Environmental Assessment & Public Notice for Public Comment

- Environmental Assessment & supporting documents
- Public Notice for Public Comment package
  - Form Checklist
  - PN- Certificate of service
  - PN- Invoice & tear sheet
  - PN- Letter to applicant
  - PN- Letter to editor
  - PN- Return mail
  - Public Comment files
  - Notice Area List
  - Notice Area Map

Environmental Assessment & Public Notice for Public Comment

NOTICE AREA

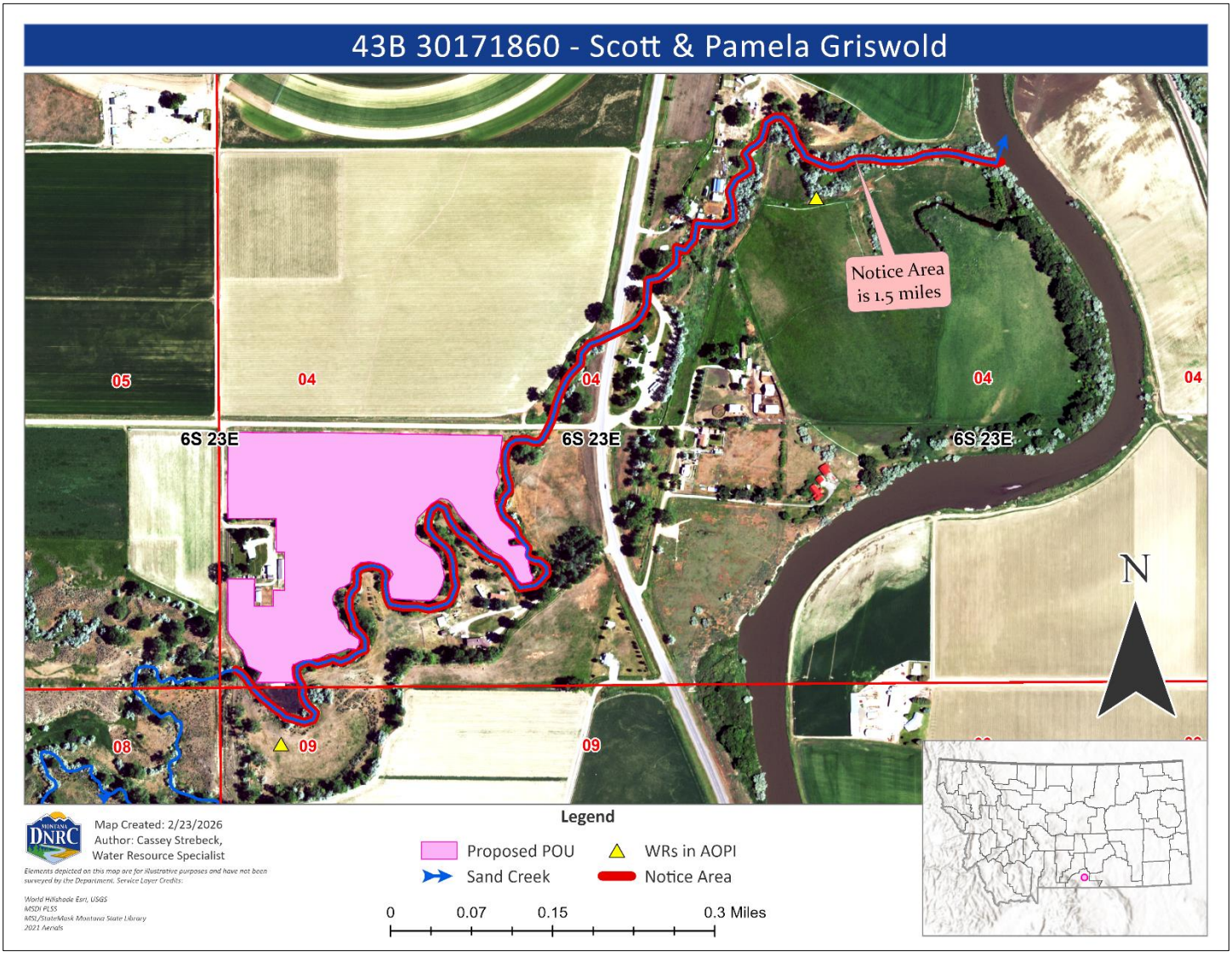
Application No. **43D 30171860** Regional Office # 03

Applicant's Name **Scott & Pamela Griswold**

Indian Reservation [ ] Yes [X] No If yes, Reservation _____

Irrigation District [ ] Yes [X] No If yes, District _____

Specialist **C. Strebeck** Date **3/17/2026**



Water Right Owner	Water Right # (Basin, ID, and Number)
Applicant: R Bar N Ranch, LLC	43D 30171861
Water Right Owners in Potentially Affected Area	
Robin A Schalla; Tammy S Schalla	43D 43402-00
Heidema Ranch LP	43D 30134926
Business / Agencies / Etc.	
BUREAU OF INDIAN AFFAIRS	
MONTANA BOARD OF LAND COMMISSIONER	
DEPT OF FISH, WILDLIFE, & PARKS	
PPL MONTANA LLC, Holly Franz	
NORTHWESTERN ENERGY	
DEPT OF FISH, WILDLIFE, & PARKS	
DEPT OF NATURAL RESOURCES & CONSERVATION	
NORTHERN PLAINS RESOURCE COUNCIL	
US DEPT OF INTERIOR	
MT TROUT UNLIMITED	
US FISH & WILDLIFE SERVICE	
CARBON COUNTY CONSERVATION DISTRICT	
CARBON COUNTY NEWS	
CARBON COUNTY	

*If the owner is listed twice, only one notice is sent

The public notice area is shown on the map as the source outlined in red; the reach of Sand Creek within the red outline extends from the upstream extent of the proposed transitory point of diversion to the confluence of Sand Creek and the Clarks Fork Yellowstone River, approximately 1.5 river miles.

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: Scott M. & Pamela K. Griswold
33 Sand Creek Road
Bridger, MT, 59014

2. Type of action: Application for Beneficial Water Use Permit No. 43D 30171860

3. Water source name: Sand Creek
GNIS 00776174

4. Location affected by project: Generally located in the SW of Section 4, Township 6 South, Range 23 East, Carbon County.

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

The Applicant proposes to divert water from Sand Creek by means of a pump, from a transitory point of diversion, approximately 86 feet long, along the southwest of the Applicant's property boundary, located in the SWSWSW Section 4, Township 6 South, Range 23 East, Carbon County, at a flow rate of 4.1 CFS, and up to 89.8 AF of volume. The Applicant proposes to irrigate 23.8 acres, 1.2 Acres in Government Lot 10 (SESW) and 22.6 Acres in the SWSW, Sec. 4, T6S, R23E, Carbon County, from May 1 to September 30.

The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

Montana Department of Natural Resources and Conservation
Montana Department of Fish, Wildlife and Parks (FWP)
Montana Department of Environmental Quality (DEQ)
Montana Sage Grouse Habitat Conservation Program (SGHCP)
Montana Natural Heritage Program (NHP)
U.S. Fish and Wildlife Service (USFWS)
U.S. Department of Agriculture, National Resource Conservation Service (USDA, NRCS)

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity **–** This project is for 89.9 AF/YR in volume from Sand Creek and is not expected to affect water quantity. The majority of water extracted for this project will return to Sand Creek. This water is believed to come primarily from wastewater and return flows from local irrigators. If local irrigators stopped diverting water from the Clarks Fork Yellowstone River, it is believed that there would be no water available in Sand Creek for the Applicant to utilize.

StreamStats determined a contributing basin area of 44.8 square miles at the project. USGS classifies the Sand Creek as an intermittent stream. This Department took measurements in May; the Applicant took measurements in June, July, August, and September. Water was found to be physically available throughout the proposed months, based on the data analyzed at the time of the Technical Analysis.

Determination: No Significant Impact

Water quality **–** This project will consist of irrigated acreage near the creek; thus, some runoff is expected and may directly enter the creek. Minimal pollutants are expected to occur; however, this is dependent on the Applicant's behaviors and irrigation practices. The Applicant should be conscious of how their actions affect the riparian and water quality.

As of the time of this assessment, Montana DEQ classifies the water quality of Sand Creek below Bridger Creek as Use Class B-1: "Waters classified as suitable for drinking, culinary, and food processing purposes after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply." Also, Montana FWP does not have any restrictions or closures on Sand Creek.

Determination: No Significant Impact

Groundwater - This project is for surface water. The project should not affect the quality or quantity of groundwater.

Determination: No Impact

DIVERSION WORKS

Pump and Conveyance - The project will consist of a pump that will be able to move along the applicant's boundary to divert water from the creek. Water will be pumped and conveyed via a grated pipe system and ditch. With a stationary pump, riparian damage may only occur during the installation, and the riparian zone has time to heal and revegetate. With a transitory pump, the riparian is likely to experience recurring interference that should be taken into account by the Applicant. The Applicant should be aware of the damage that can be inflicted on the riparian and maintain vegetation for bank stability and habitat health.

Determination: Potential Impact

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Sage Grouse – This project is located in Sage Grouse habitat. The Applicant has submitted a letter from the Montana Sage Grouse Habitat Conservation Program for Project No. 7175, dated September 29, 2025 (Governor's Executive Orders 12-2015 and 21-2025).

Determination: Potential Impact

Endangered and threatened species **–** The Natural Heritage Program has identified multiple Species of Concern (SOC), Special Status Species (SSS), Potential Species of Concern (PSOC), and Important Animal Habitat (IAH). The list is included in the EA attachment: Griswold 43D 30171860 Environmental Summary. See pages 3-9.

Determination: No Significant Impact

Wetlands **–** This project is located along Sand Creek. Wetlands and riparian areas are expected at the project site, upstream, and downstream. The Natural Heritage Program identifies a Riverine Lower Perennial and Riverine Intermittent wetland in the Sand Creek basin.

Determination: Potential Impact

Ponds **–** No ponds were claimed or proposed in this project. Aerial imagery does not show a body of water suggestive of a pond or pit.

Determination: No Impact

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE

Geology – MBMG has Sand Creek as having underlain geologic features consisting of clay, silt, sand (mostly quartz), gravel, and organic matter.

Soil Quality **–** The NRCS Web Soil Survey expects that the point of diversion along the creek, where the pump will be placed/moved, consists primarily of Haverson-Heldt silty clay loams, 0 to 4 percent slopes. *See attached NRCS Web Soil Survey.*

Stability – As mentioned with regard to the transitory point of diversion along the Applicant's property, the Applicant should consider the effects on bank stabilization by limiting the removal of riparian vegetation. Maintaining vegetation along the creek to limit erosion.

Determination: Potential Impact

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS –

Vegetation Cover – Vegetation cover can be viewed on pgs. 11-12 of the summary. The summary includes a range of vegetation that does not necessarily apply to the project site. The area around the project site, seen in the orange trapezoid, consists primarily of cultivated crops, great plains floodplain, and great plains mixed-grass prairie. As mentioned, loss of riparian is expected due to the pump being moved along the bank of the creek. The Applicant should take precautions to prevent loss of vegetation.

Determination: Potential Impact

Noxious Weeds – The Natural Heritage Program identifies multiple Priority 1A, 1B, 2A, and 2B noxious weeds within the area of interest. It will be the responsibility of the landowner to prevent the establishment and spread of noxious weeds and non-native species. See pgs. 16-18 of the summary for a list of Aquatic Invasive Species, Noxious Weeds, and Non-Native Biocontrol Species.

Determination: No Significant Impact

AIR QUALITY - This project proposes to use a water pump with a 25hp electric motor. The Applicant has had the project site inspected by Northwestern Energy, which has provided recommendations for power supply. As the project proposes electricity over fuel, the product, at this time, is not expected to produce air pollutants. It is the Applicant's responsibility to ensure that the product is functioning appropriately.

Determination: No Significant Impact

HISTORICAL AND ARCHEOLOGICAL SITES - Montana's National Register of Historic Places does not identify any registered historic landmarks, properties, or districts near the project site, at the time of this assessment. If the Applicant were to locate something of historical significance, it is the Applicant's responsibility to notify the appropriate authorities.

Determination: No Known Impact

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - No additional impact on other environmental resources is expected due to this project.

Determination: No Known Impacts

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS – There are no known locally adopted environmental plans or goals.

Determination: No Known Impacts

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES – This project will have no significant impact on recreational and wilderness activities.

Determination: No Significant Impact

HUMAN HEALTH – This project will have no significant impact on human health.

Determination: No Significant Impact

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No_**X**_ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights*.

Determination: No Known Impact

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* No Significant Impact

(b) *Local and state tax base and tax revenues?* No Significant Impact

(c) *Existing land uses?* No Significant Impact

(d) *Quantity and distribution of employment?* No Significant Impact

(e) *Distribution and density of population and housing?* No Significant Impact

(f) *Demands for government services?* No Significant Impact

(g) *Industrial and commercial activity?* No Significant Impact

(h) *Utilities?* No Significant Impact

(i) *Transportation?* No Significant Impact

(j) *Safety?* No Significant Impact

(k) *Other appropriate social and economic circumstances?* No Significant Impact

2. ***Secondary and cumulative impacts on the physical environment and human population:***

Secondary Impacts: No secondary impacts are identified

Cumulative Impacts: No cumulative impacts are identified

3. ***Describe any mitigation/stipulation measures:*** None at this time.

4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:***

The alternative to the proposed project is the no-action alternative. The no-action alternative prevents the property owner from improving the operation of their irrigation system. The no-action alternative does not prevent or mitigate any significant environmental impacts.

PART III. Conclusion

1. ***Preferred Alternative:*** The DNRC shall issue a water use permit if an Applicant proves the criteria in 85-2-311 MCA are met.

2 ***Comments and Responses:*** It is recommended that the Applicant should take precautions to limit erosion of the riverbank by maintaining the vegetation for erosion control and the health of the riparian zone.

3. ***Finding:***
*Yes___ No_**X**_ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

No significant environmental impacts were identified; therefore, an EIS is not required

Name of person responsible for the preparation of this EA:

Name: Cassey Strebeck
Title: Water Resource Specialist
Date: February 17, 2026

Environmental Summary

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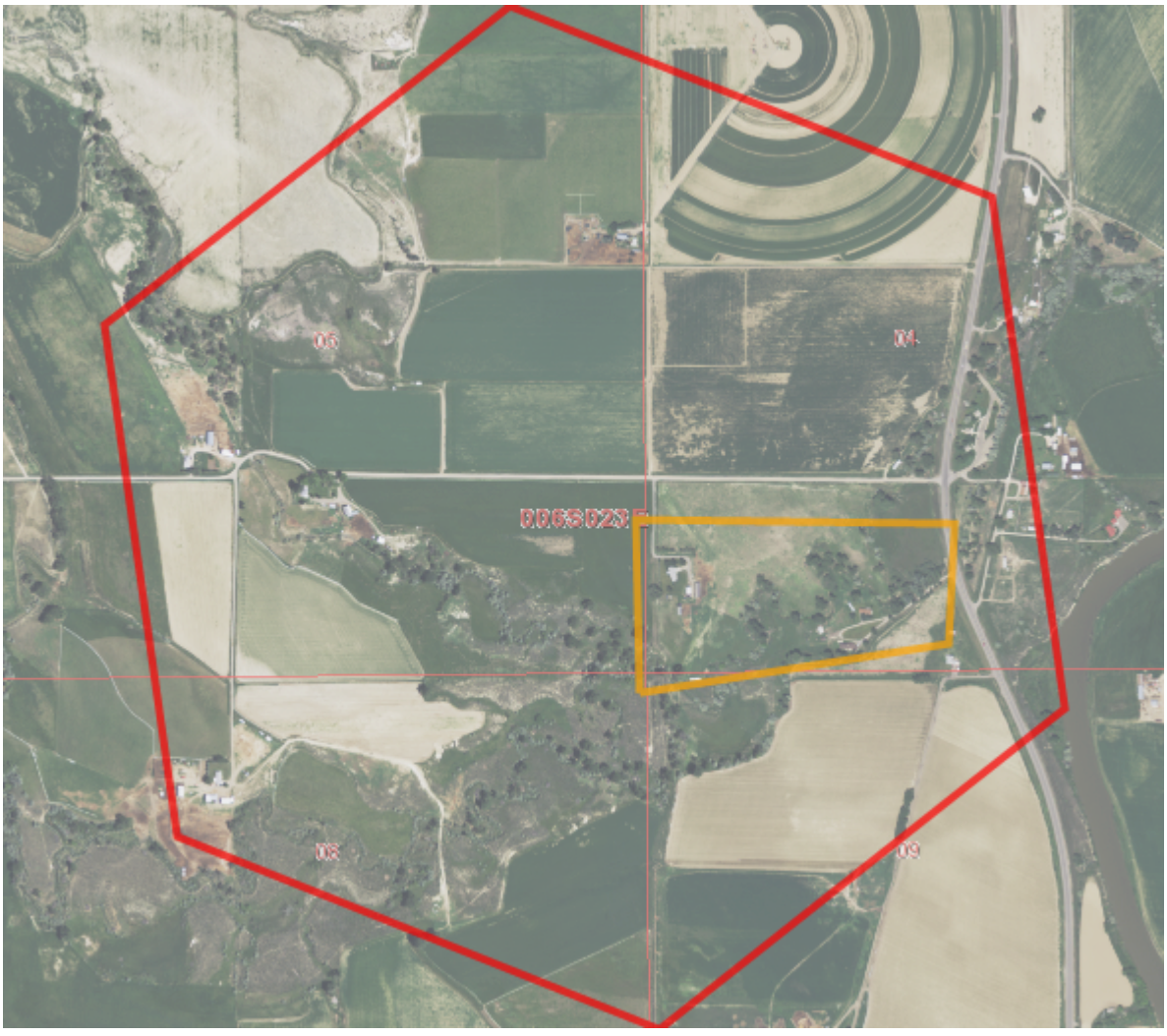
Latitude	Longitude
45.32772	-108.91403
45.34537	-108.93788

Summarized by:
Griswold 43D 30171860
(Custom Area of Interest)



Suggested Citation
Montana Natural Heritage Program. Environmental Summary Report.
for Latitude 45.32772 to 45.34537 and Longitude -108.91403 to -108.93788. Retrieved on 2/13/2026.

The Montana Natural Heritage Program is part of the Montana State Library's Natural Resource Information System. Since 1985, it has served as a neutral and non-regulatory provider of easily accessible information on Montana's species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. The program is part of the NatureServe network that is composed of over 60 member programs across North America that work to provide current and comprehensive distribution and status information on species and biological communities.

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Table of Contents

Introduction to Environmental Summary Report

Environmental Summary Reports from the Montana Natural Heritage Program (MTNHP) provide information on species and biological communities to inform all stakeholders in environmental review, permitting, and planning processes. For information on environmental permits in Montana, please see permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Index of Environmental Permits for Montana and our Suggested Contacts for Natural Resource Management Agencies. The report for your area of interest consists of introductory and related materials in this PDF and an Excel workbook with worksheets summarizing information managed in the MTNHP databases for: (1) species occurrences; (2) other observed species without species occurrences; (3) other species potentially present based on their range, presence of associated habitats, or predictive distribution model output if available; (4) structured surveys that follow a protocol capable of detecting one or more species; (5) land cover mapped as ecological systems; (6) wetland and riparian mapping; (7) land management categories; and (8) biological reports associated with plant and animal observations. If your area of interest corresponds to a statewide polygon layer (e.g., watersheds, counties, or public land survey sections) information summaries in your report will exactly match those boundaries. However, if your report is for a custom area, users should be aware that summaries do not correspond to the exact boundaries of the polygon they have specified, but instead are a summary across a layer of hexagons intersected by the polygon they specified as shown on the report cover. Summarizing by these hexagons which are one square mile in area and approximately one kilometer in length on each side allows for consistent and rapid delivery of summaries based on a uniform grid that has been used for planning efforts across North America.

In presenting this information, MTNHP is working towards assisting the user with rapidly assessing the known or potential species and biological communities, land management categories, and biological reports associated with the report area. Users are reminded that this information is likely incomplete and may be inaccurate as surveys to document species are lacking in many areas of the state, species' range polygons often include regions of unsuitable habitat, methods of predicting the presence of species or communities are constantly improving, and information is constantly being added and updated in our databases. **Field verification by professional biologists of the absence or presence of species and biological communities in a report area will always be an important obligation of users of our data. Users are encouraged to only use this environmental summary report as a starting point for more in depth analyses and are encouraged to contact state, federal, and tribal resource management agencies for additional data or management guidelines relevant to your efforts. Please see the Appendix for introductory materials to each section of the report, additional information resources, and a list of relevant agency contacts.**

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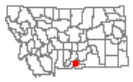
Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
N Suitable (native range)	C Common	Y Native / Year-round	Count of obs with 'good precision' (<=1000m)
O Optimal Suitability	O Occasional	S Summer	+ indicates additional 'poor precision' obs (1001m-10,000m)
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	



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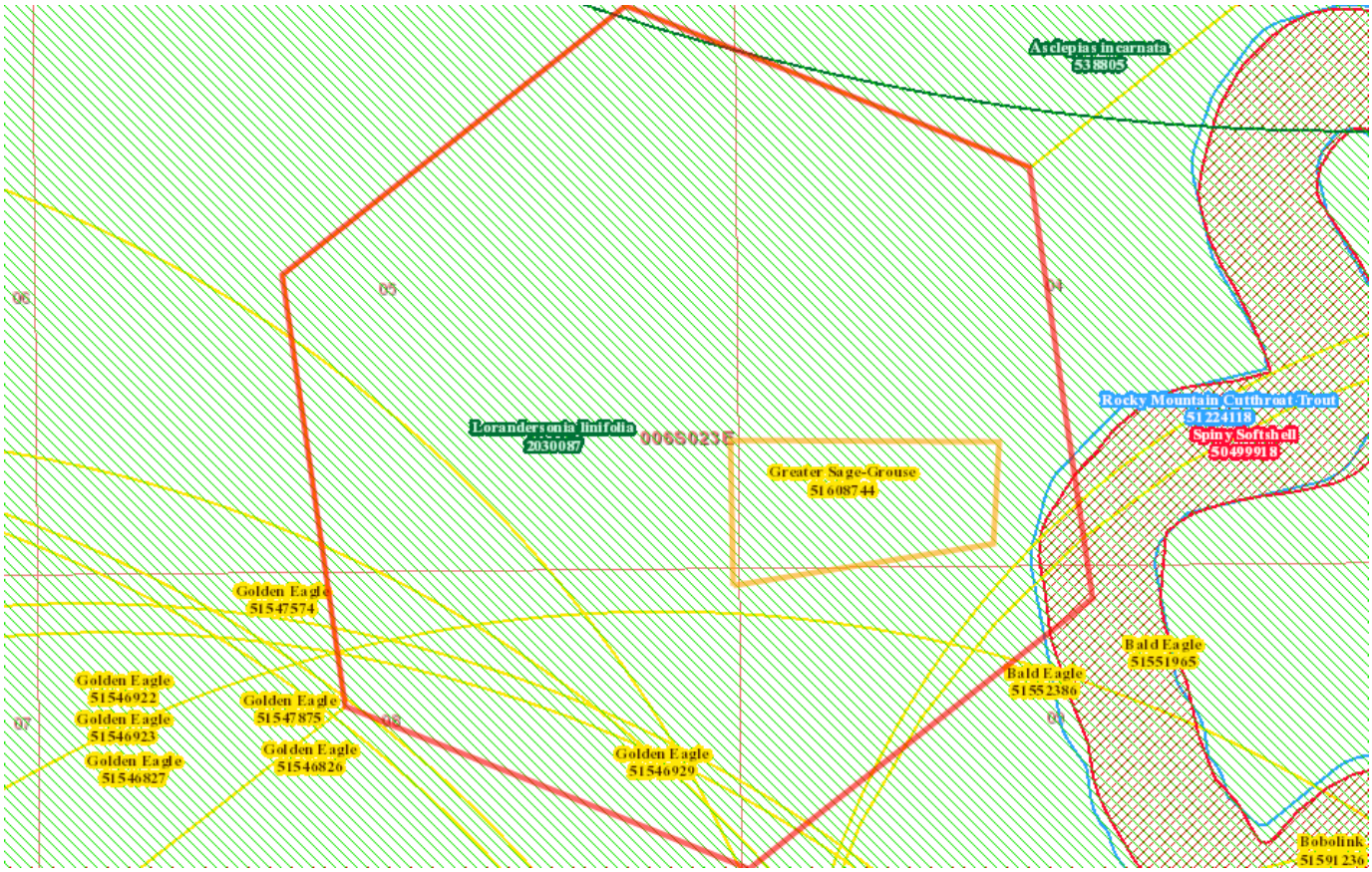
Native Species

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC



Species Occurrences

	USFWS Sec7	# SO	# Obs	Predicted Model	Range
F - Rocky Mountain Cutthroat Trout *(Oncorhynchus virginalis)* SOC		1			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **GNR** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Delineation Criteria Stream reaches and standing water bodies where the species presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters, standing water bodies greater than 1 acre are buffered 50 meters, and standing water bodies less than 1 acre are buffered 30 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Oct 22, 2024)

Predicted Models: N 100% Suitable (native range) (deductive)

V - Asclepias incarnata *(Swamp Milkweed)* SOC		1			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S1?** Plant Threat Score: **No Known Threats** CCVI: **Moderately Vulnerable**

Delineation Criteria Individual occurrences are generally based upon a discretely mapped area provided by an observer and are not separated by any pre-defined distance. Individual clusters of plants mapped at fine spatial scales (separated by less than approximately 25-50 meters) may be grouped together into one occurrence if they are not separated by distinct areas of habitat or terrain features. Point observations are buffered to encompass any locational uncertainty associated with the observation. (Last Updated: Apr 26, 2018)

