, event, which is the largest historical earthquake in the northern Great Plains physiographic province of the U.S. and Canada (Stickney 2020).

A 1938 landslide occurred in response to the Fort Peck Dam construction and is the largest landslide to date within the DRWA study area. Bedrock hillslope failures occur within the Project study area, primarily associated with topographic breaks, shoreline erosion surrounding Fort Peck Reservoir and localized undercut stream banks and road cuts. Landslides mapped throughout the Project study area are associated with Cretaceous and Tertiary geologic formations. These bedrock failures are found where channel migration undercuts and over steepens the slopes. Jensen and Varnes (1964) emphasized the importance of managing erosion of the Bearpaw Formation found along the shoreline of Fort Peck Reservoir and the badlands upslope of the reservoir.

[9] Quaternary time is the most recent geologic time which includes the Ice Ages (Pleistocene), the various ages of bronze through iron (Holocene), and the Anthropocene which marks the human influence on Earth's climate from 1850 AD to the present.



Note: The scale of this map precludes showing all known geologic units. Source: Wentworth et. al. 1999)

Figure 3.6-1. Geology in the DRWA Service Area

3.6.1.2 Soils

A review of BLM and NRCS soil data indicates that there are more than 75 soil types characterized as sensitive within the Project study area, totaling 2,457 acres (Figure 3.6-2). Fifty-three soil types characterized as sensitive for a total of 143 acres are associated with BLM-managed lands. Table 3.6-2 in Appendix B identifies the major sensitive soil types, accounting for more than 60 percent of the sensitive soils within the Project study area. About 30 percent of the soils associate with the Lampert-Zahill-Dimyaw complex. Most of the Project study area sensitive soils have low shear strengths. When slopes are 60 percent or steeper, the potential for erosion and soil loss increases.

NRCS Long Range Strategic Plans for Dawson, McCone, Garfield, and Richland counties identify soils with statewide significance for food, feed, fiber, forage, and oilseed crops. There are 3,085 acres of farmland of statewide importance in the Project study area. These soils have an adequate water supply from either precipitation or irrigation, favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few rocks. They are permeable to water and air, are not excessively erodible or saturated with water for a long period of time, and neither flood frequently nor are they protected from flooding. They are available for farming, but could be cropland, pastureland, rangeland, forestland, or other land. Figure 3.6-3 in Appendix A illustrates the location of these areas designated by NRCS within the DRWA service area.

Prime farmland is a designation by U.S. Department of Agriculture defining land with the best combination of characteristics for producing food, feed, forage, fiber, and oilseed crops. There are no soils characterized as Prime Farmland by NRCS within the DRWA service area.

3.6.1.3 Paleontological Resources

Paleontological resources in the Project study area are well-known worldwide (Milnar 1998), including for studies on the mass extinction event at the end of the Cretaceous. Paleontological evaluations within the Project study area used the BLM's approach to characterizing paleontological resources (Potential Fossil Yield Classification or PFYC). Figure 3.6-4 in Appendix A and Table 3.6-3 in Appendix B illustrate PYFC classes established by the BLM for the DRWA service area.[10] There are 4,869,079 acres of the high potential (PFYC 4) units and 1,049,586 acres of the very high potential (PFYC 5) units within the DRWA service area. Within the Project study area there are about 975 acres of land classified as PFYC 4 or PFYC 5 (federal, state, and private).

All geological formations, with the exception of the unnamed Quaternary units and Flaxville Gravels Formations, contain paleontological resources within the Project study area. The two shale formations (Bearpaw and Fox Hills Formations) have scattered fossils of vertebrates and invertebrates and may be less likely to contain paleontological resources than PFYC 4 and 5 formations. Four fossiliferous geologic units are known to occur within the Project study area with a PFYC classification of moderate or higher. The Hell Creek Formation, and the Tullock Member of the Fort Union Formation have been classified PFYC 4 to PFYC 5 for the presence of vertebrate and rare invertebrate fossils.

[10] While the PFYC system only applies to BLM, it provides a basis for describing the paleontological resources within the DRWA service area.