Predicted Models: N 100% Suitable (native range) (deductive)

B - Bald Eagle *(Haliaeetus leucocephalus)* SSS		2	1		Y

View in Field Guide **View Predicted Models** **View Range Maps**
Special Status Species - Native Species Global: **G5** State: **S4** USFWS: **BGEPA; MBTA** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** PIF: **2**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 2,000 meters in order to be conservative about encompassing the breeding territory and area commonly used for renesting. Only nesting observations with a locational uncertainty of 1,000 meters or less will be used to delineate a nesting area. (Last Updated: Feb 04, 2026)

Predicted Models: M 100% Moderate (inductive)

B - Golden Eagle *(Aquila chrysaetos)* SOC		6			Y

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **BGEPA; MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Delineation Criteria Confirmed nesting area buffered by a minimum distance of 3,000 meters in order to be conservative about encompassing the entire breeding territory and area commonly used for renesting and otherwise buffered by the locational uncertainty associated with the observation up to a maximum distance of 5,000 meters. (Last Updated: Jan 29, 2026)

Predicted Models: L 100% Low (inductive)

R - Spiny Softshell *(Apalone spinifera)* **SOC** | 1 | Y | H

View in Field Guide **View Predicted Models** **View Range Maps**

Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Delineation Criteria Stream reaches and impounded streams within the species' native range where the species naturally occurs and their presence has been confirmed through direct capture or where they are believed to be present based on the professional judgement of a biologist due to confirmed presence in adjacent areas. In order to reflect the importance of adjacent terrestrial habitats to survival, stream reaches are buffered 100 meters and impounded streams 50 meters into the terrestrial habitat based on PACFISH/INFISH Riparian Conservation Area standards. (Last Updated: Jan 30, 2026)

Predicted Models: L 100% Low (inductive)

B - Greater Sage-Grouse *(Centrocercus urophasianus)* **SOC** | 1 | Not Assessed | Y

View in Field Guide **View Range Maps**

USFS: **Sensitive - Known in Forests (BD)**

Species of Concern - Native Species Global: **G3** State: **S2** **Species of Conservation Concern in Forests (CG)** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **1**

Delineation Criteria Confirmed breeding area based on the presence of a nest, chicks, juveniles, or adults on a lek. Point observations are mapped in the center of a one-square mile hexagon to protect the exact locations of leks. The outer edges of this hexagon are then buffered by a distance of 6,400 meters in order to encompass a body of research indicating that females typically nest within this distance of a lek and that lek numbers are negatively impacted by fossil fuel drilling activities within this distance of a lek. If the locational uncertainty associated with the observation is greater than 5,000 meters, the observation is not valid for creation of a species occurrence. All of the one-square mile hexagons intersecting this buffered area are presented as the Species Occurrence record. (Last Updated: Feb 10, 2026)

V - Lorandersonia linifolia *(Spearleaf Rabbitbrush)* **PSOC** | 1 | Not Assessed | Y

View in Field Guide **View Range Maps**

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** Plant Threat Score: **No Known Threats**

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Legend

Model Icons	Habitat Icons	Range Icons	Num Obs
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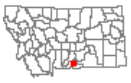
M Moderate Suitability		W Winter	
L Low Suitability		M Migratory	
I Suitable (introduced range)		N Non-native	
		H Historical	



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Native Species

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*
Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Observed Species

	USFWS Sec7	# Obs	Predicted Model	Range
B - American White Pelican *(Pelecanus erythrorhynchos)* **SOC**		3		S M

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: M 100% Moderate (inductive)

B - Great Blue Heron *(Ardea herodias)* **SOC**		1		Y S M

View in Field Guide **View Predicted Models** **View Range Maps**
Species of Concern - Native Species Global: **G5** State: **S3** USFWS: **MBTA** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

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Legend

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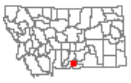
I Suitable (introduced range)		N Non-native	
		H Historical	



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Native Species

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Filtered by:
Native Species reports are filtered for Species with MT Status = Species of Concern, Special Status, Important Animal Habitat, Potential SOC

Other Potential Species

	USFWS Sec7	Predicted Model	Range
F - Burbot *(Lota lota)* PSOC			Y
I - Bombus pensylvanicus *(American Bumble Bee)* SOC			Y
M - Little Brown Myotis *(Myotis lucifugus)* SOC			Y
M - North American Porcupine *(Erethizon dorsatum)* PSOC			Y
M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC			Y
M - Western Spotted Skunk *(Spilogale gracilis)* PSOC			Y
B - Hooded Merganser *(Lophodytes cucullatus)* PSOC			Y M
B - Pinyon Jay *(Gymnorhinus cyanocephalus)* SOC			Y
R - Snapping Turtle *(Chelydra serpentina)* SOC			Y
R - Western Milksnake *(Lampropeltis gentilis)* SOC			Y
V - Eleocharis rostellata *(Beaked Spikerush)* SOC			Y
M - Pallid Bat *(Antrozous pallidus)* SOC			S M

F - Burbot *(Lota lota)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** FWP SWAP: **SGIN**
Predicted Models: N 100% Suitable (native range) (deductive)

I - Bombus pensylvanicus *(American Bumble Bee)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3** FWP SWAP: **SGCN**
Predicted Models: O 100% Optimal (inductive)

M - Little Brown Myotis *(Myotis lucifugus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S2S3** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

M - North American Porcupine *(Erethizon dorsatum)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

M - Townsend's Big-eared Bat *(Corynorhinus townsendii)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** USFS: **Sensitive - Known in Forests (LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

M - Western Spotted Skunk *(Spilogale gracilis)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **SU** FWP SWAP: **SGIN**
Predicted Models: M 100% Moderate (inductive)

B - Hooded Merganser *(Lophodytes cucullatus)* PSOC

View in Field Guide | View Predicted Models | View Range Maps
Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** PIF: **2**
Predicted Models: M 100% Moderate (inductive)

B - Pinyon Jay *(Gymnorhinus cyanocephalus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G3** State: **S3** USFWS: **MBTA; BCC10; BCC17** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

R - Snapping Turtle *(Chelydra serpentina)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native/Non-native Species - (depends on location or taxa) Global: **G4G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

R - Western Milksnake *(Lampropeltis gentilis)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

V - Eleocharis rostellata *(Beaked Spikerush)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** USFS: **Species of Conservation Concern in Forests (CG, FLAT, HLC)** Plant Threat Score: **Unknown**
CCVI: **Less Vulnerable** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

M - Pallid Bat *(Antrozous pallidus)* SOC

View in Field Guide | View Predicted Models | View Range Maps
Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: M 100% Moderate (inductive)

B - Blue-gray Gnatcatcher *(Polioptila caerulea)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Predicted Models: M 100% Moderate (inductive)

B - Dickcissel *(Spiza americana)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA**

Predicted Models: M 100% Moderate (inductive)

B - Yellow-billed Cuckoo *(Coccyzus americanus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **PS: LT; MBTA** BLM: **THREATENED** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: M 100% Moderate (inductive)

I - Danaus plexippus *(Monarch)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S2S3** USFWS: **P** USFS: **Sensitive - Migratory in Forests (BD, BRT, KOOT)** FWP SWAP: **SGCN**

Predicted Models: M 100% Moderate (inductive)

M - Black-tailed Prairie Dog *(Cynomys ludovicianus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Predicted Models: L 100% Low (inductive)

M - Dwarf Shrew *(Sorex nanus)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G4** State: **S2S3** FWP SWAP: **SGIN**

Predicted Models: L 100% Low (inductive)

M - Fringed Myotis *(Myotis thysanodes)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**

Predicted Models: L 100% Low (inductive)

M - Grizzly Bear *(Ursus arctos)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** USFWS: **LT** BLM: **THREATENED**

Predicted Models: L 100% Low (inductive)

M - Long-eared Myotis *(Myotis evotis)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3** FWP SWAP: **SGCN**

Predicted Models: L 100% Low (inductive)

M - Long-legged Myotis *(Myotis volans)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4G5** State: **S3** FWP SWAP: **SGCN**

Predicted Models: L 100% Low (inductive)

M - Merriam's Shrew *(Sorex merriami)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN**

Predicted Models: L 100% Low (inductive)

M - Prairie Shrew *(Sorex haydeni)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGCN**

Predicted Models: L 100% Low (inductive)

M - Silver-haired Bat *(Lasionycteris noctivagans)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3** FWP SWAP: **SGCN**

Predicted Models: L 100% Low (inductive)

B - Barrow's Goldeneye *(Bucephala islandica)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4** USFWS: **MBTA** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - Eastern Screech-Owl *(Megascops asio)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **3**

Predicted Models: L 100% Low (inductive)

B - Sharp-tailed Grouse *(Tympanuchus phasianellus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3S4** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: L 100% Low (inductive)

R - Plains Hog-nosed Snake *(Heterodon nasicus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5T5** State: **S2** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

A - Great Plains Toad *(Anaxyrus cognatus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

A - Northern Leopard Frog *(Lithobates pipiens)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3S4** USFS: **Sensitive - Suspected in Forests (KOOT, LOLO)** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

I - Bombus insularis *(Indiscriminate Cuckoo Bumble Bee)* PSOC

View in Field Guide View Predicted Models View Range Maps
Potential Species of Concern - Native Species Global: **G3** State: **S3S4**
Predicted Models: L 100% Low (inductive)

I - Bombus occidentalis *(Western Bumble Bee)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3** State: **S2** USFS: **Sensitive - Known in Forests (BD, BRT, KOOT)** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

I - Bombus suckleyi *(Suckley's Cuckoo Bumble Bee)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G2G3** State: **S1** USFWS: **P** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

V - Carex crawei *(Crawe's Sedge)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2S3** Plant Threat Score: **Low**
Predicted Models: L 100% Low (inductive)

V - Hymenoxys torreyana *(Torrey Bitterweed)* PSOC

View in Field Guide View Predicted Models View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S3S4** Plant Threat Score: **No Known Threats**
Predicted Models: L 100% Low (inductive)

V - Stellaria crassifolia *(Fleshy Stitchwort)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S2** Plant Threat Score: **No Known Threats**
Predicted Models: L 100% Low (inductive)

M - Eastern Red Bat *(Lasiurus borealis)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

M - Northern Hoary Bat *(Lasiurus cinereus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G3G4** State: **S3B** BLM: **SENSITIVE** FWP SWAP: **SGCN**
Predicted Models: L 100% Low (inductive)

M - Spotted Bat *(Euderma maculatum)* PSOC

View in Field Guide View Predicted Models View Range Maps
Potential Species of Concern - Native Species Global: **G4** State: **S4** BLM: **SENSITIVE** FWP SWAP: **SGIN**
Predicted Models: L 100% Low (inductive)

B - American Bittern *(Botaurus lentiginosus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: L 100% Low (inductive)

B - Black-billed Cuckoo *(Coccyzus erythropthalmus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**
Predicted Models: L 100% Low (inductive)

B - Black-necked Stilt *(Himantopus mexicanus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: L 100% Low (inductive)

B - Bobolink *(Dolichonyx oryzivorus)* SOC

View in Field Guide View Predicted Models View Range Maps
Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA; BCC10; BCC11; BCC17** FWP SWAP: **SGCN** PIF: **3**
Predicted Models: L 100% Low (inductive)

B - Brewer's Sparrow *(Spizella breweri)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - Broad-tailed Hummingbird *(Selasphorus platycercus)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA; BCC10**

Predicted Models: L 100% Low (inductive)

B - Chimney Swift *(Chaetura pelagica)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G4G5** State: **S3S4B** USFWS: **MBTA; BCC11** FWP SWAP: **SGCN** PIF: **3**

Predicted Models: L 100% Low (inductive)

B - Common Poorwill *(Phalaenoptilus nuttallii)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S4B** USFWS: **MBTA** FWP SWAP: **SGIN** PIF: **3**

Predicted Models: L 100% Low (inductive)

B - Long-billed Curlew *(Numenius americanus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA; BCC11** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - Plumbeous Vireo *(Vireo plumbeus)* **PSOC**

View in Field Guide | View Predicted Models | View Range Maps

Potential Species of Concern - Native Species Global: **G5** State: **S3S4B** USFWS: **MBTA** FWP SWAP: **SGCN** PIF: **3**

Predicted Models: L 100% Low (inductive)

B - Sage Thrasher *(Oreoscoptes montanus)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G4** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **3**

Predicted Models: L 100% Low (inductive)

B - Veery *(Catharus fuscescens)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - White-faced Ibis *(Plegadis chihi)* **SOC**

View in Field Guide | View Predicted Models | View Range Maps

Species of Concern - Native Species Global: **G5** State: **S3B** USFWS: **MBTA** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **2**

Predicted Models: L 100% Low (inductive)

B - Sprague's Pipit *(Anthus spragueii)* **SOC** 7 Not Assessed

View in Field Guide | View Range Maps

Species of Concern - Native Species Global: **G3G4** State: **S3B** USFWS: **MBTA; BCC11; BCC17** BLM: **SENSITIVE** FWP SWAP: **SGCN** PIF: **1**

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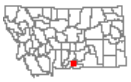

Latitude	Longitude
45.32772	-108.91403
45.34537	-108.93788

Structured Surveys

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*

The Montana Natural Heritage Program (MTNHP) records information on the locations where more than 80 different types of well-defined repeatable survey protocols capable of detecting an animal species or suite of animal species have been conducted by state, federal, tribal, university, or private consulting biologists. Examples of structured survey protocols tracked by MTNHP include: visual encounter and dip net surveys for pond breeding amphibians, point counts for birds, call playback surveys for selected bird species, visual surveys of migrating raptors, kick net stream reach surveys for macroinvertebrates, visual encounter cover object surveys for terrestrial mollusks, bat acoustic or mist net surveys, pitfall and/or snap trap surveys for small terrestrial mammals, track or camera trap surveys for large mammals, and trap surveys for turtles. Whenever possible, photographs of survey locations are stored in MTNHP databases.

MTNHP does not typically manage information on structured surveys for plants; surveys for invasive species may be a future exception.

Within the report area you have requested, structured surveys are summarized by the number of each type of structured survey protocol that has been conducted, the number of species detections/observations resulting from these surveys, and the most recent year a survey has been conducted.

E-Noxious Weed, Road-based *(Noxious Weed Road-based Visual Surveys)*	**Survey Count**: 2	**Obs Count**: 4	**Recent Survey**: 2003
F-Fish Other Survey *(Fish Other Survey (FWP Survey Type))*	**Survey Count**: 2	**Obs Count**: 4	**Recent Survey**: 1957
F-Fish Trapping/Netting *(Fish Trapping or Netting Surveys)*	**Survey Count**: 1	**Obs Count**: 7	**Recent Survey**: 2004
M-Bat Roost (Active Season) *(Bat Roost (Active Season) Survey)*	**Survey Count**: 1	**Obs Count**:	**Recent Survey**: 2003

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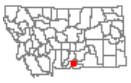

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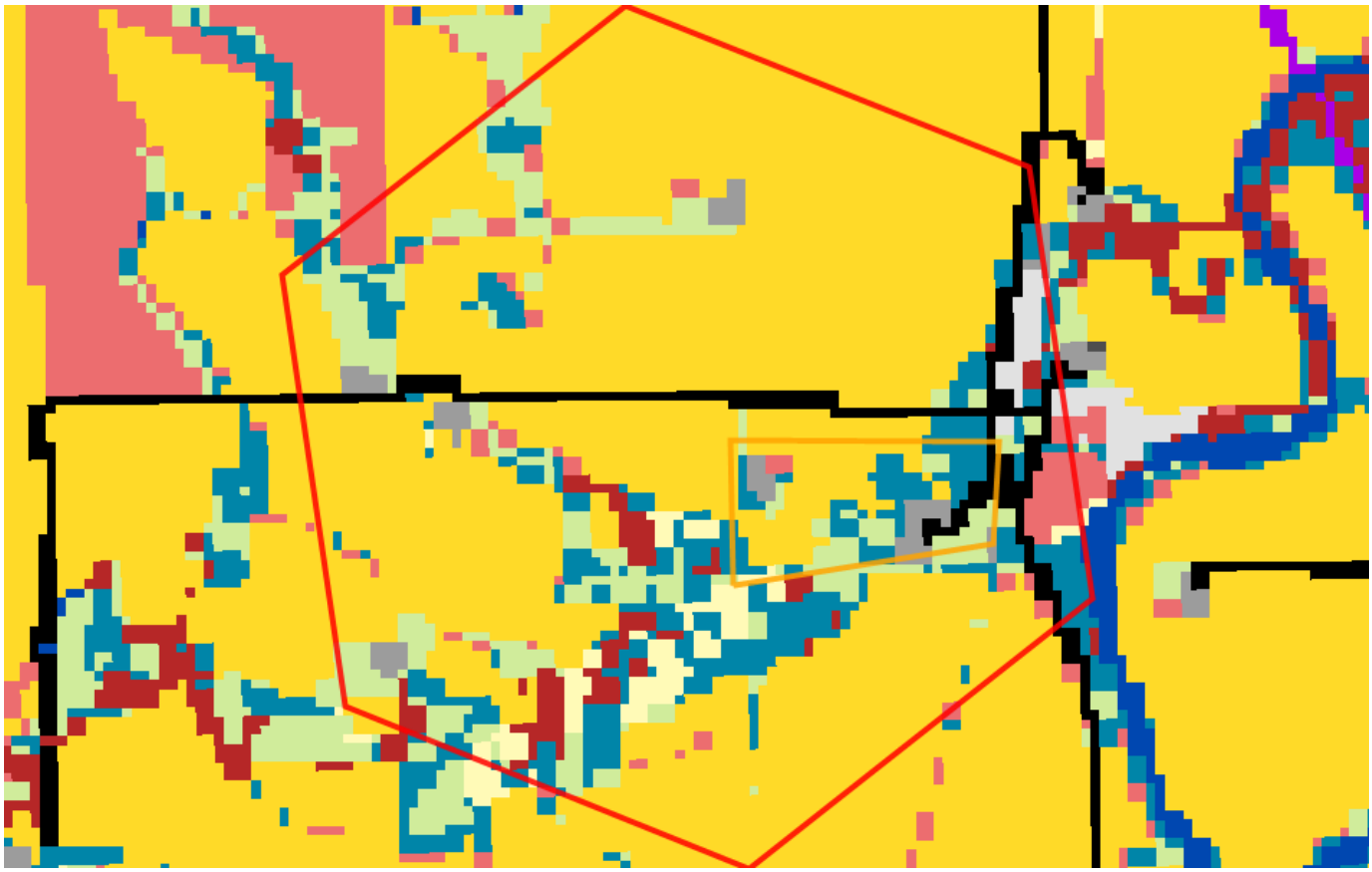
Land Cover

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*



66% (*421 Acres*)

Human Land Use

Agriculture

Cultivated Crops

These areas used for the production of crops, such as corn, soybeans, small grains, sunflowers, vegetables, and cotton, typically on an annual cycle. Agricultural plant cover is variable depending on season and type of farming. Other areas include more stable land cover of orchards and vineyards.

11% (*69 Acres*)

Wetland and Riparian Systems

Floodplain and Riparian

Great Plains Floodplain

This system occurs along the Missouri and Yellowstone Rivers and their larger tributaries, including parts of the Little Missouri, Clark's Fork Yellowstone, Powder, Tongue, Bighorn, Milk, and Musselshell rivers. These are the big perennial rivers of the region, with hydrologic dynamics largely driven by snowmelt and rainfall originating in their headwater watersheds, rather than local precipitation events. In the absence of disturbance, periodic flooding of fluvial and alluvial soils and channel migration will create depressions and backwaters that support a mosaic of wetland and riparian vegetation, whose composition and structure is sustained, altered and redistributed by hydrology. Dominant communities within this system range from floodplain forests to wet meadows to gravel/sand flats, linked by underlying soils and flooding regimes. In the western part of the system's range in Montana, the overstory dominant species is black cottonwood (*Populus balsamifera ssp. trichocarpa*) with narrowleaf cottonwood *(Populus angustifolia)* and eastern cottonwood (*Populus deltoides)* occurring as co-dominants in the riparian/floodplain interface near the mountains. Further east, narrowleaf cottonwood and Plains cottonwood become dominant. In relatively undisturbed stands, willow (*Salix* species), redosier dogwood (*Cornus sericea*) and common chokecherry (*Prunus virginiana*) form a thick, multi-layered shrub understory, with a mixture of cool and warm season graminoid species below.

In Montana, many occurrences are now degraded to the point where the cottonwood overstory is the only remaining natural component. The hydrology of these floodplain systems has been affected by dams, highways, railroads and agricultural ditches, and as a result, they have lost their characteristic wetland /riparian mosaic structure. This has resulted in a highly altered community consisting of relict cottonwood stands with little regeneration. The understory vegetation is dominated by non-native pasture grasses, legumes and other introduced forbs, or by the disclimax western snowberry (*Symphoricarpos occidentalis*) and rose (*Rosa* species) shrub community.

9% (*59 Acres*)

Grassland Systems
Lowland/Prairie Grassland
Great Plains Mixedgrass Prairie

The system covers much of the eastern two-thirds of Montana, occurring continuously for hundreds of square kilometers, interrupted only by wetland/riparian areas or sand prairies. Soils are primarily fine and medium-textured. The growing season averages 115 days, ranging from 100 days on the Canadian border to 130 days on the Wyoming border. Climate is typical of mid-continental regions with long severe winters and hot summers. Grasses typically comprise the greatest canopy cover, and western wheatgrass (*Pascopyrum smithii*) is usually dominant. Other species include thickspike wheatgrass (*Elymus lanceolatus*), green needlegrass (*Nassella viridula*), blue grama (*Bouteloua gracilis*), and needle and thread (*Hesperostipa comata*). Near the Canadian border in north-central Montana, this system grades into rough fescue (*Festuca campestris)* and Idaho fescue (*Festuca idahoensis*) grasslands. Remnants of shortbristle needle and thread *(Hesperostipa curtiseta)* dominated vegetation are found in northernmost Montana and North Dakota, and are associated with productive sites, now mostly converted to farmland. Forb diversity is typically high. In areas of southeastern and central Montana where sagebrush steppe borders the mixed grass prairie, common plant associations include Wyoming big sagebrush-western wheatgrass (*Artemisia tridentata* ssp. *wyomingensis/ Pascopyrum smithii*). Fire and grazing are the primary drivers of this system. Drought can also impact it, in general favoring the shortgrass component at the expense of the mid-height grasses. With intensive grazing, cool season exotics such as Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and Japanese brome (*Bromus japonicus*) increase in dominance; both of these rhizomatous species have been shown to markedly decrease species diversity. Previously cultivated acres that have been re-vegetated with non-native plants have been transformed into associations such as Kentucky bluegrass (*Poa pratensis*)/western wheatgrass *(Pascopyrum smithii)* or into pure crested wheatgrass (*Agropyron cristatum)* stands.

No Image

3% (*19 Acres*)

Human Land Use
Developed
Other Roads

County, city and or rural roads generally open to motor vehicles.

3% (*16 Acres*)

Recently Disturbed or Modified
Introduced Vegetation
Introduced Riparian and Wetland Vegetation

Areas where non-native vegetation dominates lands immediately adjacent to rivers and streams (riparian) or occupies 75% of more of a wetland. Typically this class describes Russian Olive along large rivers east of the Rocky Mountains.

2% (*16 Acres*)

Shrubland, Steppe and Savanna Systems
Sagebrush Steppe
Big Sagebrush Steppe

This widespread ecological system occurs throughout much of central Montana, and north and east onto the western fringe of the Great Plains. In central Montana, where this system occurs on both glaciated and non-glaciated landscapes, it differs slightly, with more summer rain than winter precipitation and more precipitation annually. Throughout its distribution, soils are typically deep and non-saline, often with a microphytic crust. This shrub-steppe is dominated by perennial grasses and forbs with greater than 25% cover. Overall shrub cover is less than 10 percent. In Montana and Wyoming, stands are more mesic, with more biomass of grass, and have less shrub diversity than stands farther to the west, and 50 to 90% of the occurrences are dominated by Wyoming big sagebrush with western wheatgrass (*Pascopyrum smithii*). Japanese brome (*Bromus japonicus*) and cheatgrass (*Bromus tectorum*) are indicators of disturbance, but cheatgrassis typically not as abundant as in the Intermountain West, possibly due to a colder climate. The natural fire regime of this ecological system maintains a patchy distribution of shrubs, preserving the steppe character. Shrubs may increase following heavy grazing and/or with fire suppression. In central and eastern Montana, complexes of prairie dog towns are common in this ecological system.

2% (*16 Acres*)

Recently Disturbed or Modified
Introduced Vegetation
Introduced Upland Vegetation - Annual and Biennial Forbland

Land cover is significantly altered/disturbed by introduced annual and biennial forbs. Natural vegetation types are no longer recognizable. Typical species that dominate these areas are knapweed, oxeye daisy, Canada thistle, leafy spurge, pepperweed, and yellow sweetclover.

2% (*11 Acres*)

Human Land Use
Developed
Low Intensity Residential

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20-50% of total cover. These areas most commonly include single-family housing units in rural and suburban areas. Paved roadways may be classified into this category.

Additional Limited Land Cover

1% (*9 Acres*) Major Roads

1% (*5 Acres*) Developed, Open Space

<1% (*0 Acres*) Open Water

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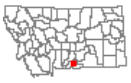

Latitude	Longitude
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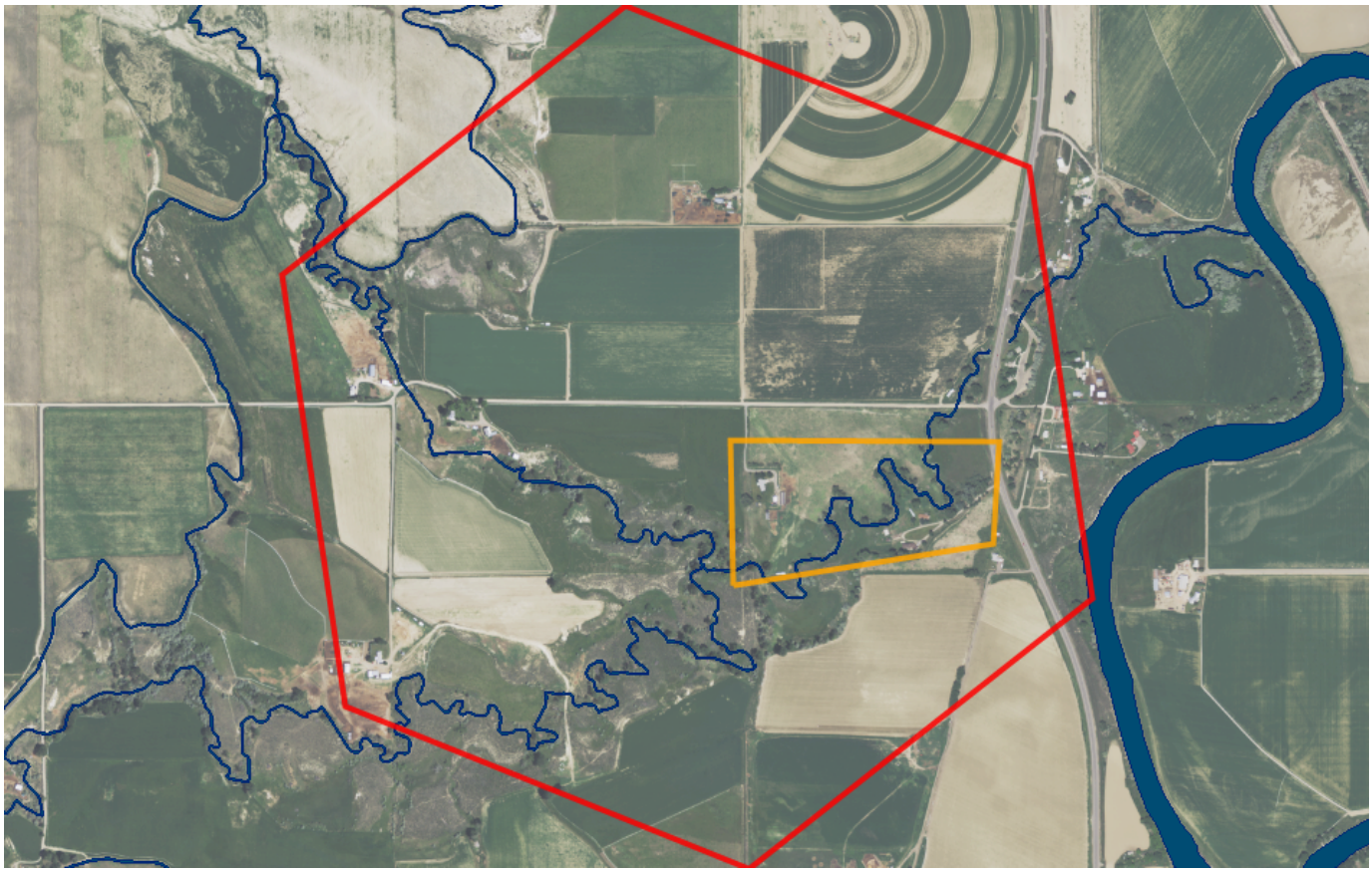
Wetland and Riparian

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*



Wetland and Riparian Mapping

R - Riverine (Rivers)

2 - Lower Perennial

UB - Unconsolidated Bottom

H - Permanently Flooded	<1 Acres	
(no modifier)	**<1 Acres**	**R2UBH**

R - Riverine (Rivers), 2 - Lower Perennial, UB - Unconsolidated Bottom
Stream channels where the substrate is at least 25% mud, silt or other fine particles.

4 - Intermittent

SB - Stream Bed

A - Temporarily Flooded	7 Acres	
(no modifier)	**7 Acres**	**R4SBA**
C - Seasonally Flooded	1 Acres	
(no modifier)	**<1 Acres**	**R4SBC**
x - Excavated	**1 Acres**	**R4SBCx**

R - Riverine (Rivers), 4 - Intermittent, SB - Stream Bed
Active channel that contains periodic water flow.

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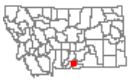
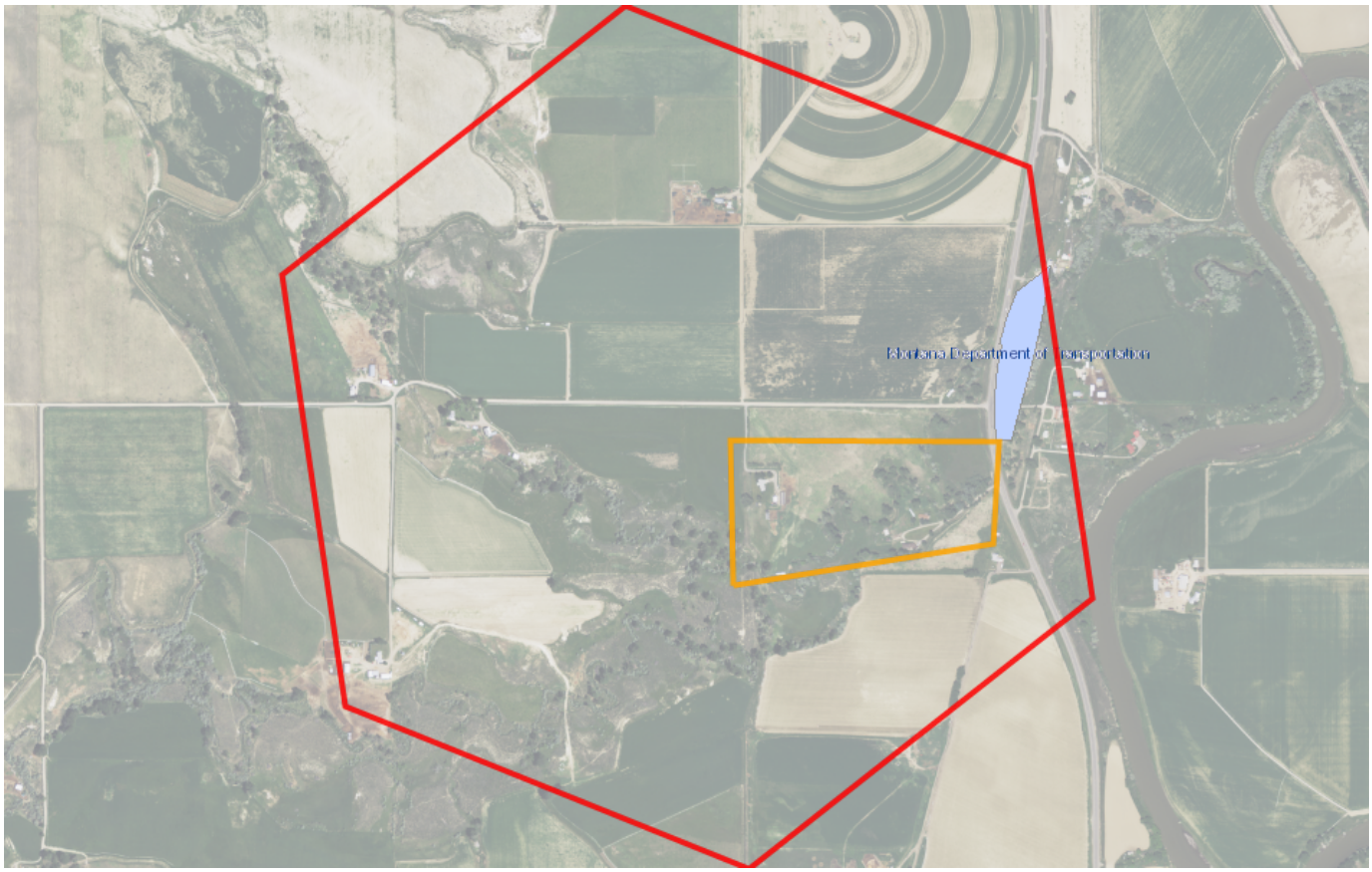


Latitude	Longitude
45.32772	-108.91403
45.34537	-108.93788

Land Management

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*



Land Management Summary

	Ownership	Tribal	Easements	Other Boundaries (possible overlap)
Public Lands	**6 Acres (1%)**			
State	6 Acres (1%)			
Montana Department of Transportation	6 Acres (1%)			
MTDOT Owned	6 Acres (1%)			
Private Lands or Unknown Ownership	**634 Acres (99%)**			

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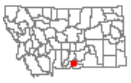
NATURAL HERITAGE PROGRAM
A program of the **Montana State Library's Natural Resource Information System**



Latitude	Longitude
45.32772	-108.91403
45.34537	-108.93788

Biological Reports

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*

Within the report area you have requested, citations for all reports and publications associated with plant or animal observations in Montana Natural Heritage Program (MTNHP) databases are listed and, where possible, links to the documents are included.

The MTNHP plans to include reports associated with terrestrial and aquatic communities in the future as allowed for by staff resources. If you know of reports or publications associated with species or biological communities within the report area that are not shown in this report, please let us know: mtnhp@mt.gov

Tobalske, Claudine and Linda Vance. 2017.***Predicting the distribution of Russian Olive stands in eastern Montana valley bottoms using NAIP imagery***. Report to the US EPA. Montana Natural Heritage Program. Helena, MT. 40pp.

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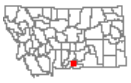
Legend

Model Icons
- N Suitable (native range)
- O Optimal Suitability
- M Moderate Suitability
- L Low Suitability
- I Suitable (introduced range)

Habitat Icons
- C Common
- O Occasional

Range Icons
- N Non-native

Num Obs
Count of obs with 'good precision' (<=1000m)
+ indicates additional 'poor precision' obs (1001m-10,000m)



Latitude	Longitude
45.32772	-108.91403
45.34537	-108.93788

Invasive and Pest Species

Summarized by: **Griswold 43D 30171860** *(Custom Area of Interest)*

	# Obs	Predicted Model	Range

Aquatic Invasive Species

F - Common Carp *(Cyprinus carpio)* **AIS**

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 100% Suitable (introduced range) (deductive)

V - Nymphaea odorata *(American Water-lily)* **AIS**

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 100% Suitable (introduced range) (deductive)

V - Nymphoides peltata *(Yellow Floating Heart)* **AIS**

View in Field Guide | View Predicted Models | View Range Maps
Aquatic Invasive Species - Non-native Species Global: **G5** State: **SNA**
Predicted Models: I 100% Suitable (introduced range) (deductive)

Noxious Weeds: Priority 1A

V - Centaurea solstitialis *(Yellow Starthistle)* **N1A**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Isatis tinctoria *(Dyer's Woad)* **N1A**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Phragmites australis ssp. australis *(European Common Reed)* **N1A**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1A - Non-native Species Global: **G5T5** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

Noxious Weeds: Priority 1B

V - Lythrum salicaria *(Purple Loosestrife)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Echium vulgare *(Blueweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Polygonum cuspidatum *(Japanese Knotweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNRTNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Polygonum x bohemicum *(Bohemian Knotweed)* **N1B**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 1B - Non-native Species Global: **GNA** State: **SNA**
Predicted Models: L 100% Low (inductive)

Noxious Weeds: Priority 2A

V - Ventenata dubia *(Ventenata)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Lepidium latifolium *(Perennial Pepperweed)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Rhamnus cathartica *(Common Buckthorn)* **N2A**

View in Field Guide | View Predicted Models | View Range Maps
Noxious Weed: Priority 2A - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

Noxious Weeds: Priority 2B

V - Acroptilon repens *(Russian Knapweed)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Centaurea stoebe *(Spotted Knapweed)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Cirsium arvense *(Canada Thistle)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Convolvulus arvensis *(Field Bindweed)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Cynoglossum officinale *(Common Hound's-tongue)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Lepidium draba *(Whitetop)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Linaria dalmatica *(Dalmatian Toadflax)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **G5** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Tamarix ramosissima *(Salt Cedar)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Berteroa incana *(Hoary False-alyssum)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Centaurea diffusa *(Diffuse Knapweed)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Euphorbia virgata *(Leafy Spurge)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Leucanthemum vulgare *(Oxeye Daisy)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Potentilla recta *(Sulphur Cinquefoil)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

V - Tanacetum vulgare *(Common Tansy)* N2B

View in Field Guide View Predicted Models View Range Maps
Noxious Weed: Priority 2B - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

Regulated Weeds: Priority 3

V - Elaeagnus angustifolia *(Russian Olive)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

V - Bromus tectorum *(Cheatgrass)* R3

View in Field Guide View Predicted Models View Range Maps
Regulated Weed: Priority 3 - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

Biocontrol Species

I - Oberea erythrocephala *(Red-headed Leafy Spurge Stem Borer)* **BIOCNTRL**

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: M 100% Moderate (inductive)

I - Aphthona lacertosa *(Brown-legged Leafy Spurge Flea Beetle)* **BIOCNTRL**

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

I - Aphthona nigriscutis *(Black Dot Leafy Spurge Flea Beetle)* **BIOCNTRL**

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

I - Mecinus janthiniformis *(Dalmatian Toadflax Stem-boring Weevil)* **BIOCNTRL**

View in Field Guide **View Predicted Models** **View Range Maps**
Biocontrol Species - Non-native Species Global: **GNR** State: **SNA**
Predicted Models: L 100% Low (inductive)

Introduction to Montana Natural Heritage Program

PO Box 201800 • 1201 11th Avenue • Helena, MT 59620-1800 • fax 406.444.0266 • phone 406.444.3989 • mtnhp.mt.gov

Introduction

The Montana Natural Heritage Program (MTNHP) is Montana's source for reliable and objective information on Montana's native species and habitats, emphasizing those of conservation concern. MTNHP was created by the Montana legislature in 1983 as part of the Natural Resource Information System (NRIS) at the Montana State Library (MSL). MTNHP is "a program of information acquisition, storage, and retrieval for data relating to the flora, fauna, and biological community types of Montana" (MCA 90-15-102). MTNHP's activities are guided by statute as well as through ongoing interaction with, and feedback from, principal data source agencies such as Montana Fish, Wildlife, and Parks, the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation, the Montana University System, the US Forest Service, and the US Bureau of Land Management. Since the first staff was hired in 1985, the Program has logged a long record of success, and developed into a highly respected, service-oriented program. MTNHP is widely recognized as one of the most advanced and effective of over 60 natural heritage programs that are distributed across North America.

Vision

Our vision is that public agencies, the private sector, the education sector, and the general public will trust and rely upon MTNHP as the source for information and expertise on Montana's species and habitats, especially those of conservation concern. We strive to provide easy access to our information to allow users to save time and money, speed environmental reviews, and make informed decisions.

Core Values

- We endeavor to be a single statewide source of accurate and up-to-date information on Montana's plants, animals, and aquatic and terrestrial biological communities.
- We actively listen to our data users and work responsively to meet their information and training needs.
- We strive to provide neutral, trusted, timely, and equitable service to all of our information users.
- We make every effort to be transparent to our data users in setting work priorities and providing data products.

Confidentiality

All information requests made to the Montana Natural Heritage Program are considered library records and are protected from disclosure by the Montana Library Records Confidentiality Act (MCA 22-1-11).

Information Managed

Information managed at the Montana Natural Heritage Program is botanical, zoological, and ecological information that describes the distribution (e.g., observations, structured surveys, range polygons, predicted habitat suitability models), conservation status (e.g., global and state conservation status ranks, including threats), and other supporting information (e.g., accounts and references) on the biology and ecology of species and biological communities.

Data Use Terms and Conditions

- Montana Natural Heritage Program (MTNHP) products and services are based on biological data and the objective interpretation of those data by professional scientists. MTNHP does not advocate any particular philosophy of natural resource protection, management, development, or public policy.
- MTNHP has no natural resource management or regulatory authority. Products, statements, and services from MTNHP are intended to inform parties as to the state of scientific knowledge about certain natural resources, and to further develop that knowledge. The information is not intended as natural resource management guidelines or prescriptions or a determination of environmental impacts. MTNHP recommends consultation with appropriate state, federal, and tribal resource management agencies and authorities in the area where your project is located.
- Information on the status and spatial distribution of biological resources produced by MTNHP are intended to inform parties of the state-wide status, known occurrence, or the likelihood of the presence of those resources. **These products are not intended to substitute for field-collected data, nor are they intended to be the sole basis for natural resource management decisions.**
- MTNHP does not portray its data as exhaustive or comprehensive inventories of rare species or biological communities. **Field verification of the absence or presence of sensitive species and biological communities will always be an important obligation of users of our data.**
- MTNHP responds equally to all requests for products and services, regardless of the purpose or identity of the requester.
- Because MTNHP constantly updates and revises its databases with new data and information, products will become outdated over time. Interested parties are encouraged to obtain the most current information possible from MTNHP, rather than using older products. We add, review, update, and delete records on a daily basis. Consequently, we strongly advise that you update your MTNHP data sets at a minimum of every four months for most applications of our information.
- MTNHP data require a certain degree of biological expertise for proper analysis, interpretation, and application. Our staff is available to advise you on questions regarding the interpretation or appropriate use of the data that we provide. See Contact Information for MTNHP Staff
- The information provided to you by MTNHP may include sensitive data that if publicly released might jeopardize the welfare of threatened, endangered, or sensitive species or biological communities. This information is intended for distribution or use only within your department, agency, or business. Subcontractors may have access to the data during the course of any given project, but should not be given a copy for their use on subsequent, unrelated work.
- MTNHP data are made freely available. Duplication of hard-copy or digital MTNHP products with the intent to sell is prohibited without written consent by MTNHP. Should you be asked by individuals outside your organization for the type of data that we provide, please refer them to MTNHP.
- MTNHP and appropriate staff members should be appropriately acknowledged as an information source in any third-party product involving MTNHP data, reports, papers, publications, or in maps that incorporate MTNHP graphic elements.
- Sources of our data include museum specimens, published and unpublished scientific literature, field surveys by state and federal agencies and private contractors, and reports from knowledgeable individuals. MTNHP actively solicits and encourages additions, corrections and updates, new observations or collections, and comments on any of the data we provide.
- MTNHP staff and contractors do not enter or cross privately-owned lands without express permission from the landowner. However, the program cannot guarantee that information provided to us by others was obtained under adherence to this policy.

Suggested Contacts for Natural Resource Management Agencies

As required by Montana statute (MCA 90-15), the Montana Natural Heritage Program works with state, federal, tribal, nongovernmental organizations, and private partners to ensure that the latest animal and plant distribution and status information is incorporated into our databases so that it can be used to inform a variety of permitting and planning processes and management decisions. We encourage you to contact state, federal, and tribal resource management agencies in the area where your project is located and review the permitting overviews by the Montana Department of Environmental Quality, the Montana Department of Natural Resources and Conservation and the Index of Environmental Permits for Montana for guidelines relevant to your efforts. In particular, we encourage you to contact the Montana Department of Fish, Wildlife, and Parks for the latest data and management information regarding hunted and high-profile management species and to use the U.S. Fish and Wildlife Service's Information Planning and Consultation (IPAC) website regarding U.S. Endangered Species Act listed Threatened, Endangered, or Candidate species.

For your convenience, we have compiled a list of relevant agency contacts and links below:

Montana Fish, Wildlife, and Parks

Fish Species	Zachary Shattuck zshattuck@mt.gov (406) 444-1231
Aquatic Invasive Species	Tom Woolf thomas.woolf@mt.gov (406) 444-1230
American Bison Black-footed Ferret Black-tailed Prairie Dog Bald Eagle Golden Eagle Common Loon Least Tern Piping Plover Whooping Crane	Kristina Smucker ksmucker@mt.gov (406) 444-5209
Grizzly Bear Greater Sage Grouse Trumpeter Swan Big Game Upland Game Birds Furbearers	Brian Wakeling brian.wakeling@mt.gov (406) 444-3940
Managed Terrestrial Game Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Fisheries Data and Nongame Animal Data	Adam Messer – MFWP GIS Coordinator amesser@mt.gov (406) 444-0095
Wildlife and Fisheries Scientific Collector's Permits	https://fwp.mt.gov/buyandapply/commercialwildlifeandscientificpermits/scientific Kristina Smucker for Wildlife ksmucker@mt.gov (406) 444-5209 Dave Schmetterling for Fisheries dschmetterling@mt.gov (406) 542-5514
Fish and Wildlife Recommendations for Subdivision Development	Stevie Burton stevie.burton@mt.gov (406) 594-7354 See https://fwp.mt.gov/conservation/living-with-wildlife/subdivision-recommendations
Regional Contacts  	Region 1 (Kalispell) (406) 752-5501 fwprg12@mt.gov Region 2 (Missoula) (406) 542-5500 fwprg22@mt.gov Region 3 (Bozeman) (406) 577-7900 fwprg3@mt.gov Region 4 (Great Falls) (406) 454-5840 fwprg42@mt.gov Region 5 (Billings) (406) 247-2940 fwprg52@mt.gov Region 6 (Glasgow) (406) 228-3700 fwprg62@mt.gov Region 7 (Miles City) (406) 234-0900 fwprg72@mt.gov

Montana Conservation Districts
Clickable map for contact information across Montana: https://macdnet.org/conservation-district-map/
Montana Association of Conservation Districts Resources Directory: https://macdnet.org/resources

Montana Department of Agriculture
General Contact Information: https://agr.mt.gov/About/Office-Locations/Office-Locations-and-Field-Offices
Noxious Weeds: https://agr.mt.gov/Noxious-Weeds

Montana Department of Environmental Quality
Permitting and Operator Assistance for all Environmental Permits: https://deq.mt.gov/Permitting
Opencut Mining Web Mapping Application for review of opencut mining applications
https://gis.mtdeq.us/portal/apps/webappviewer/index.html?id=7b60084bc4c444a19c9a7a0867e7635a

Montana Department of Natural Resources and Conservation
Montana Sage Grouse Habitat Conservation Program: https://sagegrouse.mt.gov/ (406) 444-6340

Permits and Services: https://dnrc.mt.gov/Permits-Services

Stream Permitting (310, 404, Section 10, SPA 124, floodplain, 318, Navigable Water, and other stream permits)
https://dnrc.mt.gov/licenses-and-permits/stream-permitting/

Montana Floodplains Program https://dnrc.mt.gov/Water-Resources/Floodplains/

Wildfire Resources: https://dnrc.mt.gov/Forestry/Wildfire

Regional Office Contacts: https://dnrc.mt.gov/TrustLand/About/Regional-Offices

Bureau of Land Management

Montana Field Office Contacts:

Billings	(406) 896-5013	Lewistown	(406) 538-1900
Butte	(406) 533-7600	Malta	(406) 654-5100
Dillon	(406) 683-8000	Miles City	(406) 233-2800
Glasgow	(406) 228-3750	Missoula	(406) 329-3914
Havre	(406) 262-2820		

Natural Resources Conservation Service
Montana Home Page https://www.nrcs.usda.gov/state-offices/montana
State Office and Employee Directories
https://www.nrcs.usda.gov/contact/state-office-contacts/montana-employee-directory-state-office

United States Army Corps of Engineers
Montana Regulatory Office for federal permits related to construction in water and wetlands
https://www.nwo.usace.army.mil/Missions/Regulatory-Program/Montana/
Direct Link to Regulatory Request System: https://rrs.usace.army.mil/rrs/home
Email for questions: Montana.Reg@usace.army.mil
Phone for questions: (406) 441-1375

United States Environmental Protection Agency
Environmental information, notices, permitting, and contacts https://www.epa.gov/mt
Gateway to state resource locators https://www.envcap.org/srl/index.php

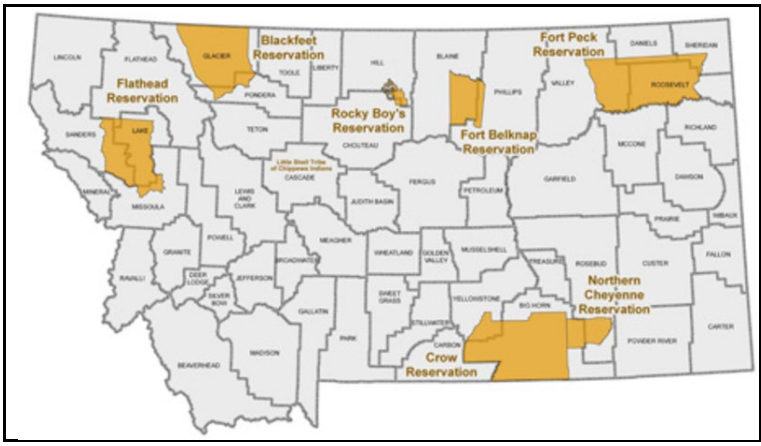
United States Fish and Wildlife Service
Information Planning and Conservation (IPAC) website: https://ipac.ecosphere.fws.gov
Montana Ecological Services Field Office: https://www.fws.gov/office/montana-ecological-services (406) 449-5225
Migratory Bird Joint Ventures: https://www.fws.gov/partner/migratory-bird-joint-ventures

United States Forest Service

Regional Office – Missoula, Montana Contacts

Assistant Regional TES PM	Diane Probasco	diane.probasco@usda.gov	(307) 709-2292
Regional Botanist	Amanda Hendrix	amanda.hendrix@usda.gov	(651) 447-3016
Invasive Species Program Manager	Michelle Cox	michelle.cox2@usda.gov	(406) 329-3669
Regional Hydrologist	Andy Efta	james.efta@usda.gov	(406) 329-3447