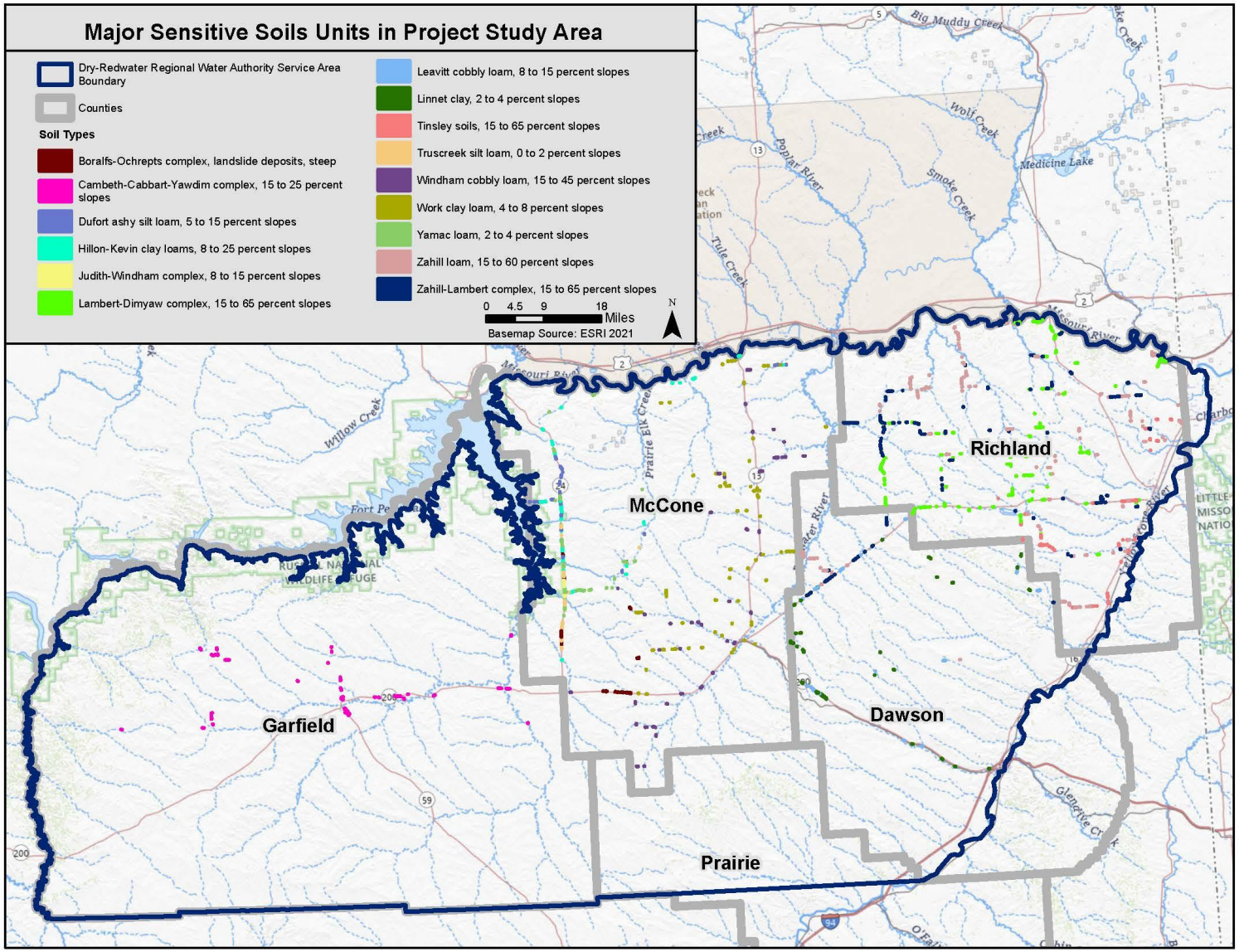


Figure 3.6-2. Major Sensitive Soil Units in the Project Study Area

3.6.2 Environmental Consequences

3.6.2.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed, and ground-disturbing activities would not occur. No direct or indirect effects related to increase in the type or degree of soil erosion, a reduction in Farmland of Statewide Importance, or loss of paleontological resources would occur.

3.6.2.2 Proposed Action

The Proposed Action has the potential to affect soil resources, Farmland of Statewide Importance, and paleontological resources as described below.

Soils

Within the Project study area, approximately 2,457 acres of sensitive soil would be subject to some level of temporary surface disturbance over the period of construction. The environmental commitments described in Appendix G have been developed to avoid or minimize adverse effects to soil resources, including surface erosion, mass wasting and liquefaction. Approximately 143 acres of BLM-managed land within the Project study area have soils classified as sensitive under the BLM Resource Management Plan (RMP). These lands would be subject to the environmental commitments specific to BLM lands.

Short-term adverse effects include disturbed soil for a brief period at any one location within the Project study area caused by grading and excavation activities. Soils exposed during construction would be restored following excavation with temporary erosion control measures. Once construction and initial site-restoration measures have been completed, subsequent revegetation and monitoring efforts would be performed consistent with applicable federal, state, and local requirements. After construction and site restoration activities have been completed, the potential for soil erosion would be reduced to conditions similar to the existing condition.

Construction of intake facilities at Fort Peck Reservoir and one or more of the satellite intakes would require minor modifications to the bed of the reservoir and the river while the intakes are constructed. The environmental commitments described in Appendix G have been developed to avoid or minimize adverse effects to soil resources, including bed and bank erosion of these water bodies.

Farmland of Statewide Importance

There are 3,085 acres of Farmland of Statewide Importance in the Project study area. Construction activities would be performed over the course of up to 10 years in phases. Short-term, temporary adverse effects would occur on these lands over the course of the construction period. Only a portion of the Project study area would be subject to disturbance in any one year. Approximately 50 acres would be converted to non-farmland in conjunction with the construction of permanent facilities over the period of construction. The environmental commitments described in Appendix G have been developed to avoid or minimize adverse effects to Farmland of Statewide Importance.

As part of the restoration efforts, revegetation would be initiated at the appropriate time to take advantage of seasonal growing conditions. It is anticipated that several growing seasons would be required to reestablish the productivity of disturbed lands.

Paleontological Resources
There are 908.6 acres of federal, state, and private lands within the Project study area classified as either PFYC 4 or PFYC 4 that would be susceptible to both permanent, long-term, and temporary, short-term adverse effects from constructing the Proposed Action. There are 65.9 acres of PFYC Class 4 and Class 5 lands on lands administered by BLM. There are 94.8 acres of lands with moderate or high potential for paleontological resources on lands administered by the USACE adjacent to Fort Peck Reservoir. Past discoveries and excavation of paleontological resources throughout the DRWA service area support the conclusion that minor to moderate adverse effects to paleontological resources have the potential occur on lands classified by BLM as PFYC4 and PFYC 5. The environmental commitments described in Appendix G have been developed to avoid or minimize adverse effects to paleontological resources.

3.6.3 Cumulative Effects
There are no cumulative effects for geology, soils, and paleontology under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.

3.7 Cultural Resources

3.7.1 Affected Environment
Cultural resources are the fragile and nonrenewable remains of prehistoric and historical human activity, occupation, or endeavor as reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that are of importance in human history.

The Project study area referred to as area of potential effect [APE]) for effects to cultural resources is defined as the footprint of the proposed ground disturbance with a 50-foot buffer in all directions (e.g., 100 feet total width along linear components). The area of analysis for indirect effects to cultural resources for this EA is the footprint of proposed ground disturbance plus buffers of various sizes for individual indirect effects (e.g., a 1-mile buffer for effects associated with vibrations; a 3-mile buffer for effects associated with auditory changes; and a 7-mile buffer associated with viewshed changes). Identification of all cultural resources within the area of analysis has not been fully undertaken, though a summary of known cultural resources is presented below.

A file search from the Montana State Historic Preservation Office (SHPO) was completed in March 2024. The file search indicates that approximately 15 percent of the Project study area has been previously evaluated by 200 unique cultural resource surveys between 1975 and 2022. Those surveys identified 142 cultural resources, of which 17 are eligible for listing in the NRHP as historic properties, 56 remain unevaluated pending additional investigations, and 68 are not eligible for listing in the NRHP. One additional site may be important to local tribes as a traditional cultural

property (TCP). Cultural resources that are not eligible for listing in the NRHP are not considered further. Considering cultural resources that are either eligible or unevaluated for listing in the NRHP, including the TCP, there are 74 possible historic properties in, or in close proximity to the APE, of which 62 are historical and 12 are prehistoric.

The 62 historical resources include 41 bridges (67 percent), 7 townsites/homesteads/buildings (11 percent), 5 railroad segments (8 percent), 3 road/trail segments that include the Lewis and Clark Trail (5 percent), a cemetery, an artifact scatter, a pipeline, a location of sandstone-carved initials, an irrigation canal, and one Native American traditional plant gathering location. Of the 62 historical resources, 15 have been recommended eligible for listing in the NRHP: 2 bridges, 2 buildings, 5 railroad segments, 3 road/trail segments, the pipeline, the sandstone carving, and the irrigation canal.

Prehistoric resources include 10 artifact scatters (83 percent), one sandstone quarry, and one bison kill/processing site. Of the 12 prehistoric resources, only the bison kill site and one of the artifact scatters have been recommended eligible for listing in the NRHP; the others remain unevaluated for their historical significance.

3.7.2 Environmental Consequences

Under 36 CFR 800.5, adverse effects on historic properties are found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. This EA is intended to support Reclamation's Feasibility Study and acknowledges that additional detail for both the project description and cultural resources within the APE would be necessary to support consultation with Montana SHPO, consistent with requirements of Section 106 of the National Historic Preservation Act (NHPA). This EA does not authorize or approve site-specific actions at any known historic properties or any historic property in remaining unsurveyed portions of the APE.

3.7.2.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be constructed, and ground-disturbing activities would not occur. No direct or indirect effects to historic properties, known or unknown, would occur.

3.7.2.2 Proposed Action

Direct effects could include surface-disturbing activities that might result in adverse, permanent, localized damage to potential historic properties. To avoid effects, historic properties would be avoided through micrositing Proposed Action components, if feasible. If avoidance is not feasible, then Reclamation and DRWA would implement the mitigation measures described below.

Of the 74 potential historic properties, 26 are currently avoided by all activities and would not be directly affected by the Proposed Action. Forty-eight other historic properties may be directly affected by pipeline construction activities if rerouting is not feasible. None of the permanent facilities (e, g., WTP, pumpstations) associated with the Proposed Action would adversely affect known historic properties.

The 48 potentially affected historic properties include 42 historical sites and 6 prehistoric sites. The 42 historical sites include 24 bridges, 5 railroad sections, 3 roads/trails, 3 homesteads/structures/ townsites, one cemetery, one artifact scatter, one pipeline, one sandstone inscription, one canal, and one Native American TCP. The six prehistoric sites include five artifact scatters and one bison kill/processing site. The exact amount of disturbance at each historic property would depend on site-specific design and construction refinements incorporated into the Proposed Action to minimize or avoid effects.

Visual indirect effects can be adverse, localized, and either long- or short-term, depending on whether the Proposed Action components are buried or aboveground. Auditory indirect effects to cultural resources are likely to be short-term and limited to the duration of construction. New transmission and distribution lines could alter historical viewsheds from a site and thus negatively alter the historical attributes of a site.

Three historic properties (affected by pipeline construction) could be adversely affected by the construction of new electrical lines. A new aboveground distribution line and an aboveground transmission line may alter the setting of Montana Highway 13. A single prehistoric lithic scatter would be affected by construction of an aboveground transmission line. A buried distribution line on lands managed by the USACE may adversely affect a known Native American TCP. The exact amount and type of disturbance at each of the three historic properties would depend on site-specific engineering constraints that might be altered to minimize or avoid effects.

3.7.2.3 Mitigation

The following mitigation measures, in addition to environmental commitments in Appendix G, would be implemented to minimize or avoid any adverse effects to cultural resources.

Mitigation Measure Cul 1– Avoid Historical Resources or Prepare and Implement a Historic Properties Treatment Plan

Reclamation would determine whether sites that are historical properties, can be avoided by construction or operations (including maintenance activities), and would take actions for avoidance or minimization of adverse effects, if feasible. A Historic Properties Treatment Plan (HPTP) consistent with federal and state requirements shall be prepared by a U.S. Secretary of Interior-qualified individual(s) to address adverse effects to those resources that cannot be avoided. Specific plans for Native American sites would be prepared in consultation with consulting Native American tribes. Reclamation would ensure that any site-specific treatment shall be scheduled such that the actions would be completed in advance of construction that could adversely affect historical resources.

Mitigation Measure TCP-1: Avoid Tribal Cultural Properties or Develop Treatment for Tribal Cultural Properties in Consultation with Tribes

All TCPs would be avoided to the extent possible. If a Tribal Cultural Property cannot be avoided, DRWA would be responsible for all mitigation requirements.

3.7.3 Cumulative Effects

There are no cumulative effects for cultural resources under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.

3.8 Socioeconomics

3.8.1 Affected Environment

U.S. Census social and demographic data describes the population, income, and employment, as well as housing and public utilities, for the DRWA service area (see Figure 3.8-1 in Appendix A). Data was gathered from the ACS 5-year Estimates for 2018 to 2022. Each of the counties in DRWA's service area exhibit characteristics typical of rural areas.

The combined population of the four counties discussed in this EA is 23,003 residents (U.S. Census Bureau 2022d). Richland County is the most populated at 11,366 and Garfield County is the least populated at 976 (U.S. Census Bureau 2022d). The combined population makes up 2.1% percent of Montana's total population. As a representation of the rural nature of the DWRA service area, Montana's average population density is 7.5 people per square mile compared to an average of 1.3 people per square mile across the four counties. (U.S. Census Bureau 2022f). More detailed population information is provided in Table 3.8-1 in Appendix B.

Each of the counties' economies are largely driven by the agriculture and energy extraction industries, resulting in fairly homogenous employment opportunities. For example, according to the U.S. Department of Agriculture National Agricultural Statistics Service's 2022 Census of Agriculture, almost 78% of the land in Dawson County is in farms. The average median household income across the four counties is $67,803, which is just above the state average of $67,631 (U.S. Census Bureau 2022a). Averaged across the counties within DRWA's service area, the unemployment rate of 2.3 percent is lower than Montana's unemployment rate of 3.3 percent (U.S. Census Bureau 2022b). Census tract level median income and unemployment rate data can be found in Table 3.8-2 and Table 3.8-3 in Appendix B.