Tribal Nations – General Websites



Assiniboine & Gros Ventre Tribes – Fort Belknap Reservation
Assiniboine & Sioux Tribes – Fort Peck Reservation
Blackfeet Tribe - Blackfeet Reservation
Chippewa Creek Tribe - Rocky Boy's Reservation
Crow Tribe – Crow Reservation
Little Shell Chippewa Tribe
Northern Cheyenne Tribe – Northern Cheyenne Reservation
Salish & Kootenai Tribes - Flathead Reservation

Tribal Nations – Specific Contacts

Confederated Salish & Kootenai Tribes (Flathead Reservation)-Division of Wildlife, Recreation, & Conservation

Whisper Camel-Means – Division Manager	Whisper.Means@cskt.org	(406) 675-2700
Kari Kingery – Wildlife Program Manager	Kari.Kingery@cskt.org	(406) 675-2700

Natural Heritage Programs and Conservation Data Centers in Surrounding States and Provinces
Alberta Conservation Information Management System
British Columbia Conservation Data Centre
Idaho Natural Heritage Program
North Dakota Natural Heritage Program
Saskatchewan Conservation Data Centre
South Dakota Natural Heritage Program
Wyoming Natural Diversity Database

Invasive Species Management Contacts and Information
General
Montana Invasive Species Council (MISC)
Central and Eastern Montana Invasive Species Team (CEMIST)
Montana State University Integrated Pest Management Extension

Aquatic Invasive Species

Montana Fish, Wildlife, and Parks Aquatic Invasive Species staff
Montana Department of Natural Resources and Conservation's Aquatic Invasive Species Grant Program
Western Montana Conservation Commission

Noxious Weeds

Montana Weed Control Association Contacts Webpage
Montana Biological Weed Control Coordination Project
Montana Department of Agriculture - Noxious Weeds
Montana Weed Control Association
Montana Fish, Wildlife, and Parks - Noxious Weeds
Integrated Noxious Weed Management after Wildfires
Fire Management and Invasive Plants

Introduction to Native Species

Within the report area you have requested, separate summaries are provided for: (1) Species Occurrences (SO) for plant and animal Species of Concern, Special Status Species (SSS), Important Animal Habitat (IAH) and some Potential Plant Species of Concern; (2) other observed non-Species of Concern filtered or requested as "Additional Species" or Species of Concern without suitable documentation to create Species Occurrence polygons; and (3) other non-documented Species of Concern or additionally filtered or requested that are potentially present based on their range, predicted suitable habitat model output, or presence of associated habitats. Each of these summaries provides the following information when present for a species: (1) the number of Species Occurrences and associated delineation criteria for construction of these polygons that have long been used for considerations of documented Species of Concern in environmental reviews; (2) the number of observations of each species; (3) the geographic range polygons for each species that the report area overlaps; (4) predicted habitat suitability classes that are present if a predicted suitable habitat model has been created; (5) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (6) a variety of conservation status ranks and links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers below or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document native and introduced species are lacking in many areas of the state, the MTNHP's staff and resources are restricted by budgets, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species and biological communities will always be an important obligation of users of our data.**

If you are aware of observation datasets that the MTNHP is missing, please report them to the Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos: https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Observations

An observation is a visual, audio, specimen, genetic, or other documentation of a particular species at a location with an assigned spatial precision on a given date. Most observations are submitted in digital format from standardized databases associated with research or monitoring efforts and spreadsheets of incidental observations submitted by professional biologists and amateur naturalists. At a minimum, accepted observation records must contain a credible species identification (i.e. appropriate geographic range, date, and habitat and, if species are difficult to identify, a photograph and/or notes on key identifying features), a date or date range, observer name, locational information (ideally with latitude and longitude in decimal degrees), notes on numbers observed, and species behavior or habitat use (e.g., is the observation likely associated with reproduction). Bird records are also required to have information associated with date-appropriate breeding or overwintering status of the species observed. MTNHP reviews observation records to ensure that they are mapped correctly, occur within date ranges when the species is known to be present or detectable, occur within the known seasonal geographic range of the species, and occur in appropriate habitats. MTNHP also assigns each record a locational uncertainty value in meters to indicate the spatial precision associated with the record's mapped coordinates. Only records with locational uncertainty values of 5,000 meters or less are included in environmental summary reports and number summaries are only provided for records with locational uncertainty values of 1,000 meters or less.

Species Occurrences

The MTNHP evaluates plant and animal observation records for Species of Concern, Potential Species of Concern, and Special Status Species to determine whether they are worthy of inclusion in the Species Occurrence (SO) (also known as an "element occurrence" or EO) layer for use in environmental reviews; observations not worthy of inclusion in this layer include long distance dispersal events, migrants observed away from key migratory stopover habitats, and winter observations. An SO is a polygon depicting what is known about a species occupancy from direct observation with a defined level of locational uncertainty and any inference that can be made about adjacent habitat use from the latest peer-reviewed science. If an observation can be associated with a map feature that can be tracked (e.g., a wetland boundary) then this polygon feature is used to represent the SO. Areas that can be inferred as probable occupied habitat based on direct observation of a species location and what is known about the foraging area or home range size of the species may be incorporated into the SO. Species Occurrences generally belong to one of the following categories:

Botanical Species

A documented location of a specimen collection or observed plant, lichen, or fungi population. In some instances, adjacent, spatially separated clusters are considered subpopulations and are grouped as one occurrence (e.g., the subpopulations occur in ecologically similar habitats, and their spatial proximity likely allows them to interbreed). Tabular information for multiple observations at the same SO location is generally linked to a single polygon.

Animal Species

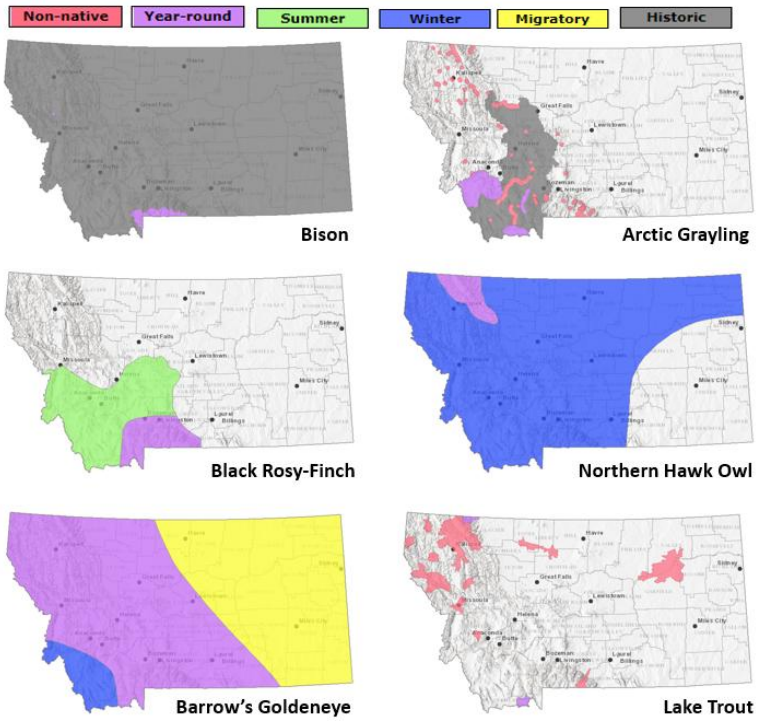
The location of a verified observation or specimen record typically known or assumed to represent a breeding population or a portion of a breeding population. Animal SO's are generally: (1) buffers of terrestrial point observations based on documented species' home range sizes; (2) buffers of stream segments to encompass occupied streams and immediate adjacent riparian habitats; (3) polygonal features encompassing known or likely breeding populations (e.g., a wetland for some amphibians or a forested portion of a mountain range for some wide-ranging carnivores); or (4) combinations of the above. Tabular information for multiple observations at the same SO location is generally linked to a single polygon. Species Occurrence polygons may encompass some unsuitable habitat in some instances in order to avoid heavy data processing associated with clipping out habitats that are readily assessed as unsuitable by the data user (e.g., a point buffer of a terrestrial species may overlap into a portion of a lake that is obviously inappropriate habitat for the species).

Other

Significant biological features not included in the above categories, such as Important Animal Habitats like bird rookeries and bat roosts, and peatlands or other wetland and riparian communities that support diverse plant and animal communities.

Geographic Range Polygons

Range polygons have been created for native vascular plants and vertebrate animal species with sufficient data and are being created for other taxa as staff time is available. Range polygons are refined over time with assistance of additional survey and observation data and predicted habitat suitability models. Range polygons are classified as native year-round, summer, winter, migratory, historical, and non-native year-round (see examples to the left). Range polygons for native species and non-native aquatic species typically bound the extent of known or likely occupied habitats for non-migratory and relatively sedentary species and the regular extent of known or likely occupied habitats for migratory and long-distance dispersing species; polygons may include unsuitable intervening habitats. Unless predicted invasion risk models indicate unsuitable habitat for large portions of Montana, range polygons for non-native vascular plant species are typically mapped as statewide to reflect their possible invasion across Montana; please see relative density maps for reported distributions of these species. For most species, a single polygon can represent the year-round or seasonal range, but breeding ranges of some colonial nesting water birds and some non-native species are represented more patchily when supported by data. Some ranges are mapped more broadly than actual distributions to be visible on statewide maps (e.g., streams with fish are buffered for visibility)



Predicted Suitable Habitat Models

Predicted habitat suitability models have been created for plant and animal Species of Concern and are undergoing development for non-Species of Concern. For species for which models have been completed, the environmental summary report includes simple rule-based associations with streams for aquatic species and seasonal habitats for game species as well as mathematically complex Maximum Entropy models (Phillips et al. 2006, Ecological Modeling 190:231-259) constructed from a variety of statewide biotic and abiotic layers and presence only data for individual species for most terrestrial species. For the Maximum Entropy models, we reclassified 90 x 90-meter continuous model output into suitability classes (unsuitable, low, moderate, and optimal) then aggregated that into the one square mile hexagons used in the environmental summary report; this is the finest spatial scale we suggest using this information in management decisions and survey planning. Full model write ups for individual species that discuss model goals, inputs, outputs, and evaluation in much greater detail are posted on the MTNHP's Predicted Suitable Habitat Models webpage. Evaluations of predictive accuracy and specific limitations are included with the metadata for models of individual species. **Model outputs should not be used in place of on-the-ground surveys for species. Instead model outputs should be used in conjunction with habitat evaluations to determine the need for on-the-ground surveys for species.** We suggest that the percentage of predicted optimal and moderate suitable habitat within the report area be used in conjunction with geographic range polygons and the percentage of commonly associated habitats to generate lists of potential species that may occupy broader landscapes for the purposes of landscape-level planning.

Other Habitat Information for Species

1. The excel spreadsheet accompanying this report contains a field labeled “Habitat” in all the species related worksheets that contains brief text describing the predominant habitat or habitats each species is dependent on. This field can be useful for quickly determining whether a species needs considerations in environmental permitting and planning. For example, if the report area includes a large area of forest and grassland habitat and the project is only affecting a small portion of the grassland habitat without any disturbance to the forest habitat, the Habitat field can be useful for removing the forest dependent species from further consideration.
2. Species accounts in the Montana Field Guide each contain a section on Ecological Communities Associated with this Species that lists and links to accounts for associated natural habitats.
3. Accounts for natural habitats in the Ecological Communities portion of the Montana Field Guide each contain a section on Species Associated with this Community that lists and links to accounts for associated species. This is divided between: (1) Species of Concern Associated with this Community; (2) Diagnostic, Dominant, or Codominant Plant Species for this Community; and (3) Other Native Species Commonly Associated with this Community.

Introduction to Land Cover

Land Use/Land Cover is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The layer records all Montana natural vegetation, land cover and land use, classified from satellite and aerial imagery, mapped at a scale of 1:100,000, and interpreted with supporting ground-level data. The baseline map is adapted from the Northwest ReGAP (NWGAP) project land cover classification, which used 30m resolution multi-spectral Landsat imagery acquired between 1999 and 2001. Vegetation classes were drawn from the Ecological System Classification developed by NatureServe (Comer et al. 2003). The land cover classes were developed by Anderson et al. (1976). The NWGAP effort encompasses 12 map zones. Montana overlaps seven of these zones. The two NWGAP teams responsible for the initial land cover mapping effort in Montana were Sanborn and NWGAP at the University of Idaho. Both Sanborn and NWGAP employed a similar modeling approach in which Classification and Regression Tree (CART) models were applied to Landsat ETM+ scenes. The Spatial Analysis Lab within the Montana Natural Heritage Program was responsible for developing a seamless Montana land cover map with a consistent statewide legend from these two separate products. Additionally, the Montana land cover layer incorporates several other land cover and land use products (e.g., MSDI Structures and Transportation themes and the Montana Department of Revenue Final Land Unit classification) and reclassifications based on plot-level data and the latest NAIP imagery to improve accuracy and enhance the usability of the theme. Updates are done as partner support and funding allow, or when other MSDI datasets can be incorporated. Recent updates include fire perimeters and agricultural land use (annually), energy developments such as wind, oil and gas installations (2014), roads, structures and other impervious surfaces (various years): and local updates/improvements to specific ecological systems (e.g., central Montana grassland and sagebrush ecosystems). Current and previous versions of the Land Use/Land Cover layer with full metadata are available for download from the Montana State Library's GIS Data List More information on the land cover layer is available at: https://msl.mt.gov/geoinfo/msdi/land_use_land_cover/

Within the report area you have requested, land cover is summarized by acres of Level 1, Level 2, and Level 3 Ecological Systems.

Literature Cited

Anderson, J.R. E.E. Hardy, J.T. Roach, and R.E. Witmer. 1976. A land use and land cover classification system for use with remote sensor data. U.S. Geological Survey Professional Paper 964.

Comer, P., D. Faber-Langendoen, R. Evans, S. Gawler, C. Josse, G. Kittel, S. Menard, M. Pyne, M. Reid, K. Schulz, K. Snow, and J. Teague. 2003. Ecological systems of the United States: A working classification of U.S. terrestrial systems. NatureServe, Arlington, VA.

Introduction to Wetland and Riparian

Within the report area you have requested, wetland and riparian mapping is summarized by acres of each classification present. Summaries are only provided for modern MTNHP wetland and riparian mapping and not for outdated (NWI Legacy) or incomplete (NWI Scalable) mapping efforts; described here. MTNHP has made all three of these datasets and associated metadata available for separate download on the Montana Wetland and Riparian Framework web page.

Wetland and Riparian mapping is one of 15 Montana Spatial Data Infrastructure framework layers considered vital for making statewide maps of Montana and understanding its geography. The wetland and riparian framework layer consists of spatial data representing the extent, type, and approximate location of wetlands, riparian areas, and deep water habitats in Montana.

Wetland and riparian mapping is completed through photointerpretation of 1-m resolution color infrared aerial imagery acquired from 2005 or later. A coding convention using letters and numbers is assigned to each mapped wetland. These letters and numbers describe the broad landscape context of the wetland, its vegetation type, its water regime, and the kind of alterations that may have occurred. Ancillary data layers such as topographic maps, digital elevation models, soils data, and other aerial imagery sources are also used to improve mapping accuracy. Wetland mapping follows the federal Wetland Mapping Standard and classifies wetlands according to the Cowardin classification system of the National Wetlands Inventory (NWI) (Cowardin et al. 1979, FGDC Wetlands Subcommittee 2013). Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands differently than the NWI. Similar coding, based on U.S. Fish and Wildlife Service conventions, is applied to riparian areas (U.S. Fish and Wildlife Service 2009). These are mapped areas where vegetation composition and growth is influenced by nearby water bodies, but where soils, plant communities, and hydrology do not display true wetland characteristics. **These data are intended for use at a scale of 1:12,000 or smaller. Mapped wetland and riparian areas do not represent precise boundaries and digital wetland data cannot substitute for an on-site determination of jurisdictional wetlands.**

See detailed overviews, with examples, of both wetland and riparian classification systems and associated codes as a storymap and companion guide

Literature Cited

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79/31. Washington, D.C. 103pp.

Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, D.C.

U.S. Fish and Wildlife Services. 2009. A system for mapping riparian areas in the western United States. Division of Habitat and Resource Conservation, Branch of Resource and Mapping Support, Arlington, Virginia.

Introduction to Land Management

Within the report area you have requested, land management information is summarized by acres of federal, state, and local government lands, tribal reservation boundaries, private conservation lands, and federal, state, local, and private conservation easements. Acreage for "Owned", "Tribal", or "Easement" categories represents non-overlapping areas that may be totaled. However, "Other Boundaries" represents managed areas such as National Forest boundaries containing private inholdings and other mixed ownership which may cause boundaries to overlap (e.g. a wilderness area within a forest). Therefore, acreages may not total in a straight-forward manner.

Because information on land stewardship is critical to effective land management, the Montana Natural Heritage Program (MTNHP) began compiling ownership and management data in 1997. The goal of the Montana Land Management Database is to manage a single, statewide digital data set that incorporates information from both public and private entities. The database assembles information on public lands, private conservation lands, and conservation easements held by state and federal agencies and land trusts and is updated on a regular basis. Since 2011, the Information Management group in the Montana State Library's Digital Library Division has led the Montana Land Management Database in partnership with the MTNHP.

Public and private conservation land polygons are attributed with the name of the entity that owns it. The data are derived from the statewide Montana Cadastral Parcel layer Conservation easement data shows land parcels on which a public agency or qualified land trust has placed a conservation easement in cooperation with the landowner. The dataset contains no information about ownership or status of the mineral estate. For questions about the dataset or to report errors, please contact the Montana Natural Heritage Program at (406) 444-5363 or mtnhp@mt.gov. You can download various components of the Land Management Database and view associated metadata at the Montana State Library's GIS Data List at the following links:

Public Lands
Conservation Easements
Private Conservation Lands
Managed Areas

Map features in the Montana Land Management Database or summaries provided in this report are not intended as a legal depiction of public or private surface land ownership boundaries and should not be used in place of a survey conducted by a licensed land surveyor. Similarly, map features do not imply public access to any lands. The Montana Natural Heritage Program makes no representations or warranties whatsoever with respect to the accuracy or completeness of this data and assumes no responsibility for the suitability of the data for a particular purpose. The Montana Natural Heritage Program will not be liable for any damages incurred as a result of errors displayed here. Consumers of this information should review or consult the primary data and information sources to ascertain the viability of the information for their purposes.

Introduction to Invasive and Pest Species

Within the report area you have requested, separate summaries are provided for: Aquatic Invasive Species, Noxious Weeds, Agricultural Pests, Forest Pests, and Biocontrol species that have been documented or potentially occur there based on the predicted suitability of habitat. Definitions for each of these invasive and pest species categories can be found on our Species Status Codes page.

Each of these summaries provides the following information when present for a species: (1) the number of observations of each species; (2) the geographic range polygons for each species, if developed, that the report area overlaps; (3) predicted relative habitat suitability classes that are present if a predicted suitable habitat model has been created; (4) the percent of the report area that is mapped as commonly associated or occasionally associated habitat as listed for each species in the Montana Field Guide; and (5) links to species accounts in the Montana Field Guide. Details on each of these information categories are included under relevant section headers under the Introduction to Native Species above or are defined on our Species Status Codes page. In presenting this information, the Montana Natural Heritage Program (MTNHP) is working towards assisting the user with rapidly determining what invasive and pest species have been documented and what species are potentially present in the report area. We remind users that this information is likely incomplete as surveys to document introduced species are lacking in many areas of the state, information on introduced species has only been tracked relatively recently, the MTNHP's staff and resources are limited, and information is constantly being added and updated in our databases. **Thus, field verification by professional biologists of the absence or presence of species will always be an important obligation of users of our data.**

If you are aware of observation or survey datasets for invasive or pest species that the MTNHP is missing, please report them to the Program Coordinator bmaxell@mt.gov Program Botanist apipp@mt.gov or Senior Zoologist dbachen@mt.gov If you have animal or plant observations that you would like to contribute, you can also submit them via Excel spreadsheets, geodatabases, iNaturalist, or a Survey123 form. Various methods of data submission are reviewed in this playlist of videos:
https://www.youtube.com/playlist?list=PLRaydtZpHu2qOHPoSPq9cnM9uXGmEXACx

Additional Information Resources

- Effects of Recreation on Rocky Mountain Wildlife
- Gilly – tool for simplifying stream, wetland, and floodplain permitting applications
- Laws, Treaties, Regulations, and Agreements on Animals and Plants
- Migratory Bird Joint Ventures and Associated Resources
  - Intermountain West Joint Venture
  - Northern Great Plains Joint Venture
  - Prairie Pothole Joint Venture
- MTNHP Staff Contact Information
- MTNHP Species of Concern Report - Animals and Plants
- MTNHP Species Status Codes - Explanation
- MTNHP Predicted Suitable Habitat Models (for select Animals and Plants)
- MTNHP Request Information page
- Montana Cadastral
- Montana Climate Office
- Montana Code Annotated
- Montana Field Guide
- Montana Fisheries Information System
- Montana Fish, Wildlife, and Parks Subdivision Recommendations
- Montana Forestry Best Management Practices
- Montana GIS Data Layers
- Montana GIS Data Bundler
- Montana Guide to Streamside Management Zone Law and Rules
- Montana Ground Water Information Center
- Montana Index of Environmental Permits, 21st Edition (2018)
- Montana Environmental Policy Act (MEPA)
- Montana Environmental Policy Act Analysis Resource List
- Montana Sage Grouse Project Submittal Site
- Montana Native Plant Conservation Strategy
- Montana Spatial Data Infrastructure Layers
- Montana State Historic Preservation Office Review and Compliance
- Montana Statewide Fisheries Management Plan 2023-2026
- Montana Stream Permitting: a guide for conservation district supervisors and others
- Montana Water Information System
- Montana Web Map Services
- National Environmental Policy Act
- Penalties for Misuse of Fish and Wildlife Location Data (MCA 87-6-222)
- Rangeland Analysis Platform
- U.S. Fish and Wildlife Service Information for Planning and Consultation (Section 7 Consultation)
- Uses of Information from the Montana Natural Heritage Program
- Web Soil Survey Tool
- Wildfire Risk to Communities
- Xerces Society for Invertebrate Conservation Resources

Soil Map—Carbon County Area, Montana
(Griswold - 43D 30171860)

Map Scale: 1:239 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 3 7 14 21

Feet: 0 10 20 40 60

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Carbon County Area, Montana
Survey Area Data: Version 21, Aug 30, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 22, 2021—Oct 4, 2021

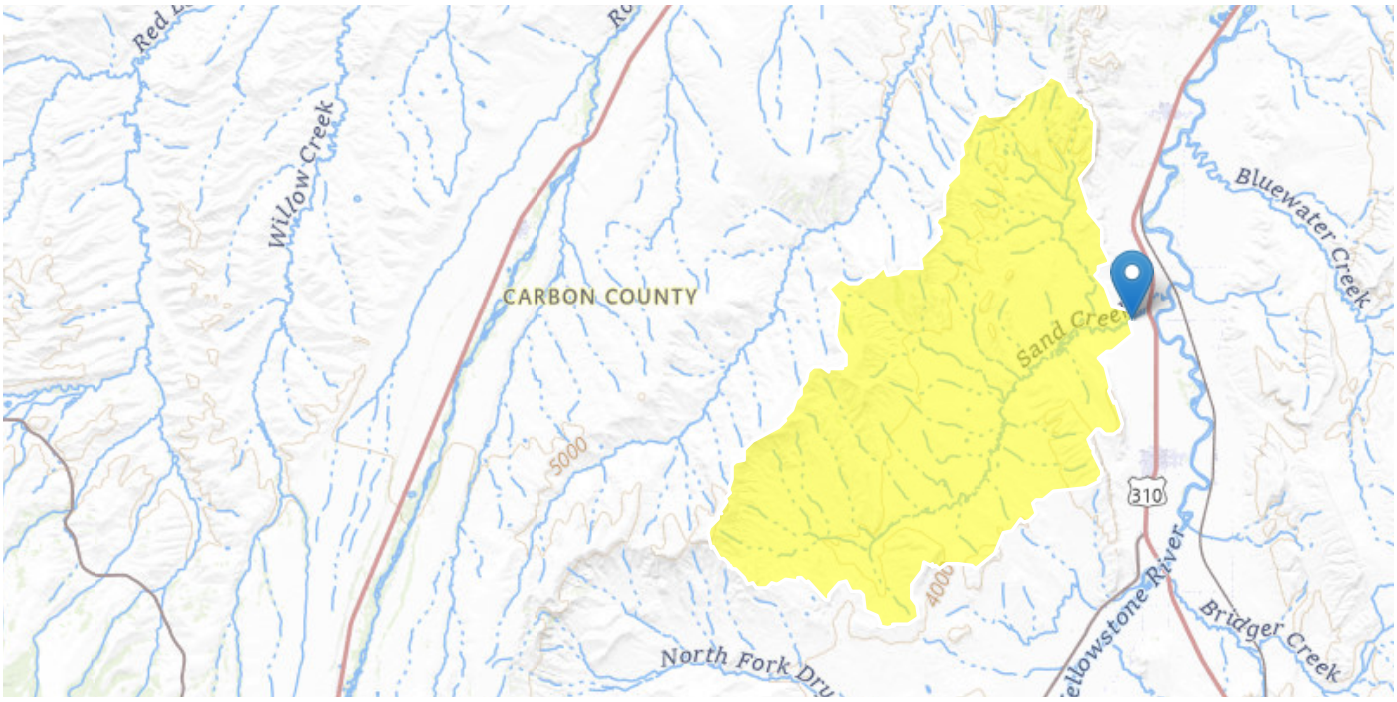
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Hn	Haverson-Heldt silty clay loams, 0 to 4 percent slopes	0.1	100.0%
Totals for Area of Interest		**0.1**	**100.0%**