The 2022 ACS 5-year estimate reports that the median value of owner-occupied housing for each of the counties encompassed in the study area is on average lower than both the state of Montana and the U.S. (U.S. Census Bureau 2022c). Table 3.8-4 in Appendix B includes detailed estimates on the median value of owner-occupied housing in each of the census tracts that make up the DRWA service area.

The DRWA service area discussed in this EA encompasses multiple established municipal water suppliers throughout the four counties. Table 3.8-5 in Appendix B lists the municipal water systems in each of the four counties encompassed by the DRWA service area and the corresponding primary water source. The majority of these water suppliers, in addition to various other private and community water systems, rely on groundwater as their sole source of water.

3.8.2 Environmental Consequences

3.8.2.1 No Action Alternative

The No Action Alternative would continue to result in limited access to clean, affordable water for the residents of the DRWA service area.

3.8.2.2 Proposed Action

Families throughout the DRWA service area may experience beneficial effects on their personal finances. Presently, households spend a portion of their monthly income on water treatment equipment and maintenance of that equipment. Additionally, the poor quality of the water often shortens the lifespan of common appliances such as washing machines, incurring additional maintenance and replacement costs on family budgets. Most families in the service area spend money on bottled drinking water. Though it is unclear how much cost savings families would benefit from under the Proposed Action, a reduction in household water treatment systems and appliance maintenance and replacement could represent a long-term economic benefit.

Because appliances and equipment would need to be replaced less often, there may be a minor adverse effect on local businesses that provide appliances, water treatment systems and supplies, bottled drinking water, and services if demand decreases because of the improved water quality.

Communities and rural households in the Project study area have indicated their willingness to pay for the benefits of the Proposed Action through a recent economic survey conducted by DRWA. Initial analyses of the survey data have found that households are willing to pay approximately $57 to $146 per month above their existing water costs for better water. Final survey results and economic analyses for the Proposed Action will be in the pending Reclamation Feasibility Study.

Presently, the poor drinking water quality in the DWRA service area could be a barrier to residential or commercial development as well as restrict future agricultural use and expansion by younger generations that want to return to their family lands within the DRWA service area. Poor water quality, or the expense of a water filtration system could influence residents to move to areas outside the service area that have higher water quality. The Proposed Action would not result in new growth-inducing effects, but it would eliminate a potential obstacle to growth in community hubs and other rural areas. While not inducing growth, residents throughout the DRWA service area would experience beneficial effects from implementation of the Proposed Action.

3.8.3 Cumulative Effects

Cumulative effects for socioeconomics under the Proposed Action would be beneficial. Additional activities completed as part of the *Highway 200W Project* would benefit local economies during construction and benefit households receiving the water supply.

3.9 Environmental Justice

3.9.1 Affected Environment

In 1994, Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," was issued to focus attention of federal agencies on environmental and human health issues affecting minority, Indigenous, and low-income populations. The EO was to ensure that disproportionately high and adverse human health or environmental effects on these populations/communities are identified and addressed. This direction was enhanced with the issuance of EO 14096 in 2023 "Revitalizing Our Nation's Commitment to Environmental Justice for All."

In the Council on Environmental Quality (CEQ) guidance (EO 12898), the term minority means "individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic." The minority population threshold is defined as either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. Following the CEQ guidance, census tracts that exceeded 50 percent low-income would be considered low-income populations. To be more inclusive of low-income populations and align the EA with the CEQ guideline concept of "meaningfully greater," census tracts that exceed the county's, state's, or nation's poverty percentages, may be considered low-income populations for purposes of this EA.

The DRWA service area's census tracts report 92.1 percent of the population is "white," a higher percentage than the state or nation percent of "white" (U.S. Census Bureau 2022e). Conversely, the minority population of the DRWA service area is 7.8 percent, substantially lower than the average for both Montana and the nation. There is also a meaningfully greater percentage of "American Indian and Alaskan Native" individuals in two of the counties within the service area, Dawson and McCone, which is on par with the state of Montana, compared to the average for the nation (U.S. Census Bureau 2022e). More detailed information can be found in Table 3.9-1 and Table 3.9-2 in Appendix B. Within the DRWA service area, there are no municipal or commercial providers of water services to tribal communities.

In the DRWA service area 7.5 percent of the population is reported to be below the poverty level, which is a smaller percent of the populations reported below poverty level for Montana and the Nation (U.S. Census Bureau 2022e). None of the census tracts within the DRWA service area have more than 50 percent of persons below poverty (U.S. Census Bureau 2022e). Census tract level poverty rates can be found in Table 3.9-1 in Appendix B.

The census tracts within the DRWA service area have a slightly higher average percentage of children under the age of 18 than both the Montana and the Nation (U.S. Census Bureau 2022d). Although the percentage is higher for this age range in the census tracts, there are only approximately 5,220 children representing this percentage within the DRWA service area compared to 226,420 children representing the same age range for Montana (U.S. Census Bureau 2022d). Table

3.9-3 in Appendix B shows the breakdown of the population under 18 years of age by census tract in the DRWA service area.

3.9.2 Environmental Consequences

3.9.2.1 No Action Alternative

The No Action Alternative would continue to result in limited access to good quality water for the residents within the DRWA service area, including low income, minority, or subsistence populations.

3.9.2.2 Proposed Action

All four of the counties where the Proposed Action would be implemented have a portion of the population that has incomes below the national average. The Proposed Action would have a beneficial effect on the population that would be provided with a reliable supply of clean water for residential and commercial use. For the segment of the population that relies on livestock production for subsistence and/or income, the reliability and quality of water available for livestock use through pasture taps would be an additional benefit.

The Proposed Action is unlikely to disproportionally affect minority populations living within the four counties that would be served by the Proposed Action. Based on census tract level poverty rates, services provided by DRWA would not likely disproportionally affect low-income or below-poverty populations living within the DRWA service area.

3.9.3 Cumulative Effects

There are no cumulative effects for environmental justice under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects related to disproportionally affecting minority or economically disadvantaged populations.

3.10 Land Use

3.10.1 Affected Environment

As illustrated in Table 3.10-1 there are federal, state, and private lands within the Project study area that would be subject to construction and operation of the Proposed Action.

Table 3.10-1. Land Type by County Within the Project Study Area

Land Type/County	BLM (acres)	USACE (acres)	State (acres)	Private (acres)
Dawson	2.1	0.0	152.3	2,559.0
Garfield	193.1	227.7	91.7	2,438.3
McCone	385.5	20.0	348.0	5,717.8
Richland	60.4	0.0	371.7	5,269.2
TOTAL	641.1	247.7	963.7	15,984.3

3.10.1.1 Federal Lands

The USACE administers lands (referred to as primary lands) surrounding Fort Peck Reservoir, including the area proposed for the construction and operation of the Reservoir Intake (USACE 2008). These lands are managed by the USACE under the auspices of the 2008 Fort Peck Dam/Fort Peck Lake Master Plan, as amended. This EA focuses on the USACE primary lands within the Project study area. Under 36 CFR 327.19, the USACE would require a Shoreline Use Permit and or other real estate instruments that would document conformance with the Fort Peck Dam/Fort Peck Lake Master Plan.

The Fort Peck Dam/Fort Peck Lake Master Plan acknowledges that water stored in Fort Peck Reservoir may be available for municipal and industrial purposes and managed for water quality to support a number of beneficial uses. Under this plan, the USACE has the authority to issue and administer an out-grant document for use of real property by means of a lease, easement, license, or permit. Within the master plan, there are three management plans that would be considered in this EA: Cultural Resources Management Plan, The National Invasive Species Management Plan and the Shoreline Management Plan.

The BLM administers federal lands intersected by the Project study area, including individual parcels scattered throughout the DRWA service area. All BLM-managed lands within the DRWA service area are administered by the Miles City Field Office and subject to the 2015 Approved Resource Management Plan (BLM RMP 2015). Table 3.10-2 in Appendix B lists the land use objectives and associated management decisions determined to be applicable for purposes of this EA.

3.10.1.2 State and Local Lands

When Montana was accepted as a state through the 1889 Enabling Act, Congress granted sections 16 and 36 in every township within the state. In some instances, these lands were already encumbered, and other lands were selected by the state. The primary purpose of these lands is to generate funds to support Montana's public education institutions. The DNRC manages these trust lands. The State Board of Land Commissioners has the statutory authority to grant ROW and/or easements for water and electric utilities through trust lands. All state trust lands are subject to Montana Code Annotated 2023, Tittle 77, Chapter 1, Part 2 – Multiple -use Management (MCA 77-1-203).

The Project study area includes private lands in four of the counties within the DRWA service area, McCone, Dawson, Garfield, and Richland. Each of these counties have adopted some type of land use planning or policy guidance administered by county representatives.

McCone County has an elected planning board that administers growth policies for McCone County and the Town of Circle. These growth policies are codified as subdivision regulations for McCone County and the Town of Circle, respectively. There are 26.6 acres of the Project study area within the boundary of the Town of Circle.

The Planning Board for Dawson County/City of Glendive developed and administers the 2022 Glendive-Richey-Dawson County Growth Policy. This policy provides for the promotion of public health, safety, morals, convenience, or order or the general welfare and for the sake of efficiency and

economy in the process of community development. A growth policy is required for zoning regulations. A growth policy is not required for subdivision regulations, but if a growth policy is in place, subdivision regulations must be based on the growth policy. In addition to zoning and subdivision regulations, the following activities must be guided by the growth policy:

- Authorization, construction, alteration, or abandonment of public ways, public places, public structures, or public utilities; and
- authorization, acceptance, or construction of water mains, sewers, connections, facilities, or utilities.

There are 14.5 acres of the Project study area within the boundary of the town of Richey.

At this time, Garfield County does not have any land use policies in place for managing growth and development in the county. The Land Use Planning Board is currently inactive and unavailable to the public. There are 9.5 acres of the Project study area within the boundary of the town of Jordan.

Land use in Richland County is guided by two specific Growth Policies: the Town of Fairview and Richland County. These policies focus on subdivision regulations, and to a lesser degree zoning regulations. The county planning department provides services related to land use development and growth through planning, zoning, subdivision review as well as addressing the needs of special or rural districts.

3.10.2 Environmental Consequences

3.10.2.1 No Action Alternative

Under the No Action Alternative, there would be no use or development of federal state or private lands within the Project study area and the associated effects to land use would not occur.

3.10.2.2 Proposed Action

Temporary construction effects would occur on approximately 60 acres of land managed by the USACE. After completion of site-specific reclamation/restoration efforts on these lands, approximately 6 acres of these lands would be subject to permanent effects associated with operation and maintenance of the infrastructure and improvements (e.g., intake, access road). Burial of electrical distribution lines would reduce visual effects to residences within and adjacent to the Project study area. The Proposed Action would be consistent with the USACE 2008 Fort Peck Dam/Fort Peck Lake Management Plan, as amended. Environmental commitments in Appendix G would minimize effects to federal lands administered by the USACE.

Temporary construction effects would occur on approximately 544 acres of land managed by the BLM. After completion of site-specific reclamation/restoration efforts on these lands, approximately 65 acres of land would be subject to permanent effects associated with operation and maintenance of the infrastructure and improvements (e.g., intake, pump station, access road). Environmental commitments in Appendix G have been incorporated into the Proposed Action to minimize effects to federal lands administered by the BLM. In addition, the applicable mitigation measures described below would avoid, minimize, or mitigate adverse effects related to the BLM's

RMP. The commitments and mitigation measures would make the Proposed Action consistent with the BLM RMP, as amended, including goals, objectives and management direction associated with protection and conservation of habitat designated as priority for greater sage grouse.

Temporary, minor adverse effects of construction of the waterlines and electrical lines would occur on approximately 964 acres of land managed by the DNRC. After completion of site-specific reclamation/restoration efforts on these lands, approximately 166 acres of these lands would be subject to permanent effects associated with operation and maintenance of the infrastructure and improvements (e.g., intake, pump station, access road). Minor but permanent adverse effects associated with the permanent footprint of electrical lines would persist, but over time mitigation measures would reduce those effects. The components of the Proposed Action that would be constructed and operated on state trust lands would be consistent with MCA 77-1-203. Environmental commitments have been incorporated into the Proposed Action to minimize effects to state trust administered by the DNRC. Many of the environmental commitments in Appendix G and mitigation measures listed below would apply to lands administered by DNRC.