Griswold - Sand Creek - StreamStats Report

Region ID: MT
Workspace ID: MT20251015172555656000
Clicked Point (Latitude, Longitude): 45.33400, -108.92397
NHD Stream GNIS Name of Click Point: Sand Creek
Time: 2025-10-15 11:26:25 -0600



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CHANWD_RS	Channel width determined from remotely sensed data sources, including aerial imagery	0	feet
CONTDA	Area that contributes flow to a point on a stream	44.8	square miles
DRNAREA	Area that drains to a point on a stream	44.8	square miles
EL6000	Percent of area above 6000 ft	0	percent
PRECIP	Mean Annual Precipitation	13.81	inches
WACTCH	Width of active channel	0	feet
WBANKFULL	Width of channel at bankfull	0	feet

Peak-Flow Statistics

Peak-Flow Statistics Parameters [UpYellow CentMount Region BasinC 2015 5019F]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	44.8	square miles	0.39	2040
EL6000	Percent above 6000 ft	0	percent	0	100

Peak-Flow Statistics Parameters [UpYllw CentMount Region Act Channel SIR 2020 5142]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
WACTCH	Width Of Active Channel	0	feet	1	150

Peak-Flow Statistics Parameters [UpYllw CentMount Region Bankfull SIR 2020 5142]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
WBANKFULL	Width Of Bankfull Channel	0	feet	2.5	170

Peak-Flow Statistics Parameters [UpYllw CentMount Region Aerial Photo SIR 2020 5142]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CHANWD_RS	Channel_Width_remotely_sensed	0	feet	2.3	191.9

Peak-Flow Statistics Flow Report [UpYellow CentMount Region BasinC 2015 5019F]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	PIL	PIU	ASEp
66.7-percent AEP flood	63.3	ft^3/s	13	307	119
50-percent AEP flood	99.8	ft^3/s	22.5	442	111
42.9-percent AEP flood	130	ft^3/s	31.8	532	103
20-percent AEP flood	357	ft^3/s	109	1170	82.4
10-percent AEP flood	688	ft^3/s	235	2020	73
4-percent AEP flood	1320	ft^3/s	476	3660	68.4
2-percent AEP flood	1930	ft^3/s	705	5280	67.7
1-percent AEP flood	2660	ft^3/s	957	7390	69
0.5-percent AEP flood	3520	ft^3/s	1230	10100	71.6
0.2-percent AEP flood	4870	ft^3/s	1610	14800	77

Peak-Flow Statistics Disclaimers [UpYllw CentMount Region Act Channel SIR 2020 5142]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [UpYllw CentMount Region Act Channel SIR 2020 5142]

Statistic	Value	Unit
Active chan width 66.7 percent AEP flood	0	ft^3/s
Active Channel Width 50-percent AEP flood	0	ft^3/s
Active chan width 42.9 percent AEP flood	0	ft^3/s
Active Channel Width 20-percent AEP flood	0	ft^3/s
Active Channel Width 10-percent AEP flood	0	ft^3/s
Active Channel Width 4-percent AEP flood	0	ft^3/s
Active Channel Width 2-percent AEP flood	0	ft^3/s
Active Channel Width 1-percent AEP flood	0	ft^3/s
Active Channel Width 0.5-percent AEP flood	0	ft^3/s
Active Channel Width 0.2-percent AEP flood	0	ft^3/s

Peak-Flow Statistics Disclaimers [UpYllw CentMount Region Bankfull SIR 2020 5142]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [UpYllw CentMount Region Bankfull SIR 2020 5142]

Statistic	Value	Unit
Bankfull width 66.7 percent AEP flood	0	ft^3/s
Bankfull Width 50-percent AEP flood	0	ft^3/s
Bankfull width 42.9 percent AEP flood	0	ft^3/s
Bankfull Width 20-percent AEP flood	0	ft^3/s
Bankfull Width 10-percent AEP flood	0	ft^3/s
Bankfull Width 4-percent AEP flood	0	ft^3/s
Bankfull Width 2-percent AEP flood	0	ft^3/s
Bankfull Width 1-percent AEP flood	0	ft^3/s
Bankfull Width 0.5-percent AEP flood	0	ft^3/s
Bankfull Width 0.2-percent AEP flood	0	ft^3/s

Peak-Flow Statistics Disclaimers [UpYllw CentMount Region Aerial Photo SIR 2020 5142]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [UpYllw CentMount Region Aerial Photo SIR 2020 5142]

Statistic	Value	Unit
Rem sens chan width 66.7 percent AEP fld	0	ft^3/s
Rem_sens_chan_width_50_percent_AEP_flood	0	ft^3/s
Rem sens chan width 42.9 percent AEP fld	0	ft^3/s
Rem_sens_chan_width_20_percent_AEP_flood	0	ft^3/s
Rem_sens_chan_width_10_percent_AEP_flood	0	ft^3/s
Rem_sens_chan_width_4_percent_AEP_flood	0	ft^3/s
Rem_sens_chan_width_2_percent_AEP_flood	0	ft^3/s
Rem_sens_chan_width_1_percent_AEP_flood	0	ft^3/s
Rem_sens_chan_width_0_5_pct_AEP_flood	0	ft^3/s
Rem_sens_chan_width_0_2_pct_AEP_flood	0	ft^3/s

Peak-Flow Statistics Flow Report [Area-Averaged]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error, PC: Percent Correct, RMSE: Root Mean Squared Error, PseudoR^2: Pseudo R Squared (other -- see report)

Statistic	Value	Unit	PIL	PIU	ASEp
66.7-percent AEP flood	63.3	ft^3/s	13	307	119
50-percent AEP flood	99.8	ft^3/s	22.5	442	111
42.9-percent AEP flood	130	ft^3/s	31.8	532	103
20-percent AEP flood	357	ft^3/s	109	1170	82.4
10-percent AEP flood	688	ft^3/s	235	2020	73
4-percent AEP flood	1320	ft^3/s	476	3660	68.4
2-percent AEP flood	1930	ft^3/s	705	5280	67.7
1-percent AEP flood	2660	ft^3/s	957	7390	69
0.5-percent AEP flood	3520	ft^3/s	1230	10100	71.6
0.2-percent AEP flood	4870	ft^3/s	1610	14800	77
Active chan width 66.7 percent AEP flood	0	ft^3/s			
Active Channel Width 50-percent AEP flood	0	ft^3/s			
Active chan width 42.9 percent AEP flood	0	ft^3/s			
Active Channel Width 20-percent AEP flood	0	ft^3/s			
Active Channel Width 10-percent AEP flood	0	ft^3/s			
Active Channel Width 4-percent AEP flood	0	ft^3/s			
Active Channel Width 2-percent AEP flood	0	ft^3/s			
Active Channel Width 1-percent AEP flood	0	ft^3/s			
Active Channel Width 0.5-percent AEP flood	0	ft^3/s			

Statistic	Value	Unit	PIL	PIU	ASEp
Active Channel Width 0.2-percent AEP flood	0	ft^3/s			
Bankfull width 66.7 percent AEP flood	0	ft^3/s			
Bankfull Width 50-percent AEP flood	0	ft^3/s			
Bankfull width 42.9 percent AEP flood	0	ft^3/s			
Bankfull Width 20-percent AEP flood	0	ft^3/s			
Bankfull Width 10-percent AEP flood	0	ft^3/s			
Bankfull Width 4-percent AEP flood	0	ft^3/s			
Bankfull Width 2-percent AEP flood	0	ft^3/s			
Bankfull Width 1-percent AEP flood	0	ft^3/s			
Bankfull Width 0.5-percent AEP flood	0	ft^3/s			
Bankfull Width 0.2-percent AEP flood	0	ft^3/s			
Rem sens chan width 66.7 percent AEP fld	0	ft^3/s			
Rem_sens_chan_width_50_percent_AEP_flood	0	ft^3/s			
Rem sens chan width 42.9 percent AEP fld	0	ft^3/s			
Rem_sens_chan_width_20_percent_AEP_flood	0	ft^3/s			
Rem_sens_chan_width_10_percent_AEP_flood	0	ft^3/s			
Rem_sens_chan_width_4_percent_AEP_flood	0	ft^3/s			
Rem_sens_chan_width_2_percent_AEP_flood	0	ft^3/s			
Rem_sens_chan_width_1_percent_AEP_flood	0	ft^3/s			
Rem_sens_chan_width_0_5_pct_AEP_flood	0	ft^3/s			
Rem_sens_chan_width_0_2_pct_AEP_flood	0	ft^3/s			

Peak-Flow Statistics Citations

Sando, Roy, Sando, S.K., McCarthy, P.M., and Dutton, D.M.,2016, Methods for estimating peak-flow frequencies at ungaged sites in Montana based on data through water year 2011: U.S. Geological Survey Scientific Investigations Report 2015–5019–F, 30 p. (https://doi.org/10.3133/sir20155019)

Chase, K.J., Sando, R., Armstrong, D.W., and McCarthy, P., 2021, Regional regression equations based on channel-width characteristics to estimate peak-flow frequencies at ungaged sites in Montana using peak-flow frequency data through water year 2011 (ver. 1.1, September 2021): U.S. Geological Survey Scientific Investigations Report 2020–5142, 49 p. (https://doi.org/10.3133/sir20205142)

Monthly Flow Statistics

Monthly Flow Statistics Parameters [UpYellow CentMt Region Season3 MeanDur 2015 5019G]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	44.8	square miles	28.1	2620
PRECIP	Mean Annual Precipitation	13.81	inches	16.4	38.9

Monthly Flow Statistics Parameters [UpYellow CentMt Region Season1 MeanDur 2015 5019G]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	44.8	square miles	28.1	2620
PRECIP	Mean Annual Precipitation	13.81	inches	16.4	38.9

Monthly Flow Statistics Parameters [UpYellow CentMt Region Season2 MeanDur 2015 5019G]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	44.8	square miles	28.1	2620
PRECIP	Mean Annual Precipitation	13.81	inches	16.4	38.9

Monthly Flow Statistics Disclaimers [UpYellow CentMt Region Season3 MeanDur 2015 5019G]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Monthly Flow Statistics Flow Report [UpYellow CentMt Region Season3 MeanDur 2015 5019G]

Statistic	Value	Unit
November Mean Flow	1.91	ft^3/s
December Mean Flow	1.53	ft^3/s
January Mean Flow	1.85	ft^3/s
February Mean Flow	3.23	ft^3/s

Monthly Flow Statistics Disclaimers [UpYellow CentMt Region Season1 MeanDur 2015 5019G]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Monthly Flow Statistics Flow Report [UpYellow CentMt Region Season1 MeanDur 2015 5019G]

Statistic	Value	Unit
March Mean Flow	6.57	ft^3/s
April Mean Flow	7.28	ft^3/s
May Mean Flow	6.02	ft^3/s
June Mean Flow	4.02	ft^3/s

Monthly Flow Statistics Disclaimers [UpYellow CentMt Region Season2 MeanDur 2015 5019G]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Monthly Flow Statistics Flow Report [UpYellow CentMt Region Season2 MeanDur 2015 5019G]

Statistic	Value	Unit
July Mean Flow	1.18	ft^3/s
August Mean Flow	0.827	ft^3/s
September Mean Flow	1.07	ft^3/s
October Mean Flow	1.81	ft^3/s

Monthly Flow Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
November Mean Flow	1.91	ft^3/s
December Mean Flow	1.53	ft^3/s
January Mean Flow	1.85	ft^3/s
February Mean Flow	3.23	ft^3/s
March Mean Flow	6.57	ft^3/s
April Mean Flow	7.28	ft^3/s
May Mean Flow	6.02	ft^3/s
June Mean Flow	4.02	ft^3/s
July Mean Flow	1.18	ft^3/s
August Mean Flow	0.827	ft^3/s
September Mean Flow	1.07	ft^3/s
October Mean Flow	1.81	ft^3/s

Monthly Flow Statistics Citations

McCarthy, P.M., Sando, Roy, Sando, S.K., and Dutton, D.M.,2016, Methods for estimating streamflow characteristics at ungaged sites in western Montana based on data through water year 2009: U.S. Geological Survey Scientific Investigations Report 2015–5019–G, 19 p. (https://doi.org/10.3133/sir20155019)

Seasonal Flow Statistics

Seasonal Flow Statistics Parameters [UpYellow CentMt Region LowFlow GLS 2015 5019G]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	44.8	square miles	28.1	2620
PRECIP	Mean Annual Precipitation	13.81	inches	16.4	38.9

Seasonal Flow Statistics Disclaimers [UpYellow CentMt Region LowFlow GLS 2015 5019G]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Seasonal Flow Statistics Flow Report [UpYellow CentMt Region LowFlow GLS 2015 5019G]

Statistic	Value	Unit
Jul_to_Oct_14_Day_5_Yr_Low_Flow	0.347	ft^3/s

Seasonal Flow Statistics Citations

McCarthy, P.M., Sando, Roy, Sando, S.K., and Dutton, D.M.,2016, Methods for estimating streamflow characteristics at ungaged sites in western Montana based on data through water year 2009: U.S. Geological Survey Scientific Investigations Report 2015–5019–G, 19 p. (https://doi.org/10.3133/sir20155019)

Low-Flow Statistics

Low-Flow Statistics Parameters [UpYellow CentMt Region LowFlow GLS 2015 5019G]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	44.8	square miles	28.1	2620
PRECIP	Mean Annual Precipitation	13.81	inches	16.4	38.9

Low-Flow Statistics Disclaimers [UpYellow CentMt Region LowFlow GLS 2015 5019G]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [UpYellow CentMt Region LowFlow GLS 2015 5019G]

Statistic	Value	Unit
7 Day 10 Year Low Flow	0.0544	ft^3/s

Low-Flow Statistics Citations

McCarthy, P.M., Sando, Roy, Sando, S.K., and Dutton, D.M.,2016, Methods for estimating streamflow characteristics at ungaged sites in western Montana based on data through water year 2009: U.S. Geological Survey Scientific Investigations Report 2015–5019–G, 19 p. (https://doi.org/10.3133/sir20155019)

Bankfull Statistics

Bankfull Statistics Parameters [2.0 Percent (0.74 square miles) Interior Plains D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	44.8	square miles	0.19305	59927.7393

Bankfull Statistics Parameters [2.0 Percent (0.74 square miles) Great Plains P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	44.8	square miles	0.598455	30899.82624

Bankfull Statistics Parameters [98.0 Percent (44 square miles) Rocky Mountain System D Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	44.8	square miles	0.15444	9730.1061

Bankfull Statistics Parameters [98.0 Percent (44 square miles) Middle Rocky Mountains P Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	44.8	square miles	28.100358	3550.981005

Bankfull Statistics Parameters [USA Bieger 2015]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	44.8	square miles	0.07722	59927.7393

Bankfull Statistics Flow Report [2.0 Percent (0.74 square miles) Interior Plains D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	44.6	ft
Bieger_D_channel_depth	3.09	ft
Bieger_D_channel_cross_sectional_area	130	ft^2

Bankfull Statistics Flow Report [2.0 Percent (0.74 square miles) Great Plains P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	25.6	ft
Bieger_P_channel_depth	2.14	ft
Bieger_P_channel_cross_sectional_area	78.3	ft^2

Bankfull Statistics Flow Report [98.0 Percent (44 square miles) Rocky Mountain System D Bieger 2015]

Statistic	Value	Unit
Bieger_D_channel_width	32.2	ft
Bieger_D_channel_depth	2.2	ft
Bieger_D_channel_cross_sectional_area	56.7	ft^2

Bankfull Statistics Flow Report [98.0 Percent (44 square miles) Middle Rocky Mountains P Bieger 2015]

Statistic	Value	Unit
Bieger_P_channel_width	31.9	ft
Bieger_P_channel_depth	2.8	ft

Bankfull Statistics Flow Report [USA Bieger 2015]

Statistic	Value	Unit
Bieger_USA_channel_width	47.2	ft
Bieger_USA_channel_depth	2.71	ft
Bieger_USA_channel_cross_sectional_area	133	ft^2

Bankfull Statistics Flow Report [Area-Averaged]

Statistic	Value	Unit
Bieger_D_channel_width	32.4	ft
Bieger_D_channel_depth	2.22	ft
Bieger_D_channel_cross_sectional_area	58.2	ft^2
Bieger_P_channel_width	31.8	ft
Bieger_P_channel_depth	2.79	ft
Bieger_P_channel_cross_sectional_area	1.57	ft^2
Bieger_USA_channel_width	47.2	ft
Bieger_USA_channel_depth	2.71	ft
Bieger_USA_channel_cross_sectional_area	133	ft^2

Bankfull Statistics Citations

Bieger, Katrin; Rathjens, Hendrik; Allen, Peter M.; and Arnold, Jeffrey G.,2015, Development and Evaluation of Bankfull Hydraulic Geometry Relationships for the Physiographic Regions of the United States, Publications from USDA-ARS / UNL Faculty, 17p. (https://digitalcommons.unl.edu/usdaarsfacpub/1515?utm_source=digitalcommons.unl.edu%2Fusdaarsfacpub%2F1515&utm_medium=PDF&utm_campaign=PDFCoverI

NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

GNIS ID	GNIS Name	Distance from Clicked Point (ft)	Feature Type	Selected Stream Name
00776174	Sand Creek	22.90	Intermittent	(●) Sand Creek
00776193	Sand Creek Extension Ditch	3,090.58	Canal Ditch	( ) Sand Creek Extension Ditch
00776192	Sand Creek Canal	3,448.25	Canal Ditch	( ) Sand Creek Canal

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
10070006	Clarks Fork Yellowstone

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6. (https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4. (https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4)

Channel-width Methods Weighting

No method weighting results returned.

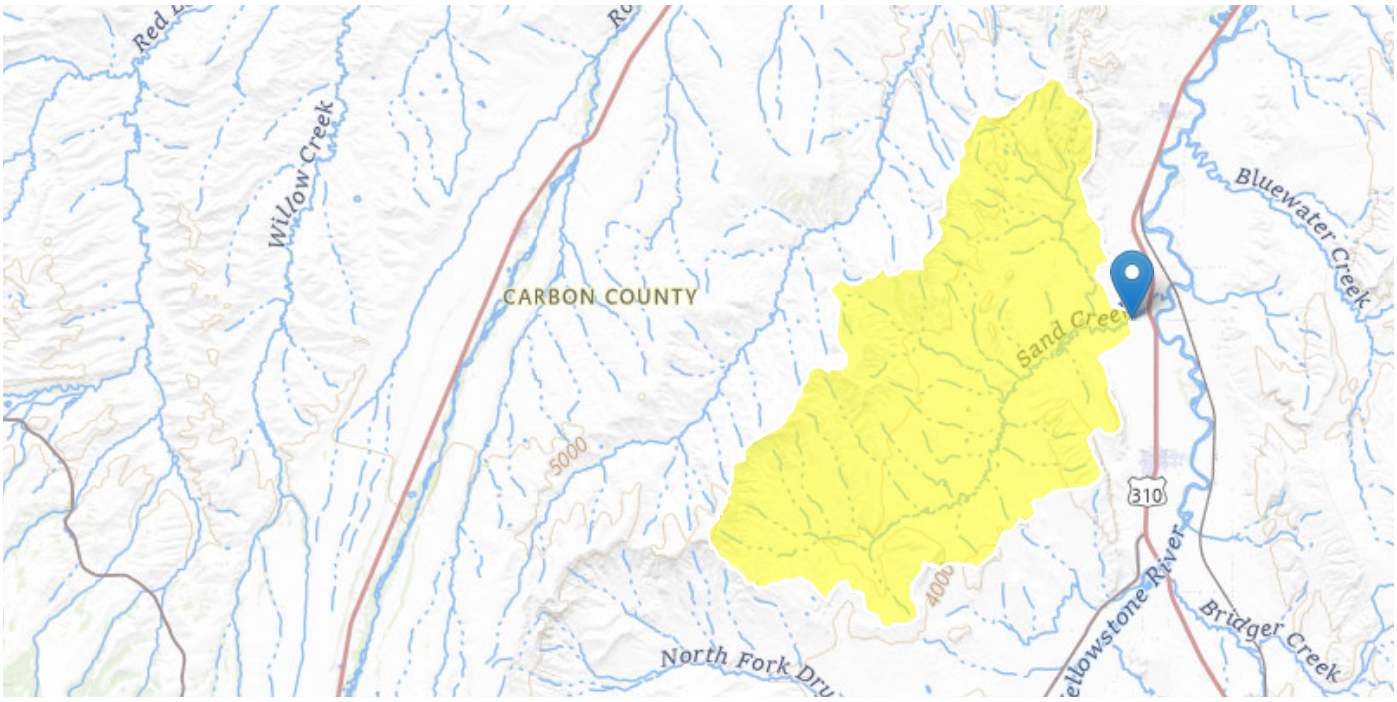
shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Sand Creel - Basin & Hyrdo - StreamStats Report

Region ID: MT
Workspace ID: MT20251015172555656000
Clicked Point (Latitude, Longitude): 45.33400, -108.92397
NHD Stream GNIS Name of Click Point: Sand Creek
Time: 2025-10-15 11:26:25 -0600



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM30M	Mean basin slope computed from 30 m DEM	13	percent
CHANWD_RS	Channel width determined from remotely sensed data sources, including aerial imagery	0	feet
CONTDA	Area that contributes flow to a point on a stream	44.8	square miles
DRNAREA	Area that drains to a point on a stream	44.8	square miles
EL5000	Percent of area above 5000 ft	0	percent
EL6000	Percent of area above 6000 ft	0	percent
ELEV	Mean Basin Elevation	4044.5	feet
ELEVMAX	Maximum basin elevation	5127	feet

Parameter Code	Parameter Description	Value	Unit
ET0306MOD	Spring (March-June) mean monthly evapotranspiration (2001-2011), MODIS	1.22	inches
ET0710MOD	Summer (July-October) mean monthly evapotranspiration (2001-2011), MODIS	0.62	inches
FOREST	Percentage of area covered by forest	2.7	percent
IRRIGAT_MT	Percent of basin that is irrigated based on Montana Final Land Unit (FLU) classification	2	percent
LAKESNHDH	Percent of basin in lakes, ponds, and reservoirs fom high resolution National Hydrography Dataset	0	percent
LC01CRPHAY	Percentage of cultivated crops and hay, classes 81 and 82, from NLCD 2001	10	percent
LC01DEV	Percentage of land-use from NLCD 2001 classes 21-24	0	percent
LC01WETLND	Percentage of wetlands, classes 90 and 95, from NLCD 2001	0	percent
MINBELEV	Minimum basin elevation	3600	feet
NFSL30_30M	Percent area with north-facing slopes greater than 30 percent from 30-meter DEM.	2.1	percent
PRECIP	Mean Annual Precipitation	13.81	inches
RELIEF	Maximum - minimum elevation	1527	feet
SLOP30_30M	Percent area with slopes greater than 30 percent from 30-meter DEM.	9.9	percent
SLOP50_30M	Percent area with slopes greater than 50 percent from 30-meter DEM.	1	percent
TEMP	Mean Annual Temperature	46.15	degrees F
WACTCH	Width of active channel	0	feet
WBANKFULL	Width of channel at bankfull	0	feet

NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

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This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

HUC 8	Name
10070006	Clarks Fork Yellowstone

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6. (https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4. (https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4)

Channel-width Methods Weighting

No method weighting results returned.

Application Version: 4.29.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Draft Preliminary Determinations

- Draft PD
- Draft PD cover letter
- Updated Draft PD
- Updated Draft PD cover letter
- Any correspondence with the applicant regarding the draft PDs

Draft Preliminary Determinations

DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

February 23, 2026

Scott M. & Pamela K. Griswold
33 Sand Creek Road
Bridger, MT, 59014-9581

Subject: Draft Preliminary Determination to Grant Beneficial Water Use Permit Application No. 43D 30171860

Dear Applicant,

The Department of Natural Resources and Conservation (Department or DNRC) has completed a preliminary review of your application. This review consists of an evaluation of the criteria for issuance of a permit authorization found in §85-2-311, MCA. The Department has preliminarily determined that the criteria are met, and this application should be granted. A copy of the Draft Preliminary Determination to Grant your application is attached.

You have the opportunity to request an extension of time to submit additional information for the Department to consider in the decision, within 15 business days of the date of this letter. If no written request for an extension is received by March 16, 2026, the Department will prepare a notice of opportunity to provide public comment per §85-2-307(4), MCA.

Please let me know if you have any questions.

Sincerely,

C. Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

**BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA**

* * * * * * *

APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 43D 30171860 BY SCOTT M. GRISWOLD & PAMELA K. GRISWOLD	**DRAFT PRELIMINARY DETERMINATION TO GRANT PERMIT**

* * * * * * *

On December 4, 2025, Scott M. Griswold & Pamela K. Griswold (Applicant) submitted Application for Beneficial Water Use Permit No. 43D 30171860 to the Billings Regional Office of the Department of Natural Resources and Conservation (Department or DNRC) for a flow rate of 4.1 CFS, up to 89.8 AF in volume for the irrigation of 23.8 AC. The Department published receipt of the application on its website. A preapplication meeting was held between the Department and the Applicant on September 22, 2025, in which the Applicant designated that the technical analyses for this application would be completed by the Department. The Applicant returned the completed Preapplication Meeting Form 600P-B on September 29, 2025. The Department delivered the Department-completed Technical Analyses on November 19, 2025. The application was determined to be correct and complete as of December 26, 2025. An Environmental Assessment for this Application was completed on February 17, 2026.