Temporary effects related to constructing the Proposed Action would occur on approximately 15,984 acres of private lands, with 331 acres of permanent effects associated with aboveground components remaining after construction. While private lands within the four counties included in the Project study area are all subject to the respective county jurisdictions, there are no land use plans or local planning guidance applicable to the Proposed Action. Therefore, construction and operation of the Proposed Action on private lands would be consistent with consent of individual landowners.

3.10.2.3 Mitigation

Table 3.10-3 in Appendix B provides a comprehensive list of environmental commitments and mitigation measures for other resources to avoid or minimize adverse effects associated with federal, state, and local land use.

3.10.3 Cumulative Effects

There are no cumulative effects for land use under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.

3.11 Visual Resources

3.11.1 Affected Environment

Visual resources include those physical features that define the visual and aesthetic character of an area. These can be important natural features or scenic vistas and can include man-made urban or community visual characteristics, including architecture, skylines or other aspects that create a visual definition for an area. Visual resources are important because of their uniqueness and the emotion they can inspire. These features often provide a sense of community for the inhabitants of an area and may attract tourism that contributes to the local economy.

In addition to the lands adjacent to Fort Peck Reservoir and Missouri River, the Project study area is characterized by prairies, badlands, river valleys, and grasslands. These landscapes are heavily influenced by the arid climate, resulting in distinct and predictable vegetation patterns. The existing landscape character in portions of the analysis are modified by several, small, isolated rural population centers (e.g., Circle, Jordan).

The Project study area includes federal, state, and private lands, and much of the Project study area is coincident with highways and local roads. Visual and aesthetic considerations in this section acknowledge both federal and state processes and procedures for identifying visual resources and evaluating potential visual effects and measures for avoiding and if applicable mitigating adverse visual effects.

Although there are federal, state, and private lands within the Project study area, the analysis of visual resources for this section is based on the BLMs Visual Resource Management (VRM) classification system. This system provides a way to inventory and analyze scenic values to determine appropriate levels of management. Scenic quality is a measure of the visual appeal of a parcel of land. Section 102(a)(8) of the Federal Land Policy and Management Act of 1976 placed an emphasis on the protection of the quality of scenic resources on public lands.

BLM-managed lands are assigned into one of four VRM Classes which represent the relative value of the visual resources. Classes I and II are the most valued, Class III represents a moderate value, and Class IV represents the least value. In addition, Class I is generally assigned to those areas where a management decision has been made previously to maintain a natural landscape (e.g., ACEC, SRMA) (BLM 2011). The VRM classes used for this EA were established by BLM's Miles City RMP, which reflects the specific goals or objectives for visual resources applicable to BLM-managed lands. The objectives for each class are provided in Table 3.11-1 in Appendix B.

The VRM classes assigned to BLM-managed lands within the Project study area (Figure 3.11-1 below and Table 3.11-2 in Appendix B) provide the basis for evaluating effects and are assigned through the inventory process. They are informational in nature and provide the basis for considering visual values in the RMP process. They do not establish management direction and should not be used as a basis for constraining or encouraging surface-disturbing activities. They are considered the baseline data for existing conditions (BLM 2011).

The management objective for VRM Class I is to preserve the existing landscape. There are no VRM Class I lands within the Project study area. VRM Class II management objective is to retain the existing character of the landscapes. Within the Project study area, the Lewis and Clark Special Recreation Management Area adjacent to the Missouri River is designated as Class II. VRM Class III management objective is to partially retain the existing landscape. BLM-managed lands designated as Class III occur at several areas throughout the Project study area. VRM Class IV management objective is to provide for management activities that require major landscape modification.

3.11.2 Environmental Consequences

3.11.2.1 No Action Alternative

The No Action Alternative would not result in changes to the landscape character and scenic qualities, therefore, no effects on visual resources.

3.11.2.2 Proposed Action

The Proposed Action would consist of new infrastructure and existing facilities that would be necessary to construct and operate the Proposed Action. The construction of permanent components associated with two (Missouri 1, Missouri 8) of the satellite WTPs and associated facilities intakes would occur on BLM-managed lands designated as VRM Class II. These facilities could result in an adverse effect on the visual characteristics of the lands managed by BLM and would be inconsistent with the BLM RMP objectives for these lands. As illustrated in Table 3.11-3 in Appendix B, about 34 acres of VRM Class II lands would be affected. This would be considered a minor to moderate adverse effect. Environmental commitments in Appendix G would be implemented to reduce the effects of the Proposed Action on these lands.

3.11.3 Cumulative Effects

There are no cumulative effects for visual resources under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.

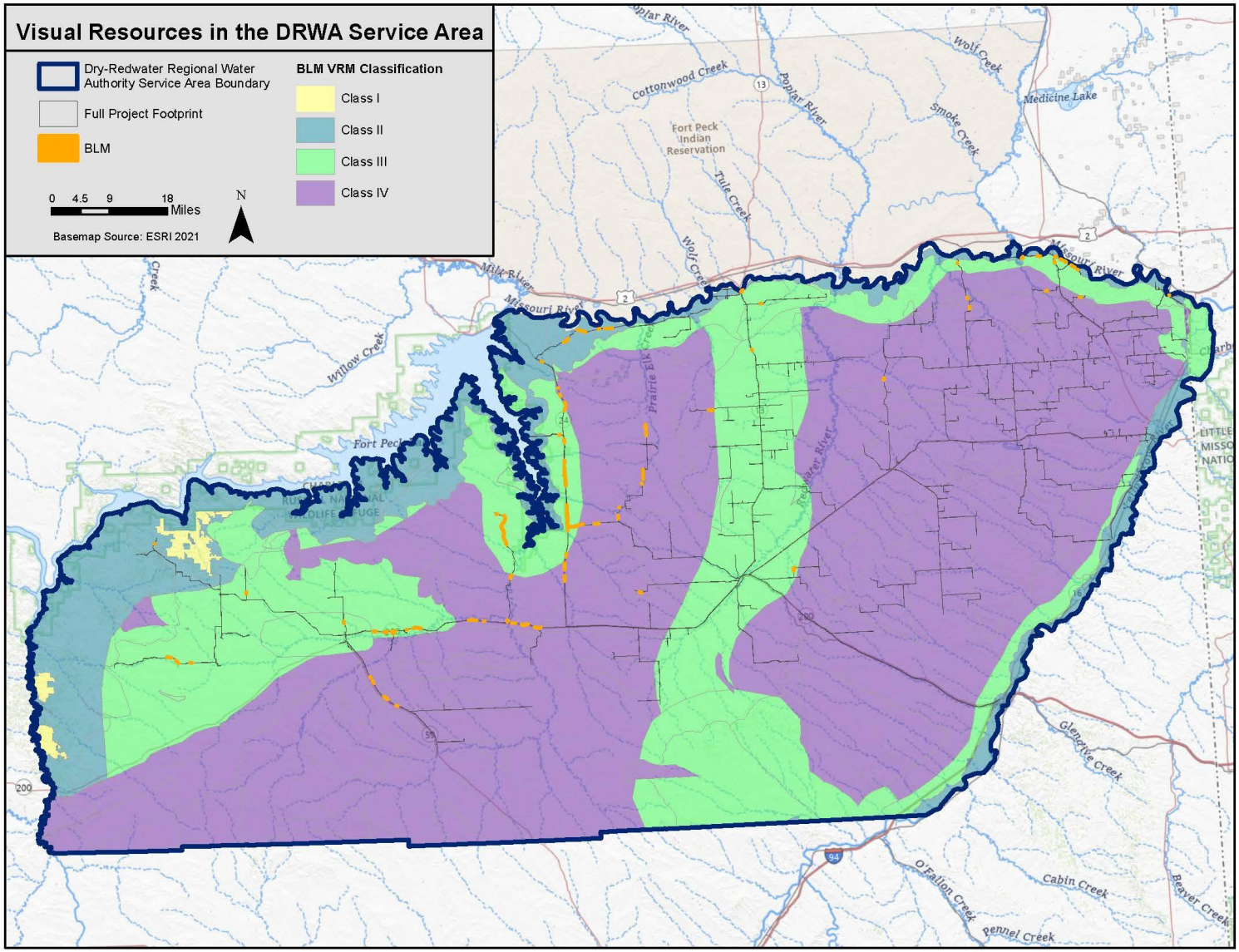


Figure 3.11-1. BLM Visual Resources Classifications in DRWA Service Area

3.12 Recreation

3.12.1 Affected Environment

The lands and resources throughout the DRWA service area offers many recreational facilities and features that provide for a wide array of recreational uses and opportunities. Recreation opportunities within the DRWA service area are generally associated with outdoor activities such as hunting, fishing, trapping, boating, off-road vehicle use and camping. Lands within the DRWA service area provide a wide variety of opportunities including bird watching, wildlife viewing, horseback riding, swimming and other contact and non-contact water sports.

While these recreation activities may occur on private lands to some degree, public lands managed by federal (BLM, USACE and USFWS), state and local agencies offer similar recreational opportunities. While the lands managed by the USACE and USFWS are generally associated with Fort Peck reservoir, BLM lands offer public recreation opportunities throughout the DRWA service area.

3.12.1.1 Recreational Facilities and Features

Federal lands and facilities managed by USACE and USFWS in the DRWA service area include three USACE campgrounds and one USFWS recreation area. USACE manages the Fort Peck Lake Reservoir and Recreation Area, which provides recreational opportunities on Fort Peck Reservoir and the adjacent shoreline. The USACE Rock Creek North Fork Boat Ramp facility is about 0.5 miles west of the proposed Reservoir Intake. The facility includes a two-lane wide cement boat ramp with associated parking area. There are two small boat docks available to the public.

The USFWS manages the 1.1-million-acre Charles M. Russell National Wildlife Refuge adjacent to Fort Peck Reservoir. Approximately half of this refuge is within the DRWA service area and provides opportunities for outdoor recreation. The USFWS manages one developed recreation facility within the DRWA service area, although it is not within or close[11] to the Project study area.

The BLM provides many opportunities for outdoor recreation on more than 940,000 acres within the DRWA service area. There are four easily accessible recreational sites, four Wilderness Study Areas (WSA), and one Special Resource Management Area (SMRA).[12] An SMRA comprising the Lewis and Clark National Historic Trail is managed by the BLM in Montana and traverses the entire northern border of the DRWA service area along the Missouri River. The Lewis and Clark Bridge Historic Site is within the Project study area. The BLM manages five developed recreation facilities within the DRWA service area. BLM goals and objectives for recreation, national trails, and the Lewis and Clark Trail SRMA are shown in Table 3.12-1 in Appendix B.

Within the DRWA service area, there are approximately 420,000 acres of State Trust Lands; however, the recreation is dependent on the parcel, public accessibility of the parcel and type of

[11] Close proximity is defined as within two miles of the Project study area.

[12] The BLM WSAs have no relationship to the lands within the Project study area and are excluded from further discussion in this EA.

recreational use. All recreational use of these State Trust Lands requires a specific conservation license. There are a number of developed recreational facilities within the DRWA service area.

Montana Fish, Wildlife and Parks (Montana FWP) manages 14 Fishing Access Sites (FAS), three Wildlife Management Areas (WMA), 10 Public Access Land Agreements (PALA) and one state park. FAS locations provide public access to high-quality waters for fishing. WMAs are managed lands that protect important wildlife habitat and provide access for high quality wildlife viewing, hunting, and hiking. PALAs provide access to isolated state or federal land for hunting and fishing. Fifteen of these are within or close to the Project study area.

The names and types of all recreational activities within the DRWA service area available are listed in Table 3.12-2 in Appendix B.

3.12.1.2 Recreational Opportunities and Uses

Recreation uses and opportunities in the DRWA service area include dispersed recreation such as hunting, shed antler hunting, fishing, camping, biking, hiking, horseback riding, boating, pleasure driving, and wildlife viewing. While many of these are restricted or otherwise subject to federal and state regulations, recreational uses of various types occur throughout the year. As discussed above and illustrated in Table 3.12-2 in Appendix B, many of these recreational uses occur in association with developed recreational facilities managed by federal, state, local agencies, and private companies.

Big game and upland bird hunting and shed antler hunting are the most popular recreation activities throughout the DRWA service area. Hunting season typically begins in late August and continues through December, but the heaviest hunting use is typically between September and November. Fishing activities occur throughout the DRWA service area and are open year-round in the Eastern Fishing District, unless otherwise specified in the annual Montana FWP Fishing Regulations.