INFORMATION

The Department considered the following information submitted by the Applicant, which is contained in the administrative record.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600
- Attachments:
    - Montana Sage Grouse Habitat Conservation Program Letter for project no. 7175, dated September 29, 2025
    - Estimated Pump Design, by Big Sky Irrigation
    - Image of proposed portable pump and floating river screen
- Maps:
    - Map 1, titled: *Griswold – Permit – Proposed POD & POU*, overlaying 2023 aerial imagery, with the Applicant's parcel boundary

  - Map 2, titled: *Griswold, Scott M & Pamela K: Griswold – Permit – Proposed POD & POU*, over 2025 aerial imagery, with Applicant's preliminary designs of the point of diversion (POD), place of use (POU), and conveyance via ditch and proposed pipelines
  - Map 3, titled: *43D 30171860 – Griswold – Proposed*, over 2021 aerial imagery, with proposed POU, transitory POD, and conveyance via ditch and pipelines
  - Map 4, titled: *Griswold Proposed POU & POD*, over aerial imagery with proposed transitory POD; proposed initial pipeline; proposed pipelines 1, 2, and 3; proposed POU, including flood irrigated acres
- Department-completed technical analyses, dated November 19, 2025, based on information provided in the Preapplication Meeting Form

Information within the Department's Possession/Knowledge

- Float Area Method measurements, provided by the Applicant, received by email on September 4, 2025
- Float Area Method measurement calculations, calculated by Billings Regional Office Water Resource Staff and approved by WSB Groundwater Hydrologist, Jack Landers, via email on September 26, 2025
- Surface Water Technical Analyses Report – Notice of Errata, dated February 23, 2026
- DNRC Water Right Information System (WRIS)
- DNRC Water Calculation Guide
- The Department also routinely considers the following information. The following information is not included in the administrative file for this application but is available upon request. Please contact the Billings Regional Office at 406-247-4415 to request copies of the following documents.
  - Department Permit Application Manual, February 2025
  - Department Change Application Manual, February 2025

The Department has fully reviewed and considered the evidence and argument submitted in this application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

For the purposes of this document, Department or DNRC means the Department of Natural Resources & Conservation; AF means acre-feet; AF/YR means acre-feet per year; AOPI means area of potential impact; AU means animal unit; CFS means cubic feet per second; GPD means gallons per day; GPM means gallons per minute; POD means point of diversion; POU means place of use; and STOC means Statement of Claim.

PROPOSED APPROPRIATION

FINDINGS OF FACT

1. The Applicant proposes to divert water from Sand Creek, from May 1 to September 30, by means of a pump, from a transitory point of diversion, approximately 86 feet long, along the southwest of the Applicant's property boundary. The entire range of the proposed transitory point of diversion, from the upstream extent to the downstream extent, is located in the SWSWSW Section 4, Township 6 South, Range 23 East, Carbon County. The proposed use includes diverting at a flow rate of 4.1 CFS and up to 89.8 AF in volume per year, for irrigation from May 1 to September 30. The Applicant proposes to irrigate 23.8 acres, located in the SESW and SWSW Sec. 4, T6S, R23E, Carbon County, with 1.2 acres in Government Lot 10 (SESW), and 22.6 acres in the SWSW. Of the 23.8 acres, 4.5 acres will be flood irrigated from the Applicant's ditch, and the remaining 19.3 acres will be irrigated by a gated pipe system. A summary of this Application is in Tables 1 and 2.

Table 1: Summary of the Proposed Use for Application for Beneficial Use Permit 43D 30171860

Source	Flow Rate	Diverted Volume	Purpose	Period of Use	Place of Use	Point of Diversion	Period of Diversion
Sand Creek	4.1 CFS	89.8 AF	Irrigation	05/01 to 09/30	1.2 acres in Government Lot 10 (SESW) and 22.6 acres in the SWSW, Sec. 4, T6S, R23E, Carbon County	Table 2	05/01 to 09/30

Table 2: Proposed Transitory Point of Diversion

Upstream Extent	Downstream Extent
SWSWSW Sec. 4, T6S, R23E, Carbon County	SWSWSW Sec. 4, T6S, R23E, Carbon County

2. The requested volume of 89.8 AF and the requested 19.3 acres to be irrigated via a gated pipe system differ from that in the Technical Analysis, due to typographical errors made by the Department during the preapplication meeting that occurred on September 22, 2025. The volume of 89.8 AF is the correct volume for this Application, and the 19.3 acres are the correct acres to be irrigated under this Application. These are discussed in the Surface Water Technical Analyses Report – Notice of Errata, dated February 23, 2026.

3. The proposed appropriation is supplemental to the Applicant's Sand Creek Canal Co. ditch shares under Statement of Claim 43D 199996-00.

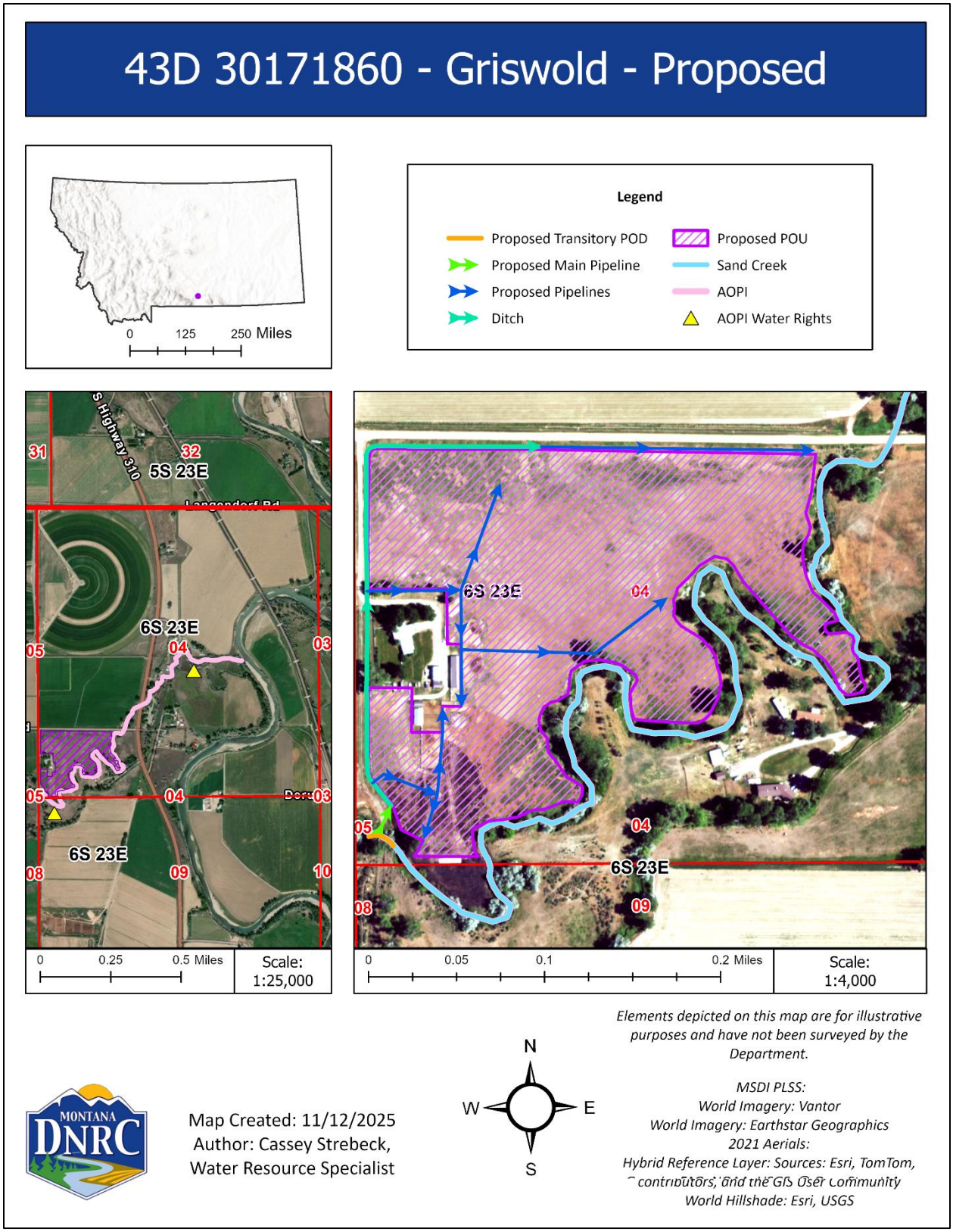

Figure 1. Proposed Place of Use, Conveyance, and AOPI for Application 43D 30171860

§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA

GENERAL CONCLUSIONS OF LAW

4. The Montana Constitution expressly recognizes in relevant part that:

> (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
> (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
> (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, § 3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

> (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
> (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

5. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. *See* § 85-2-102(1), MCA. An Applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

> … the department shall issue a permit if the Applicant proves by a preponderance of evidence that the following criteria are met:
> (a) (I) there is water physically available at the proposed point of diversion in the amount that the Applicant seeks to appropriate; and
> (ii) water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

(b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an Applicant's plan for the exercise of the permit that demonstrates that the Applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) the Applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The Applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, "the Applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the Applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies." Section 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. *Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation*, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the Applicant by a

preponderance of the evidence. Id. A preponderance of evidence is "more probably than not." *Hohenlohe v. DNRC*, 2010 MT 203, ¶¶ 33, 35, 357 Mont. 438, 240 P.3d 628.

6. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

> (1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, "uncontrolled development of a valuable natural resource" which "contradicts the spirit and purpose underlying the Water Use Act."); *see also*, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers* (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

7. The Montana Supreme Court further recognized in *Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starner*, 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080 (1996), *superseded by legislation on another issue*:

> Nothing in that section [85-2-313], however, relieves an Applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an Applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order* (2011). The Supreme Court likewise explained that:

> .... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; *see also* Mont. Const. art. IX §3(1).

8. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. Section 85-2-311(6), MCA.

9. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

PHYSICAL AVAILABILITY

FINDINGS OF FACT

10. The Applicant proposes to divert water from Sand Creek using a pump from a transitory POD, approximately 86 feet long, along the Applicant’s property located in the SWSWSW Sec. 4, T6S, R23E, Carbon County, at a flow rate of 4.1 CFS, up to 89.8 AF in volume per year, to be conveyed via a ditch and pipeline system to irrigate 23.8 acres.

11. Sand Creek is considered to be naturally intermittent. However, upon site visit, the Department determined that no water was available in Sand Creek above Sand Creek Canal. The Department internally determined that Sand Creek was of source type: other.

12. For all other source types, physical availability of water will be determined based on monthly flow rate and volume. The Applicant is required to collect measurements for these sources once monthly at Department-approved intervals during the period of diversion (ARM 36.12.1702 (4).

13. The Department and the Applicant collected surface water measurements on Sand Creek, at the Applicant’s proposed POD. Use of the DNRC and Applicant-collected flow measurements are appropriate because the source does not follow a natural hydrograph, as determined by Department Hydrologist Christine Schweigert, and therefore, the estimation techniques available to the Department cannot be applied and would not accurately estimate the physically available flow rate and volume. This method was determined to be the best estimation technique available.

14. The Department collected initial measurements in May using a FlowTracker 2 velocity meter and the float area method. The Applicant collected measurements in June, July, August, and September using the float area method. The measurements were found to be acceptable by Department Groundwater Hydrologist, Jack Landers, via email on September 26, 2025, and were taken as the physical availability of water at the proposed point of diversion.

15. The discharge measured in May using the float area method was approximately 8.26 CFS less than the discharge measured with the velocity meter. For consistency, only the data from the float area measurements were used to evaluate physical availability. This provided more representative measurements since the Applicant's only available method of measurement was the float area method. Moreover, the Department used the lower number for the evaluation of physical availability to be conservative. Table 3 shows the physical availability by month.

Table 3: Physical availability at the Point of Diversion

Measurement Number:	Collection Date:	Collected By:	Method:	Flow Rate (CFS):
1	05/28/2025	DNRC	Velocity Meter	24.23
1	05/28/2025	DNRC	Float Method	15.97
2	06/26/2025	Applicant	Float Method	15.62
3	07/31/2025	Applicant	Float Method	19.36
4	08/19/2025	Applicant	Float Method	31.72
5	09/04/2025	Applicant	Float Method	12.33

16. Table 4 summarizes the estimated mean monthly flow and volume of Sand Creek based on the float area method measurements. Monthly volume in AF is calculated by multiplying the flow rate in CFS by 1.98 (the number of AF per day per CFS) and the number of days in the respective month.

Table 4: Measured Monthly Flow Rate and Volume

Month	May	June	July	August	September
Flow Rate (CFS)	15.97	15.62	19.36	31.72	12.33
Volume (AF)	980.24	927.83	1,188.32	1,946.97	732.40*

*Differs from the November 19, 2025 Technical Analysis; see February 23, 2026 Surface Water Permit Technical Analysis Report – Notice of Errata

17. The volume for September in Table 4 has been corrected and does not match the values in the Technical Analyses. This correction is reflected in the Surface Water Permit Technical Analyses Report – Notice of Errata dated February 23, 2026.

18. The Department finds that water is physically available in excess of the proposed flow rate, during the proposed period of diversion, May 1 to September 30.

19. The Department finds that water is physically available in excess of the proposed volume, during the proposed period of diversion, May 1 to September 30.

LEGAL AVAILABILITY

FINDINGS OF FACT

20. To determine the amount of water legally available at the Applicant's proposed POD, the Department identified an AOPI. The AOPI spans a reach of Sand Creek extending from the upstream extent of the proposed transitory POD located in the SWSWSW Sec. 4, T6S, R23E, Carbon County, downstream, approximately 1.5 river miles, to the confluence of Sand Creek and the Clarks Fork Yellowstone River located in the Government Lot 9 (NENWSE) Sec. 4, T6S, R23E, Carbon County. This is an acceptable area of the potential adverse effect as the reach includes the remaining 1.5 river miles of Sand Creek, includes a drainage basin of 45.2 square miles, and the Clarks Fork Yellowstone River is a significant hydrological boundary.

21. There are two (2) active water rights on Sand Creek within the AOPI: one (1) Statement of Claim is for stock direct from source, and one (1) Statement of Claim is for irrigation. Table 5.

Table 5: Water Rights located in the AOPI

Water Right Owner	WR Type	Owners	Purposes	Flow Rate (CFS)	Acres	AU	Volume (AF)	Period of Diversion	Period of Use
43D 43402-00	STOC	Robin A Schalla, Tammy S Schalla	Irrigation	1	40	N/A	122.8	04/15 to 10/01	04/15 to 10/01
43D 30134926	STOC	Heidema Ranch LP	Stock	0.033*	N/A	700	23.8	01/01 to 12/31	01/01 to 12/31
Stock Direct Standard		-	-	0.078	-	-	-	-	-

*Calculated by DNRC

22. Statement of Claim 43D 30134926 had its flow rate and volume quantified by the Department, by Department standard practice. The volume was determined using the adjudication standard of 30 GPD per AU (0.34 AF/YR). The flow rate in GPM was back-

calculated using the following equation: volume in AF x 325,851 gallons / 365 days / 1,440 minutes per day = GPM. The flow rate in GPM was converted to the flow rate in CFS, using the following equation: GPM / 448.8 GPM/CFS = CFS. To provide a conservative estimate with stock direct from the source, the Department adds 35 GPM (0.078 CFS) to the calculated flow rate.

23. The Department calculated the volume for Statement of Claim 43D 43402-00, located in climatic area 1, based on 3.07 AF/AC, which is the lower end of the higher range at 60% efficiency flood irrigation (ARM 36.12.115).

24. The flow rate of existing legal demands is calculated by combining the flow rate of all water rights within the AOPI, for each month of the proposed period of diversion.

25. The volume of existing legal demands is calculated by combining the volume of all water rights within the AOPI for each month of the proposed period of diversion. To find the volume for a specific month of a water right, the volume is divided by the number of days in the period of diversion, giving the volume per day, then multiplying the volume per day by the number of days in the respective month.

26. The comparison between the physically and legally available flow rate in Sand Creek at the proposed upstream extent of the proposed transitory POD located in the SWSWSW Sec. 4, T6S, R23E, Carbon County is shown in Table 4.

27. The comparison between the physically and legally available volume in Sand Creek at the proposed upstream extent of the proposed transitory POD located in the SWSWSW Sec. 4, T6S, R23E, Carbon County is shown in Table 5.

Table 4: Legal Availability Analysis of Flow Rate at the Proposed Point of Diversion on Sand Creek

Month	May	June	July	Aug	Sept
Physically Available Flow Rate (CFS)	15.97	15.62	19.36	31.72	12.33
Existing Legal Demands in AOPI (CFS)	1.11	1.11	1.11	1.11	1.11
Legally Available Water (CFS)	14.86	14.51	18.25	30.61	11.22

All values were rounded to the hundredths place after calculations/conversions

Table 5: Legal Availability Analysis of Volume at the Proposed Point of Diversion on Sand Creek

Month	May	June	July	Aug	Sept
Physically Available Volume (AF)	980.24	927.83	1,188.32	1,946.97	732.40*
Existing Legal Demands in AOPI (AF)	24.41	23.63	24.41	24.41	23.63
Legally Available Water (AF)	955.83	904.20	1,163.91	1,922.56	708.77

All values were rounded to the hundredths place after calculations/conversions. *Differs from the November 19, 2025 Technical Analysis; see February 23, 2026 Surface Water Permit Technical Analysis Report – Notice of Errata

28. The Department finds that the physically available flow rate exceeds the existing legal demand during the Applicant's proposed period of diversion. The Department finds that the requested flow rate of 4.1 CFS is legally available to the Applicant during the proposed period of diversion, May 1 to September 30.

29. The Department finds that the physically available volume exceeds the existing legal demand during the Applicant's proposed period of diversion. The Department finds that the requested volume of 89.8 AF is legally available to the Applicant during the proposed period of diversion, May 1 to September 30.

ADVERSE EFFECT

FINDINGS OF FACT

30. There are two senior water rights downstream of the proposed POD, which may be adversely affected: Statements of Claim 43D 434302-00 and 43D 30134926. These two STOC are located in the AOPI that extends 1.5 river miles from the upstream extent of the proposed transitory POD to the confluence of Sand Creek and the Clarks Fork Yellowstone River. The Applicant's plan to prevent adverse effect is to shut down the pump and cease diversion, if a valid call is made by a senior water user. The Department finds that the Applicant's adverse effect plan is reasonable.

31. The Applicant has proven that enough water remains in Sand Creek to meet both the existing legal demands within the AOPI and the proposed appropriation of 4.1 CFS and 89.8 AF in volume.

32. The Department finds the proposed flow rate of 4.1 CFS and up to 89.8 AF in volume to irrigate 23.8 acres will not have adverse effect on existing water users.

ADEQUATE MEANS OF DIVERSION

FINDINGS OF FACT

33. The Applicant proposes to use a transitory point of diversion, approximately 86 feet long, along the southwest side of the Applicant's property boundary. The entire range of the proposed transitory point of diversion, from the upstream extent to the downstream extent, is located on Sand Creek in the SWSWSW Section 4, Township 6 South, Range 23 East, Carbon County.

34. The Applicant proposes to pump water from Sand Creek using a Cornell 6RB-20, with a 20 HP engine, and a floating screen apparatus. The pump is configured with a 10-inch suction and a 6-inch discharge. The water will be conveyed from the pump via a 12-inch #80 plastic irrigation pipe (PIP), approximately 120-feet long, to a contour ditch that runs from the southwest side of the Applicant's property northward along the west side of the place of use, rounding the northwest corner and ending along the north side. From the contour ditch, ditch cutouts, and siphon tubes will flood irrigate 4.5 acres; three headgates on the contour ditch with gated pipe will irrigate the remaining 19.3 acres, for a total of 23.8 acres of irrigated lands.

35. The Department finds that the proposed means of diversion and conveyance are capable of diverting and conveying the proposed flow rate and volume.

BENEFICIAL USE

FINDINGS OF FACT

36. The Applicant proposes to divert up to 89.8 AF in volume, at a flow rate of 4.1 CFS, to irrigate 23.8 acres. Irrigation is a recognized beneficial use under the Montana Water Use Act § 85-2-102(5), MCA. While this proposed appropriation is supplemental to the Applicant's Sand Creek Canal Co. ditch shares, this Application has become necessary as the ditch shares are not always available. The Applicant proposes to use the ditch shares when available and utilize this proposed appropriation when shares are not available (FOF 3).

37. The flow rate is based on the size of the pump, and the volume requested is calculated using Department standard for flood irrigation of 4.5 acres at 45% efficiency in climatic area 1, and gated pipe irrigation of 19.3 acres at 60% efficiency in climatic area 1.

38. The Applicant requests a period of diversion and period of use from May 1 to September 30, which is within the standard period of diversion for irrigation, March 15 to November 15, for climatic area 1.

39. The Department finds that the beneficial use criterion for this application is met, and that the requested flow rate of 4.1 CFS and up to 89.8 in volume, during the proposed period of diversion, are reasonably justified per 36.12.1801(3).

POSSESSORY INTEREST

FINDINGS OF FACT

40. The Applicant signed the application form affirming that the Applicant has possessory interest or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

CONCLUSIONS OF LAW

PHYSICAL AVAILABILITY

41. Pursuant to § 85-2-311(1)(a)(i), MCA, an Applicant must prove by a preponderance of the evidence that "there is water physically available at the proposed point of diversion in the amount that the Applicant seeks to appropriate."

42. It is the Applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-41I by Anson* (DNRC Final Order 1987) (Applicant produced no flow measurements or any other information to show the availability of water; permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.,* (DNRC Final Order 2005).

43. An Applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the Applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

44. The Applicant has proven that water is physically available at the proposed point of diversion in the amount the Applicant seeks to appropriate. Section 85-2-311(1)(a)(i), MCA. (FOF 10-19)

LEGAL AVAILABILITY

45. Pursuant to § 85-2-311(1)(a), MCA, an Applicant must prove by a preponderance of the evidence that:

> (ii) water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the

> department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:
> (A) identification of physical water availability;
> (B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and
> (C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; *Montana Power Co.*, 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

46. It is the Applicant's burden to present evidence to prove water can be reasonably considered legally available. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the Applicant. The Supreme Court has instructed that those burdens are exacting.); *see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston* (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on Applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005))(it is the Applicant's burden to produce the required evidence.); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC* (DNRC Final Order 2007) (permit denied for failure to prove legal availability); *see also* ARM 36.12.1705.

47. The Applicant has proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. Section 85-2-311(1)(a)(ii), MCA. (FOF 20-29)

ADVERSE EFFECT

48. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Analysis of adverse effect must be determined based on a consideration of an Applicant's plan for the exercise of the permit that demonstrates that the Applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. *See Montana Power Co.*, 211

Mont. 91, 685 P.2d 336 (1984) (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); *Bostwick Properties, Inc.*, ¶ 21.

49. An Applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an Applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. *Id.* ARM 36.12.120(5).

50. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 4 (2011).

51. In analyzing adverse effect to other appropriators, an Applicant may use the water rights claims of potentially affected appropriators as evidence of their "historic beneficial use." *See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston*, 249 Mont. 425, 816 P.2d 1054 (1991).

52. It is the Applicant's burden to produce the required evidence. *E.g., Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 7 (2011) (legislature has placed the burden of proof squarely on the Applicant); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the Applicant by a preponderance of the evidence. *Bostwick Properties, Inc.*, ¶ 21.

53. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. *Wesmont Developers v. DNRC*, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, 8 (2011).

54. The Applicant has proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Section 85-2-311(1)(b), MCA. (FOF 30-32)

ADEQUATE DIVERSION

55. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

56. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective,

i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

57. Collection of snowmelt and rain in lined ponds considered adequate means of diversion. *In the Matter of Application for Beneficial Water Use Permit No. 69141-76G by Silver Eagle Mining* (DNRC Final Order 1989).

58. The Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. Section 85-2-311(1)(c), MCA. (FOF 33-35)

BENEFICIAL USE

59. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

60. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. *E.g.*, *McDonald*; *Toohey v. Campbell* (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. *E.g.*, *Bitterroot River Protective Association v. Siebel, Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds*, *Dee Deaterly v. DNRC*, Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); *Worden v. Alexander* (1939), 108 Mont. 208, 90 P.2d 160; *Allen v. Petrick* (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

61. Amount of water to be diverted must be shown precisely. *Sitz Ranch v. DNRC*, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, 3 (2011) (citing *BRPA v. Siebel*, 2005 MT 60, and rejecting Applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

62. It is the Applicant's burden to produce the required evidence. *Bostwick Properties, Inc. v. DNRC*, 2013 MT 48, ¶ 22, 369 Mont. 150, 296 P.3d 1154 ("issuance of the water permit itself does not become a clear, legal duty until [the applicant] proves, by a preponderance of the evidence, that the required criteria have been satisfied"); *Sitz Ranch v. DNRC*, DV-10-13390, Fifth

Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005); *see also Royston; Ciotti*.

63. The Applicant proposes to use water for irrigation, which is a recognized beneficial use. Section 85-2-102(5), MCA. The Applicant has proven by a preponderance of the evidence that irrigation is a beneficial use and that 89.8 AF of diverted volume and 4.1 CFS is the amount needed to sustain the beneficial use. Section 85-2-311(1)(d), MCA. (FOF 36-39)

POSSESSORY INTEREST

64. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the Applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

65. Pursuant to ARM 36.12.1802:

> (1) An Applicant or a representative shall sign the application affidavit to affirm the following:
> (a) the statements on the application and all information submitted with the application are true and correct and
> (b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the Applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.
> (2) If a representative of the Applicant signs the application form affidavit, the representative shall state the relationship of the representative to the Applicant on the form, such as president of the corporation, and provide documentation that establishes the authority of the representative to sign the application, such as a copy of a power of attorney.
> (3) The department may require a copy of the written consent of the person having the possessory interest.

66. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. Section 85-2-311(1)(e), MCA. (FOF 40)

PRELIMINARY DETERMINATION

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 43D 30171860 should be GRANTED.

The Department determines the Applicant may divert water from Sand Creek, by means of a pump, from May 1 to September 30, at a flow rate of 4.1 CFS and up to 89.8 AF in volume, from a transitory point of diversion, approximately 86 feet in length, located in the SWSWSW Section 4, Township 6S, Range 23E, Carbon County. The Applicant may use water for crop irrigation from May 1 to September 30, to irrigate 23.8 acres, located in the SESW and SWSW Sec. 4, T6S, R23E, Carbon County, with 1.2 acres in Government Lot 10 (SESW), and 22.6 acres in the SWSW.

NOTICE

The Department will provide a notice of opportunity for public comment on this application and the Department's Draft Preliminary Determination to Grant pursuant to § 85-2-307, MCA. The Department will set a deadline for public comments to this application pursuant to §§ 85-2-307, and -308, MCA. If this application receives public comment pursuant to § 85-2-307(4), the Department shall consider the public comments, respond to the public comments, and issue a preliminary determination to grant the application, grant the application in modified form, or deny the application. If no public comments are received pursuant to § 85-2-307(4), MCA, the Department's preliminary determination will be adopted as the final determination.

Dated this 23rd day of February 2025.

Heidi Christison

Heidi Christison
Billings Regional Manager
Department of Natural Resources and Conservation
Water Resources Division
1371 Rimtop Drive
Billings, MT, 59105

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the DRAFT PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 23rd day of February, 2025, by first class United States mail.

SCOTT M. GRISWOLD
33 SAND CREEK ROAD
BRIDGER, MT 59014
GRISWOLDSMGLLC@GMAIL.COM

PAMELA K. GRISWOLD
33 SAND CREEK ROAD
BRIDGER, MT 59014
GRISWOLDMT@GMAIL.COM

C. Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Department of
Natural Resources and Conservation
Cassey.Strebeck@mt.gov
406-247-4422

Processing Materials

- Work copies of applicant-submitted information
- Deficiency letter
- Deficiency response
- Correct & complete determination
- Any correspondence with the applicant after application receipt and prior to sending the Draft PD

Processing Materials

DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

December 26, 2025

Scott M. & Pamela K. Griswold
33 Sand Creek Road
Bridger, MT, 59014-9581

Subject: Correct and Complete Application for Beneficial Water Use Permit Application No. 43D 30171860

Dear Applicant,

The Department of Natural Resources and Conservation (Department) has determined that your application is correct and complete pursuant to ARM 36.12.1601. Please remember that correct and complete **does not mean that your application will be granted.** The purpose of this letter is to indicate that the Department has enough information to analyze your water right application.

The Department will issue a Draft Preliminary Determination within 60 days of the date of this letter per §85-2-307(2)(b), MCA.

Following issuance of the Draft Preliminary Determination, you (Applicant) will have 15 business days to request an extension of time to submit additional information, if desired pursuant to §85-2-307(3)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to grant your application or grant your application in modified form, the Department will prepare a notice of opportunity to provide public comment, per §85-2-307(4)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to deny your application, the Department will adopt the Draft Preliminary Determination as the final determination per §85-2-307(3)(d)(ii), MCA.

If you have any questions or concerns about the application process, please contact me.

Sincerely,

C Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

Application Materials

- Application
- Any information submitted with Application including maps

Application Materials

APPLICATION FOR
BENEFICIAL WATER USE PERMIT
§ 85-2-302, MCA

Form No. 600 *(10/2025)*

For Department Use Only

FILING FEE

$2900/$1600 – Inside a Basin Closure Area, Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

$2500/$1200 – Outside a Basin Closure Area; Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

Application # 30171860 Basin 43B
Priority Date 12/04/25 Time 1045 (AM) PM
Rec'd By CS
Fee Rec'd $ 700.00 Check # 2075
Deposit Receipt # BLS 26104.15
Payor Scott M + Pamela K. Griswold
Refund $ _____ Date _____
Sand Creek Shorth

INFORMATION

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)). If application is eligible for a filing fee reduction, $500 paid for Form 600P-B will be credited toward filing fees shown above.

Applicant Information: *Add more as necessary.*

Applicant Name Scott M Griswold (147423)
Mailing Address 33 Sand Creek Road City Bridger State MT Zip 59014
Phone Numbers: Home 406-662-3500 Work N/A Cell 406-690-9765
Email Address griswoldsmgllc@gmail.com

Applicant Name Pamela K Griswold (147422)
Mailing Address 33 Sand Creek Road City Bridger State MT Zip 59014
Phone Numbers: Home 406-662-3500 Work N/A Cell 406-690-9768
Email Address griswoldmt@gmail.com

Applicant Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Contact/Representative Information: *Add more as necessary.*

Contact/Representative is: ☑ Applicant ☐ Consultant ☐ Attorney ☐ Other
Contact/Representative Name Scott M Griswold (147423)
Mailing Address 33 Sand Creek Road City Bridger State MT Zip 59014
Phone Numbers: Home 406-662-3500 Work N/A Cell 406-690-9765
Email Address griswoldsmgllc@gmail.com

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).*

Answer every question and applicable follow-up questions. Use the checkboxes to denote yes ("Y"), no ("N"), or not applicable ("NA"). Questions that require items to be submitted to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Application. Label all submitted items with the question number for which they were submitted. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, specify "see attachment" on this form, and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Responses in the form of a table may be entered into the table provided on this form or in an attachment. If an attachment is used, the table must have the exact headings found on this form, and "see attachment" must be entered as a response to the relevant question. Clearly label all units in tables and narrative responses.

PREAPPLICATION AND TECHNICAL ANALYSES INFORMATION

1. ☑ **Y** ☐ **N** Do you elect for Department technical analyses to be used for criteria assessment?

2. ☑ **Y** ☐ **N** Did you have a preapplication meeting AND complete a Permit Preapplication Meeting Form Part A and Part B (Form 600P-A and 600P-B)?

IF QUESTION 2 IS NO, answer 2.a and 2.b:

2.a. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.b. ☐ **S** ☐ **NA** Submit the technical analyses, if you elected in question 1 for Applicant technical analyses to be used for criteria assessment. Select "NA" if you elected for Departmental technical analyses.

IF QUESTION 2 IS YES, answer 2.c, 2.d, and 2.e:

2.c. ☐ **Y** ☑ **N** Has any element of the project described in this application changed from the mandatory elements of the project described in the completed form 600P? **If yes:**
2.c.i. Please explain.

_____
_____
_____
_____
_____
_____

2.c.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.d. ☑ **Y** ☐ **N** Are the technical analyses to be used for criteria assessment exactly the same as those completed during the preapplication process? **If no:**
2.d.i. Please explain.

_____
_____
_____
_____
_____

2.d.ii. ☐ **S** Submit the Technical Analyses Addendum (Form 600-TAA).

2.e. ☑ **Y** ☐ **N** Did you elect in Question 1 for Department technical analyses to be used for criteria assessment? **If no:**
2.e.i. ☐ **S** Submit the technical analyses.

APPLICATION ADDENDA AND REVIEW

3. ☐ **S** ☑ **NA** If your application is for groundwater, not surface water, and one or more of your points of diversion are in a Basin Closure Area, then submit the Basin Closure Area Addendum (Form 600-BCA).

4. ☐ **S** ☑ **NA** If your application is for groundwater and one or more points of diversion are in a Basin Closure Area, then your project must have a Hydrogeologic Report that conforms with MCA 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements. Please mark the box below that best applies, then select "S" if submitting a Hydrogeologic Report or "NA" if one is not required. This question does not apply to surface water points of diversion in a Basin Closure Area.

- ☐ If you elected to conduct Technical Analyses, you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☐ If you elected for DNRC to conduct Technical Analyses but did not have a preapplication meeting AND complete a Form 600P Permit Preapplication Meeting Form (or changes have occurred since the completed Form 600P), you must submit the Hydrogeologic Report Addendum (Form 600-HRA).
- ☐ If you elected for DNRC to conduct Technical Analyses, had a preapplication meeting, completed a Form 600P, and the Technical Analyses remain unchanged since the preapplication meeting, you do not need to submit Form 600-HRA because the Department's Technical Analyses meet the report requirements of § 85-2-360 and § 85-2-361, MCA.

5. ☐ **S** ☑ **NA** If the project is for one or more groundwater points of diversion located in a Controlled Groundwater Area, then submit the Controlled Groundwater Area Addendum (Form 600-CGWA).

6. ☐ **S** ☑ **NA** If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, then submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B).

7. ☐ **S** ☑ **NA** If the project involves out-of-state water use, then submit the Out-of-State Use Addendum (Form 600/606-OSA).

8. ☐ **S** ☑ **NA** If you require mitigation water to meet the criteria of issuance, then submit a Mitigation Purpose Addendum (Form 600/606-MIT).

9. ☐ **S** ☑ **NA** If the proposed purposes include marketing or selling water, (not marketing for mitigation/ aquifer recharge), then submit the Marketing Purpose Addendum (Form 600/606-WMA).

10. ☐ **S** ☑ **NA** If the project involves one or more places of storage, then submit a Permit Storage Addendum (Form 600-SA). This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)).

11. ☑ **S** ☐ **NA** If the project is in designated sage grouse habitat, then submit a review letter from the Montana Sage Grouse Habitat Conservation Program.

12. ☐ **S** ☑ **NA** If the project includes a point of diversion and/or place of use on State of Montana Trust Land, submit documentation of consent from the DNRC Trust Lands Management Division.

13. ☐ **S** ☑ **NA** You must provide a written notice of the application to each owner of an appropriation right sharing a point of diversion or means of conveyance (e.g., canal, ditch, flume, pipeline, or constructed waterway) pursuant to §85-2-302(4)(c), MCA. Submit a copy of this notice and the recipient list.

PURPOSE AND DIVERSION INFORMATION

14. ☐ **Y** ☑ **N** Is the proposed use temporary?

14.a. If yes, when will the appropriation cease? _____

15. Is the proposed source surface water or groundwater? Surface Water

16. What is the source name? Sand Creek

17. ☑ **S** Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners; township and range; north arrow; scale bar; all proposed points of diversion labeled with a unique Point of Diversion (POD) ID number and, if applicable, GWIC number; all proposed places of use; all proposed conveyance facilities and or routes; all proposed places of storage labeled with a unique Storage ID number; and places of use (POU) for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.

18. Fill out the table below. Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others.

Purpose	**Means of Diversion**	**Acres Irrigated** (if appl.)	**Period of Diversion** *(Month/Day - Month/Day)*	**Period of Use** *(Month/Day - Month/Day)*	**Flow Rate** ☐ *GPM* ☑ *CFS*	**Volume** *(Acre-Feet)*
Irrigation	Pump	23.8	05/01-09/30	05/01-09/30	4.1	86.7
				Total Flow Rate and Volume Required	4.1	86.7

19. ☑ **Y** ☐ **N** Does the proposed use include on or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the table below, where applicable.

Purpose	**Requested Information**	**Response**
Domestic or multiple domestic	Number of households and bedrooms served per household	
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	Fld(cont)45%eff-4.5A;(gated)60%eff-19.2A
Irrigation (flood only)	Design slope	

POINT(S) OF DIVERSION

20. Describe the proposed location of the point(s) diversion to the nearest ¼ ¼ ¼ Section. Label each POD with the POD ID number used for the project map (question 17).

POD #	¼	¼	¼	Sec.	Twp.	Rge.	County	Lot	Block	Tract	Subdivision	Gov. Lot
1-TU	SW	SW	SW	4	6S	23E	Carbon					
1-TD	SW	SW	SW	4	6S	23E	Carbon					

PLACE OF USE

21. What are the geocodes of the place of use?

10-0449-04-3-03-05-0000	

22. Describe the legal land description for the proposed place of use and, if applying for an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov. Lot	Block	¼	¼	¼	Sec.	Twp.	Rge.	County
22.6				Sw	SW	4	6S	23E	Carbon
1.2	10			SE	SW	4	6S	23E	Carbon

SUPPLEMENTAL AND OVERLAPPING WATER RIGHTS

23. ☑ **Y** ☐ **N** Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?

23.a. If yes, summarize how the supplemental and proposed water rights will be operated as a whole to serve the purpose(s).

Existing Sand Creek Canal Company Ditch Shares - (43D 199999-00) - Are not reliable or always available; thus, applicant will continue to use the ditch shares when available, and will use the proposed water right (permit) when the ditch shares are not available, or to augment insufficient ditch share water. The proposed pump system diverting Sand Creek water will share a common ditch intake with the existing system that delivers ditch shares water; thus, it can be used independently, or in conjunction with the existing infrastructure.

24. For each supplemental or overlapping water right, please list the water right number, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed to the shared place of use.

Water Right #	Average Period of Diversion	Average Period of Use	Flow Rate	Volume Contributed
43D 199999-00	04/01 - 10/15	04/01 - 10/15	225 CFS	0.0-86.7AF

25. ☑ **Y** ☐ **N** Will this application supplement contract water from a Federal Project, ditch company, or other source?

25.a. If yes, explain.

Existing Sand Creek Canal Company Ditch Shares - (43D 199999-00) - Are not reliable or always available. The proposed water right (permit) will be used when the ditch share water is not available or inadequate for the purpose; thereby, replacing unavailable ditch share water or supplementing an insufficient supply of ditch share water.

ADVERSE EFFECT

26. Explain how you can control your diversion in response to a call being made.

Applicant can stop diversion by ceasing pump operation if valid call is made.

27. Describe any plans you have for ensuring existing water rights will be satisfied during times of water shortage.

Applicant can/will cease diversion pumping if valid call is made, in order to defer to senior water rights on Sand Creek; and will comply with any/all directives regarding the use of Sand Creek Canal Company ditch shares in the event of a water shortage.

28. ☐ **Y** ☑ **N** Are you aware of any calls that have been made on the source of supply or, if groundwater, on nearby surface water sources?

28.a. If yes, explain.

29. ☐ **Y** ☑ **N** Does a water commissioner distribute water or oversee water distribution on your proposed source?

29.a. If yes, list the source(s).

30. ☐ **Y** ☑ **N** Do other water rights share any of the proposed points of diversion?

30.a. If yes, describe how the proposed project will not adversely affect these water rights.

31. ☐ **Y** ☑ **N** Do other water rights share any conveyance infrastructure associated with the proposed project?

31.a. If yes, describe how the proposed project will not adversely affect these water rights.

ADEQUATE MEANS OF DIVERSION AND OPERATION

32. ☑ **S** Submit a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.

33. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

This project consists of applying for a MT DNRC surface water permit to divert Sand Creek Canal Company waste water from Sand Creek via a pump system to an existing contour ditch for irrigation purposes. The main diversionary feature will consist of a portable pump unit and a floating screen apparatus (see example photos attached). The proposed pump (Cornell Mod. 6RB-20, 20 HP, 1,200 RPM, 11.75" impeller) w/ self-cleaning screen/spray bar will provide 1,850 GPM at 35 feet. The total dynamic head (TDH) at an estimated operating pressure of 5 feet is calculated to be 28.8 feet (see Estimated Pump Design and Cornell 6RB pump curve attached). This capacity closely approximates the existing gravity flow system.

34. Describe the size, materials, capacity, and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods.

The main diversionary feature will consist of a portable pump unit and a floating screen apparatus (see photos attached). The proposed pump (Cornell 6RB-20, 20 HP, 1,200 RPM, 11.75" impeller) w/ self-cleaning screen/spray bar will provide 1,850 GPM at 35 feet. The pump is configured with a 10" suction and 6" discharge. Water will be conveyed from the pump via 120' of 12" 80# PIP pipe to an intake point at the head of a single contour ditch, and further conveyed to POU directly from the contour ditch, and via gated pipe (10" diam.). Pipe loss from pump to intake point is estimated to be 0.8 feet. Department standards estimate efficiency of flood irrigation via contour ditch to be 45%, and via gated pipe to be 60%.

35. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion.

The existing infrastructure (contour ditch, headgates, gated pipe) servicing the place of use (23.73 irrigated acres) has provided sufficient flow (estimated to be 1,800 gpm) and volume to properly irrigate when ditch share water is available. The proposed diversion is projected to supply 1,850 gpm to the existing intake point, thus providing sufficient flow and volume via the existing system consisting of the same contour ditch, headgates and gated pipe. Any conveyance losses should remain consistent with those experienced by the existing system, with no increase in losses anticipated. Sand Creek water flow/volume is sufficient 5/1-9/30.

36. Provide a plan of operations, which includes specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot.

The applicant plans to utilize the proposed pump system to divert water from Sand Creek at times during the period of use (05/01-09/30) when Sand Creek Canal water in not available, or is insufficient, and the flow in Sand Creek is adequate to supply the volume required to irrigate the POU. Water diverted from Sand Creek by the pump system will be conveyed to an existing intake structure located at the highest point on the perimeter of the POU at the head of a contour ditch which lies along the west and north sides of the POU. Water is distributed within the POU entirely by gravity flow directly from that contour ditch (both by means of cut-outs and siphon tubes) and via headgates supplying a system of gated pipe.

37. ☐ **Y** ☑ **N** Does the proposed conveyance require easements?

37.a. If yes, explain.

38. ☑ **Y** ☐ **N** Do you own the land where all proposed points of diversion are located?

38.a. ☐ **S** If no, submit documentation to show you have the right to use all points of diversion located on each property you do not own. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.

39. ☐ **Y** ☑ **N** Will your system be designed to discharge water from the project?

IF YES,

39.a. Explain the wastewater disposal method.

39.b. ☐ **Y** ☐ **N** ☐ **NA** Have the necessary permits been obtained to comply with §§ 75-5-410 and 85-2-364, MCA?

40. ☐ **Y** ☑ **N** Do you have any plans to measure your diversion and use?

40.a. If yes, describe the plan and the type of measurements you will take.

41. ☐ **Y** ☑ **N** Is the means of diversion for any proposed point of diversion a well?

IF YES,

41.a. ☐ **Y** ☐ **N** Have all wells been drilled?

41.b. For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?

_____

41.c. ☐ **Y** ☐ **N** For all wells yet to be drilled, will a licensed well driller construct the wells?

41.d. ☐ **S** ☐ **NA** Submit any well logs not yet submitted to the Department.

BENEFICIAL USE

42. ☑ **Y** ☐ **N** Does the Department have a volume, period of diversion, or period of use standard for the purposes for which water is proposed? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, and ARM 36.12.115.

42.a. ☑ **Y** ☐ **N** If yes, do all proposed beneficial uses fall within Department standards?

42.b. If no Department standard exists, or if any proposed beneficial use falls outside of Department standards, explain how the requested flow rate and volume are reasonable for the purpose.

_____
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43. ☐ **Y** ☑ **N** Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?

44. ☐ **Y** ☑ **N** Are you proposing to use surface water for in-house domestic use?

44.a. ☐ **Y** ☐ **N** If yes, does a COSA exist for the proposed place of use?

44.a.i. ☐ **S** ☐ **NA** If yes, please submit the COSA.

44.a.ii. ☐ **Y** ☐ **N** If no, have you researched or consulted with DEQ regarding their requirements?

POSSESSORY INTEREST

45. ☐ **Y** ☑ **N** Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use.

45.a. If yes, explain.

46. ☑ **Y** ☐ **N** ☐ **NA** Do you own all proposed places of use? Mark "NA" if you meet one of the exceptions to the possessory interest requirement.

IF NO,

46.a. ☐ **S** Explain and submit documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use.

46.b. ☑ **Y** ☐ **N** Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403, MCA.

46.b.i. If no, explain.

PROPOSED COMPLETION PERIOD

47. How much time will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 617)? Approximately 2 years / 24 months.

48. Please describe why this amount of time is needed to complete this project.
The project will require sufficient time to schedule, acquire the necessary equipment and materials, and perform the installation/construction of utility/water lines and pump apparatus. The time to complete this will be dependent upon labor, equipment and materials availability.

AFFIDAVIT & CERTIFICATION

Read carefully before you sign and review with legal counsel if you have any questions. All owners (or trustees) must sign the form. ***If the owner is a business or trust, include the title of the representative(s) signing the form (i.e., president, trustee, managing partner, etc.) and provide documentation that establishes the authority of the representative to sign the application.*

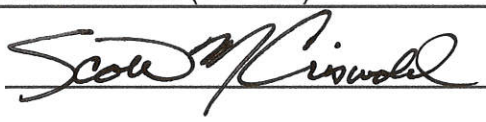
I affirm the information provided for this application is to the best of my knowledge true and correct. If a preapplication meeting form was submitted, I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the Department, I changed any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a)).

I affirm I have possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use, unless this application meets an exception to the possessory interest requirements in ARM 36.12.1802(1)(b).

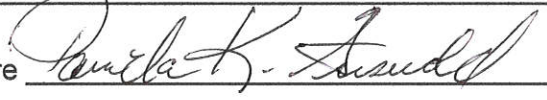
I understand that making a false statement under oath or affirmation in this application and official proceedings throughout the examination of my application may subject me to prosecution under § 45-7-202, MCA, a misdemeanor punishable by a jail term not to exceed 6 months or a fine not to exceed $500, or both. I have read this Affidavit and understand the terms and conditions.

I declare under penalty of perjury and under the laws of the state of Montana that the foregoing is true and correct.

Printed Name Scott M. Griswold (147423)

Applicant Signature  Date: 12/01/2025

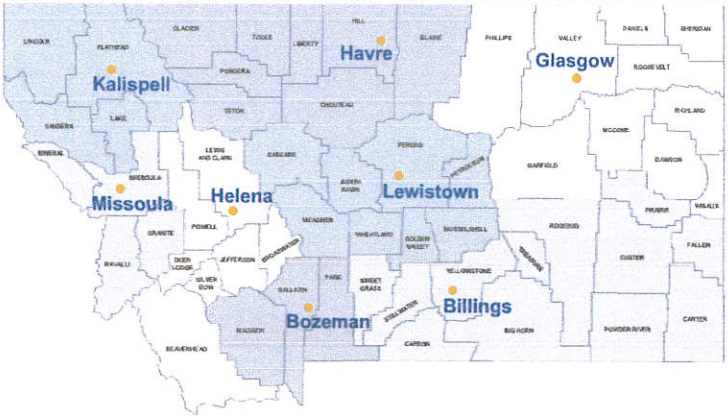
Printed Name Pamela K. Griswold (147422)

Applicant Signature  Date: 12/01/2025

Printed Name _____

Applicant Signature _____ Date: _____

WATER RESOURCES REGIONAL OFFICES



BILLINGS
Airport Industrial Park, 1371 Rimtop Dr
Billings, MT 59105-9702

PHONE 406-247-4415 FAX 406-247-4416
EMAIL DNRCBillingsWater@mt.gov

Big Horn, Carbon, Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, and Yellowstone Counties

BOZEMAN
2273 Boot Hill Court, Suite 110
Bozeman, MT 59715-7249

PHONE 406-586-3136 FAX 406-587-9726
EMAIL DNRCBozemanWater@mt.gov

Gallatin, Madison, and Park Counties

GLASGOW
222 6th Street South, PO Box 1269
Glasgow, MT 59230-1269

PHONE 406-228-2561
EMAIL DNRCGlasgowWater@mt.gov

Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley, and Wibaux Counties

HAVRE
210 6th Ave., PO Box 1828
Havre, MT 59501-1828

PHONE 406-265-5516
EMAIL DNRCHavreWater@mt.gov

Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties

HELENA
1424 9th Ave., PO Box 201601,
Helena, MT 59620-1601

PHONE 406-444-6999 FAX 406-444-9317
EMAIL DNRCHelenaWater@mt.gov

Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell, and Silver Bow Counties

KALISPELL
655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901-1215

PHONE 406-752-2288
EMAIL DNRCKalispellWater@mt.gov

Flathead, Lake, Lincoln, and Sanders Counties

LEWISTOWN
613 Northeast Main St., Suite E
Lewistown, MT 59457-2020

PHONE 406-538-7459
EMAIL DNRCLewistownWater@mt.gov

Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum, and Wheatland Counties

MISSOULA
2705 Spurgin Rd. Bldg. C, PO Box 5004
Missoula, MT 59806-5004

PHONE 406-721-4284 FAX 406-542-5899
EMAIL DNRCMissoulaWater@mt.gov

Granite, Mineral, Missoula, and Ravalli Counties

APPLICATION FOR BENEFICIAL WATER USE PERMIT

FORM NO. 600

ATTACHMENTS

Question 11 - Letter from the Montana Sage Grouse Habitat Conservation Program

(4 Pages) Review Letter from Therese Hartman, MSGHCP Manager; Griswold Sand Creek Pump Diversion Project (No. 7175) and Lek Location Map.

Question 17 - (4 Pages) Maps showing an aerial overview of the subject property, and proposed POD, conveyance facilities and POU.

Question 32 - (3 Pages) Diagram of system operation indicating POD, pump station, main pipeline, contour ditch and gated pipelines. See Notes regarding operation of system on "QUESTION 32. ATTACHMENTS" title page.

Question 33 - (4 Pages) Project materials prepared by Big Sky Irrigation (Billings, MT): Includes an estimated pump design, Cornell 6RB pump curve, example photos of a portable pump unit w/ floating screen, and a map of the subject property indicating the POD, main pipeline, POU, and survey points used for analysis and estimation purposes.

QUESTION 11.

ATTACHMENTS

Question 11.