Throughout the DRWA service area, on both federal and non-federal lands, off-highway vehicles (OHV) are often used as the primary mode of transportation for accessing areas to participate in dispersed recreation activities such as hunting and trail riding. On BLM-managed lands motorized OHV use is restricted to existing designated routes, subject to on-going travel management planning efforts.

3.12.2 Environmental Consequences

3.12.2.1 No Action Alternative

Under the No Action Alternative, there would be no effects to recreation sites or recreational opportunities within the Project study area and the associated effects to recreation would not occur.

3.12.2.2 Proposed Action

The in-water construction for the proposed Reservoir Intake would affect recreation access and to a lesser degree recreational opportunities at the Fort Peck Reservoir and Recreation Area. In addition to temporary use of the North Fork Rock Creek Boat Ramp to construct the Reservoir Intake, public boat ramps on the Missouri River may be used to construct intakes in the river. Each of the

existing public boat ramps would be used periodically to support in-river construction efforts. The temporary and low levels of use at any of these areas necessary to construct proposed intakes would result in negligible adverse effects on recreational facilities or users.

There would be periodic, but temporary traffic delays (e.g., 10-15 minutes) associated with construction of the intake and pump station at Fort Peck Reservoir along the existing access road to the Rock Creek FAS. This temporary adverse effect would be mitigated by implementing Mitigation Measure TR-1 (Traffic Management Plan). With this mitigation, adverse effects to traffic would be minimized or avoided. Access to the three sites listed in Table 3.12-3 in Appendix B would be closed to the public while construction in the vicinity takes place; any closure would be short-term (e.g., periodically over a several months) and would have a negligible adverse effect (Table 3.12-3 in Appendix B).

There are 14 additional recreation sites that are within two miles of the Project study area, as shown in Table 3.12-4 in Appendix B. These additional recreation sites may be negligibly affected by the Proposed Action, depending on temporary construction duration, road closures, and traffic diversions.

Construction of the Proposed Action would affect recreational users and opportunities within the Project study area and throughout the larger DRWA service area. The phased schedule to implement the Proposed Action would limit potential effects on recreational users and opportunities to discrete locations within the Project study area over the course of up to ten years. The proximity of the Project study area to existing highways and roads could result in restricted vehicle and/or pedestrian access to public and private lands within the DRWA service area. It may result in generation of dust, however environmental commitments to control dust during construction would reduce effects to recreational users or visitors. These restrictions would occur for short periods of time (e.g., several hours to several days) at any specific location during the construction of water and electrical lines, but in most instances alternative access would be available to pursue recreational opportunities. The Proposed Action would result in minor adverse effects to recreational users or opportunities.

3.12.3 Cumulative Effects

There are no cumulative effects for recreation resources under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.

3.13 Traffic

3.13.1 Affected Environment

The Project study area is primarily located within designated traffic corridors associated with state highways and county roads; many of the county roads are unpaved, and in some cases have little to no aggregate surfacing. With few exceptions, these highways and roads are narrow two-lane roads with minimal to no shoulders and traffic control is limited to stop signs at major intersections. Due to the rural nature of the DRWA service area and the extensive transportation system that serves the

area, traffic congestion along common transportation routes is non-existent other than associated with construction projects or vehicle accidents.

Table 3.13-1 in Appendix B illustrates the miles of both paved and unpaved highway and local roads within the DRWA service area (excluding Prairie County), which generally aligns with the Project study area. Overall, there are 563.4 miles of highway and 799.1 miles of local roads in this area. Collectively, 452.3 miles of these highways and local roads are paved and 910.2 miles of highways and roads are unpaved. A map of the existing transportation routes in the DRWA service area is in Figure 3.13-1 in Appendix A. Montana Department of Transportation (MDOT) manages all highways throughout the Project study area from the Glendive District Office. Roads in Richland County are managed by the Public Works Department. Roads in McCone and Garfield counties are managed by the respective Road Departments and roads in Dawson County are managed by the Road & Bridge Department.

Throughout the DRWA service area, MDOT has traffic count data for 31 highways, primary and secondary roads, and roads classified as urban (MDOT 2022). Table 3.13-2 in Appendix B provides high, low, and mean average annual daily traffic (AADT) data based on three highways, four primary roads, 15 secondary roads and 9 roads classified as urban. The average AADT including all data sets applicable to the DRWA service area is 683.

3.13.2 Environmental Consequences

3.13.2.1 No Action Alternative

The No Action Alternative would not result in any increase in traffic or changes in traffic patterns within the Project study area or the DRWA service area. Therefore, there would be no adverse effects on traffic.

3.13.2.2 Proposed Action

The Proposed Action would require the use of highways and local roads throughout the DRWA service area to transport equipment, supplies and personnel to the Project study area. At many locations, the Project study area coincides or overlaps with the rights-of-ways for these highways and local roads. Prior to implementation of the Proposed Action, permits and/or easements would be required from the respective agencies with jurisdiction over these highways and roads.

The Proposed Action would result in a small increase in vehicle use of these highways and local roads during the timeframe construction would occur. As proposed, about 10 percent of the Proposed Action would be constructed each year for a period of about 10 years. Each construction phase would have an effect on some proportion of the highways and roads throughout the DRWA service area. In addition to periodic delivery of materials and construction equipment to construction sites (e.g., water treatment plants, pump station) and staging areas (e. pipe, power poles) throughout the Project study area, daily traffic would occur for construction and inspection personnel. Conservatively, there would be an increase of 10-20 vehicles using one or more highways and local roads as part of the Proposed Action; about a three percent overall increase in AADT throughout the DRWA service area. This slight increase would not be considered an adverse effect on traffic.

The proximity of the Proposed Action to highway and local roads ROWs could result in the need for short-term lane closures or local detours to reduce effects on wildlife crossing roads, motorist and construction personnel safety resulting in minor adverse effects. Environmental commitments in Appendix G would require coordination with state and local road management and law enforcement agencies to ensure that the safety of motorists, pedestrians, equestrians, residents, and construction personnel is not adversely affected. With this commitment, adverse effects associated with minor increases in traffic would be minimized or avoided.

3.13.3 Cumulative Effects

There are no cumulative effects for traffic under the Proposed Action. Additional activities completed as part of the *Highway 200W Project* would not result in cumulative effects as there is no overlap between new infrastructure or construction effects and the Project study area.