MONTANA SAGE GROUSE HABITAT CONSERVATION PROGRAM

GREG GIANFORTE, GOVERNOR
STATE OF MONTANA
1539 ELEVENTH AVENUE
PHONE: (406) 444-0554
FAX: (406) 444-6721
PO BOX 201601
HELENA, MONTANA 59620-1601

Project No. 7175
Governor's Executive Orders 12-2015 and 21-2015
Griswold Sand Creek Pump Diversion

Scott Griswold
33 Sand Creek Road
Bridger, MT 59014

September 29, 2025

Dear Mr. Griswold,

The Montana Sage Grouse Habitat Conservation Program received a request for consultation and review of your project or proposed activity on September 26, 2025. Based on the information provided, this Project is located within General Habitat for sage grouse. The Bureau of Land Management (BLM) classifies this area as a General Habitat Management Area (GHMA).

Executive Orders 12-2015 and 21-2015 set forth Montana's Sage Grouse Conservation Strategy. Montana's goal is to maintain viable sage grouse populations and conserve habitat so that Montana maintains flexibility to manage our own lands, our wildlife, and our economy and ensure that a listing under the federal Endangered Species Act is not warranted in the future.

The Program has completed its review, including:

Project Description:

Project Type: Agriculture – Water
Project Disturbance: 74.53-Foot-Long Buried Pipeline; 473.26-Foot-Long Buried Power Line; 0.002 Acre Pump
Construction Timeframe: March 2, 2026 to April 15, 2025; Temporary (<1 Year)
Operations Timeframe: April 15, 2026; Permanent (>25 Years)

Project Location:

Legal: Township 6 South, Range 23 East, Section 4
County: Carbon
Ownership: Private

Project Description and Executive Orders 12-2015 and 21-2015 Consistency:

The Griswold Sand Creek Pump Diversion Project proposes to install a buried water line and buried power line for irrigation purposes in General Habitat for sage grouse.

The private landowner proposes to install a buried water pipeline and buried power line approximately two miles from Bridger, Montana in Carbon County. See Figure 1 (Griswold Sand Creek Pump Diversion Project and Lek Location Map). The buried pipeline will bring water from Sand Creek via an above ground pump to an existing irrigation ditch to irrigate an existing field. The new buried power line will provide power to the new pump.

To implement the Project, a trencher will be used to dig along an existing, private road to bring water from Sand Creek to the private landowners' existing irrigation ditch. An underground power line will be trenched from the landowner's residence through existing irrigated land to the pump.

At the conclusion of the Project, all disturbed areas will be reseeded to cropland and the road will be re-graveled. Reclamation will occur in April 2026.

Based on the information you provided, your Project is not within two miles of an active sage grouse lek in General Habitat. See Figure 1 (Griswold Sand Creek Pump Diversion Project and Lek Location Map).

Discussion:

The Griswold Sand Creek Pump Diversion Project involves installing a new point of diversion, buried pipeline, and buried power line to flood irrigate an existing irrigated field.

Exempt activities are identified in Executive Order 12-2015 (EO) as described in Attachment F. The activities described for the Griswold Sand Creek Pump Diversion Project (item e. agricultural electrical distribution line and item g. irrigation without conversion of sagebrush to newly irrigated land) are exempt from stipulations per Executive Order 12-2015. Your proposed project or activity may need to obtain additional permits or authorizations from other Montana state agencies or possibly federal agencies. They are very likely to request a copy of this consultation letter, so please retain it for your records.

Program Recommendations:

The following stipulations are taken from Montana Executive Order 12-2015. These stipulations are designed to maintain existing levels of suitable sage grouse habitat by managing uses and activities in sage grouse habitat to ensure the maintenance of sage grouse abundance and distribution in Montana. Development should be designed and managed to maintain populations and sage grouse habitats.

- Reclamation should re-establish native grasses, forbs, and/or shrubs during interim and final reclamation. The goal of reclamation is to achieve cover, species composition, and life form diversity commensurate with the surrounding plant community or desired ecological condition to the benefit of sage grouse and replace or enhance sage grouse habitat to the degree that environmental conditions allow.

- Weed management is required within General Habitat for sage grouse. Reclamation of disturbed areas must include control of noxious weeds and invasive plant species, including cheatgrass (*Bromus tectorum*) and Japanese brome (*Bromus japonicas*).

Your activities are consistent with the Montana Sage Grouse Conservation Strategy. Your proposed project or activity may need to obtain additional permits or authorization from other Montana state agencies or possibly federal agencies. They are very likely to request a copy of this consultation letter, so please retain it for your records.

If the location or boundaries of your proposed project or activity change in the future, or if new activities are proposed within one of the designated sage grouse habitat areas, please visit https://sagegrouse.mt.gov/ and submit the new information.

Thanks for your interest in sage grouse and your commitment to taking the steps necessary to ensure Montana's Sage Grouse Conservation Strategy is successful.

Sincerely,

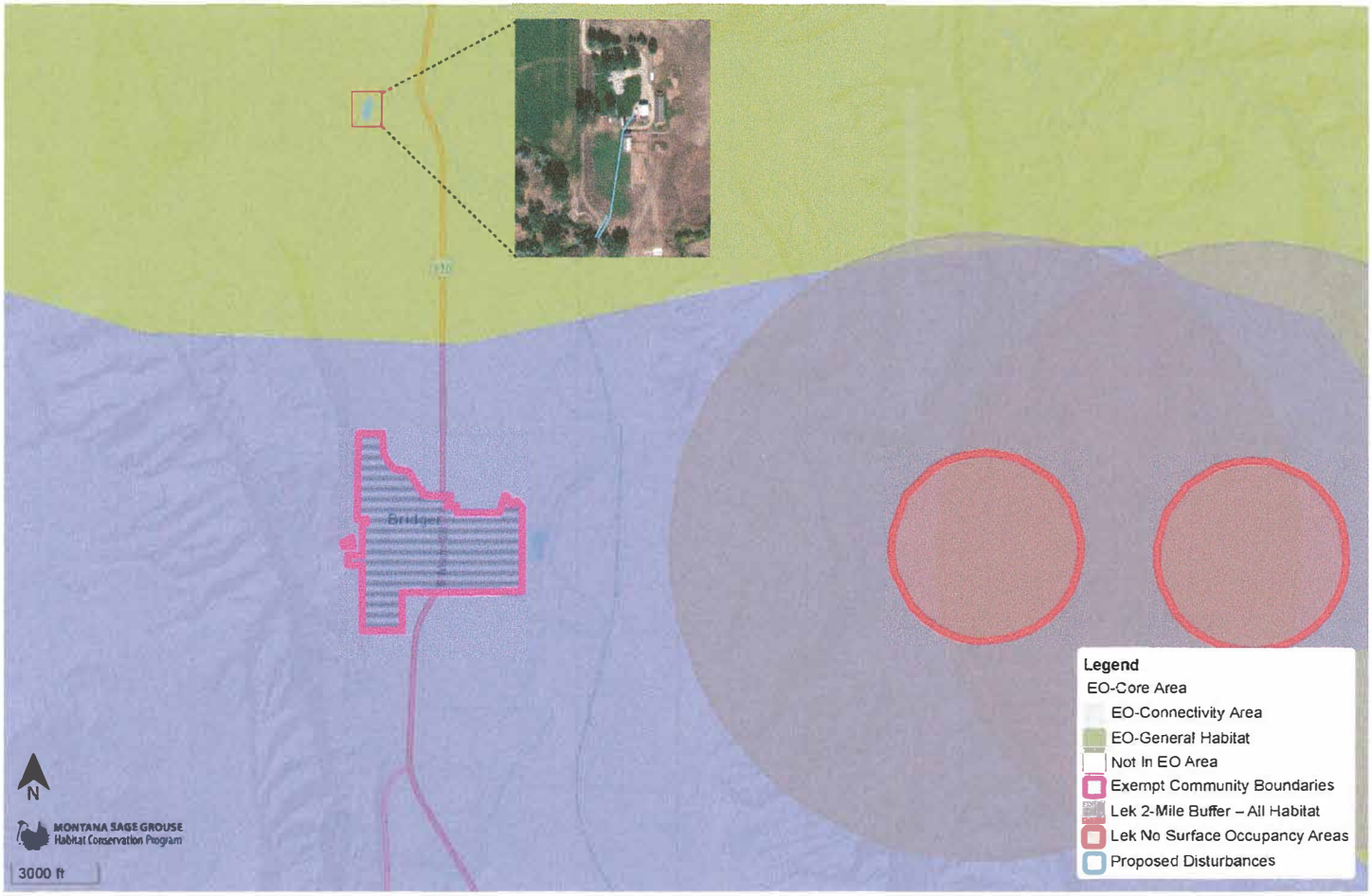
Therese Hartman
Montana Sage Grouse Habitat Conservation Program Manager

Attachments:

1. Figure 1. Griswold Sand Creek Pump Diversion Project and Lek Location Map

Figure 1

7175_Griswold Sand Creek Pump Diversion Project and Lek Location



Hosted by the Montana Department of Natural Resources and Conservation
Director's Office: (406) 444-2074

QUESTION 17.

ATTACHMENTS

Question 17.

Griswold - Permit - Proposed POD & POU

8/28/2025, 3:36:39 PM

1:4,514

0 0.04 0.08 0.16 mi

0 0.05 0.1 0.2 km

Dewatered Streams
DNRC Basins
NHD Flowlines
WRS Ditches

2025 Cadastral Parcels

PLSS Second Division
Aliquot Part
Government Lot

PLSS First Division
Section
PLSS Township
PLSS Meandered Water
PLSS Point

2023 Aerial Photos
Red: Red
Green: Green
Blue: Blue

N

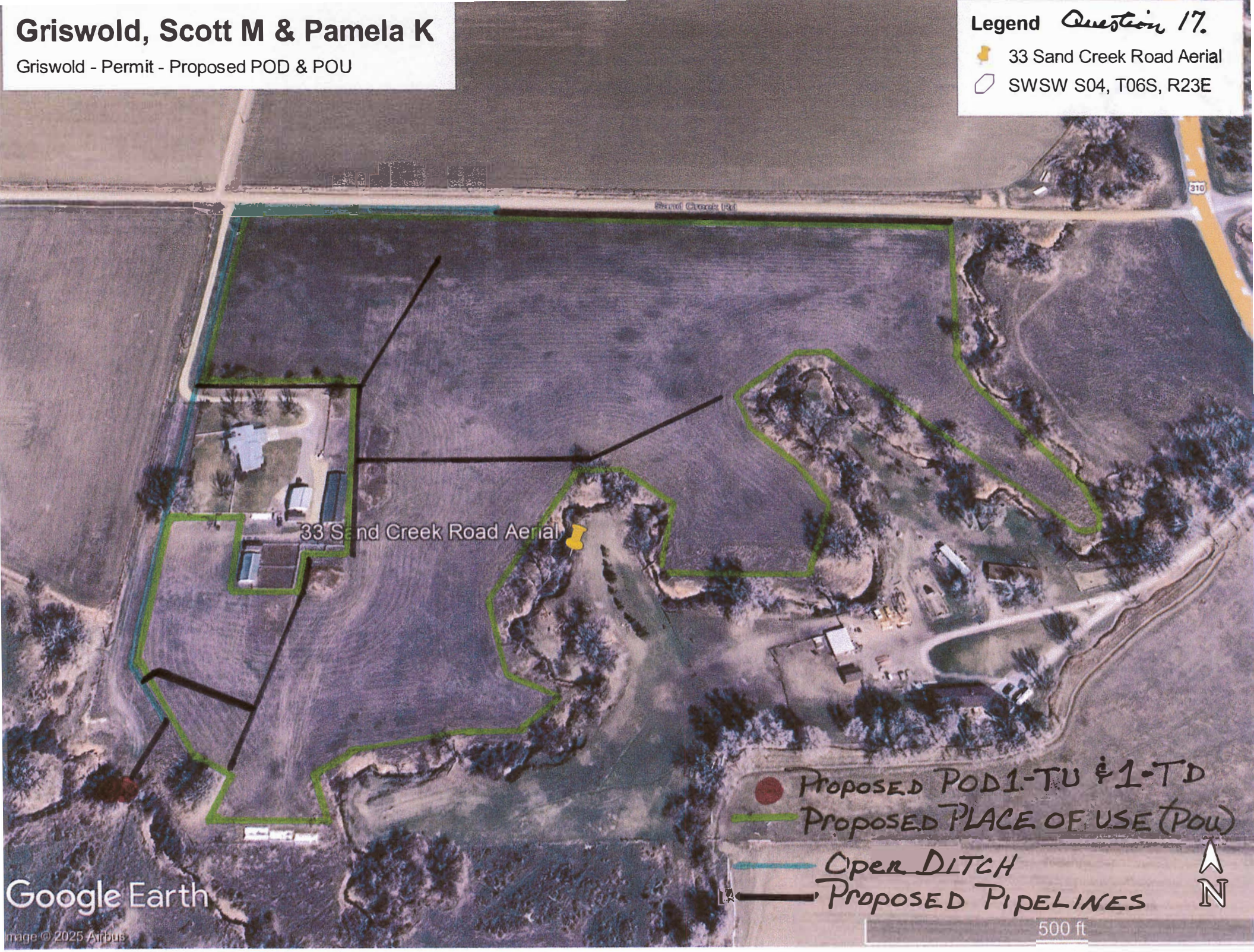
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, Sources: Esri, Maxar, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland,

ArcGIS Web AppBuilder

Esri Community Maps Contributors, Montana State Library, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS | U.S. Geological Survey, Montana State Library | Copyright:© 2013

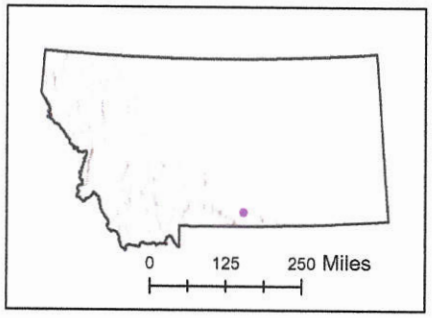
Griswold, Scott M & Pamela K

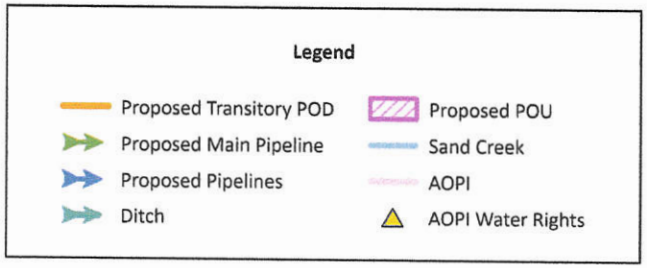
Griswold - Permit - Proposed POD & POU

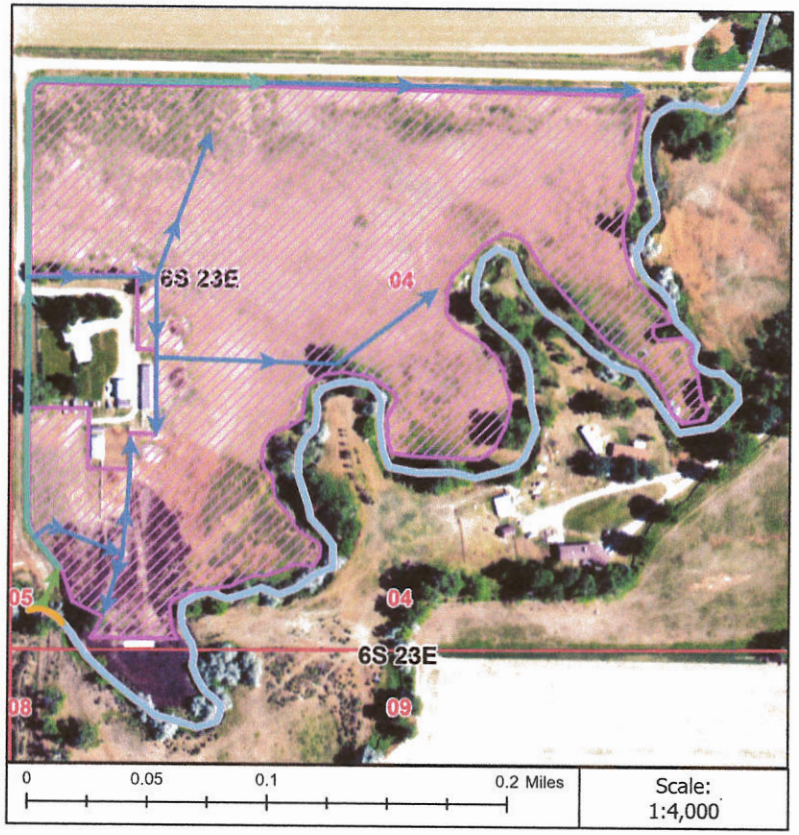


43D 30171860 - Griswold - Proposed

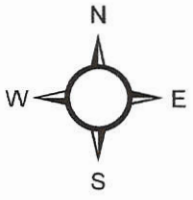
Question 17.







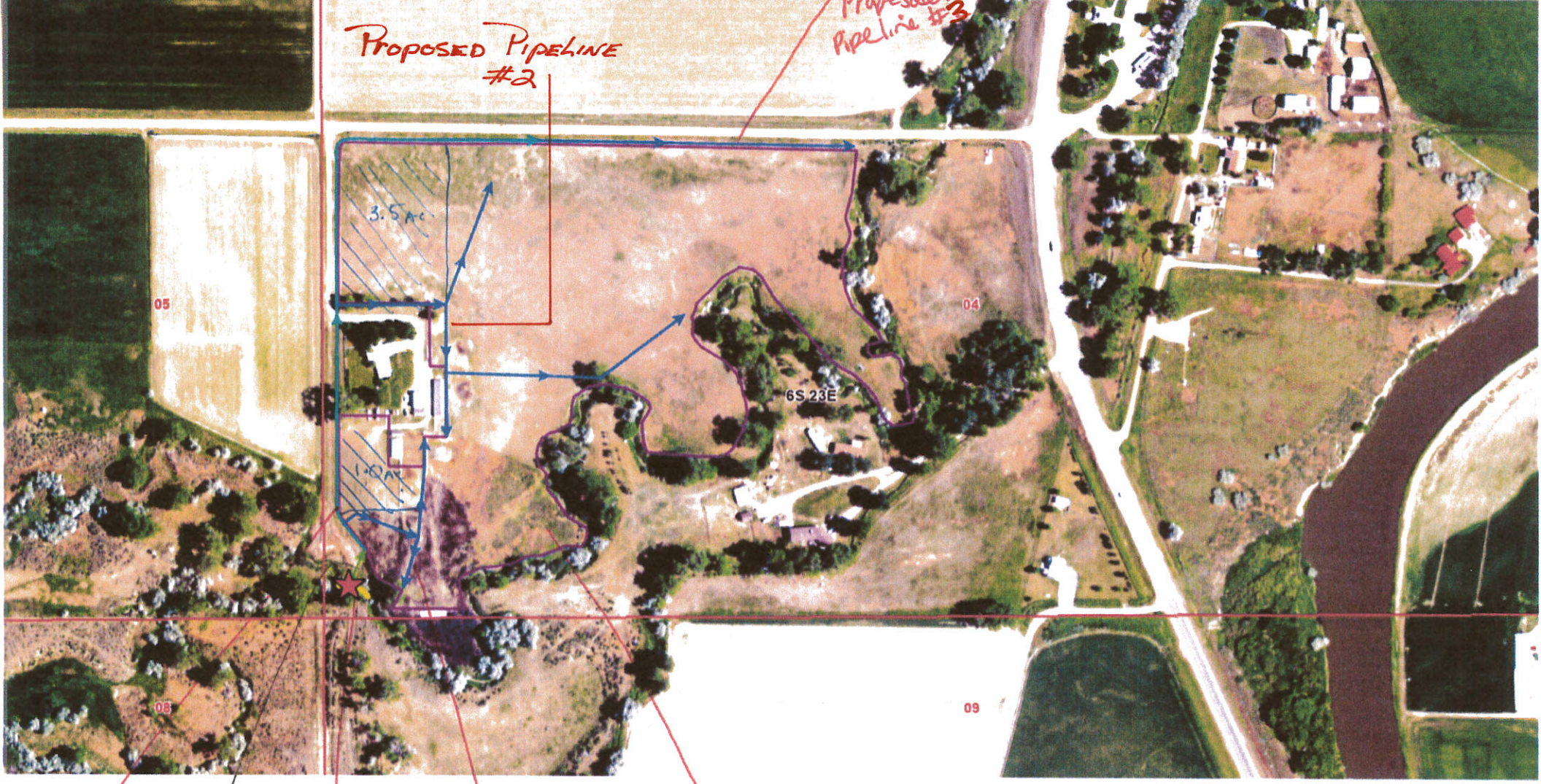
Elements depicted on this map are for illustrative purposes and have not been surveyed by the Department.



MSDI PLSS:
World Imagery: Vantor
World Imagery: Earthstar Geographics
2021 Aerials:
Hybrid Reference Layer: Sources: Esri, TomTom, contributors, and the GIS User Community
World Hillshade: Esri, USGS

MONTANA DNRC

Map Created: 11/12/2025
Author: Cassey Strebeck,
Water Resource Specialist



Question 17.

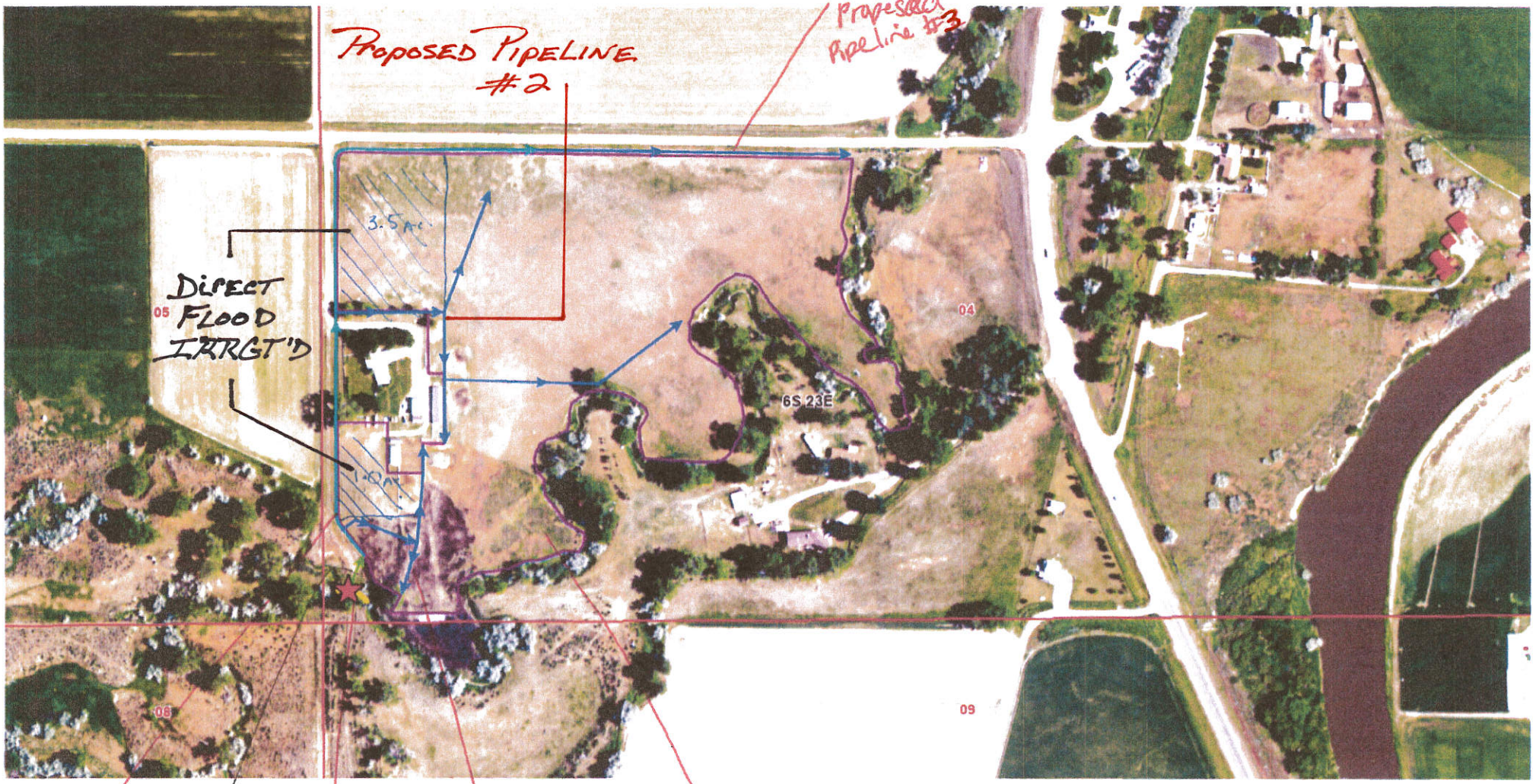
Griswold Proposed POV + POD

1:3044

QUESTION 32.

ATTACHMENTS

NOTE: The attached diagrams/maps indicate the infrastructure layout of the proposed project under Application 43D 30171860. Operation of the system involves diversion of water from Sand Creek at the proposed transitory point of diversion (POD) utilizing a portable pump unit with floating suction apparatus. Conveyance of the diverted water is via a main pipeline to an intake point at the head of a single contour ditch which follows the west and north boundaries of the place of use (POU). Water is delivered to two (2) small portions of the POU (being approx. 1.0 acre and 3.5 acres respectively) directly from the contour ditch via cutouts and siphon tubes. Water is delivered to the balance of the POU (approx. 19.3 acres) via gated pipe serviced by three (3) headgates located on the contour ditch.



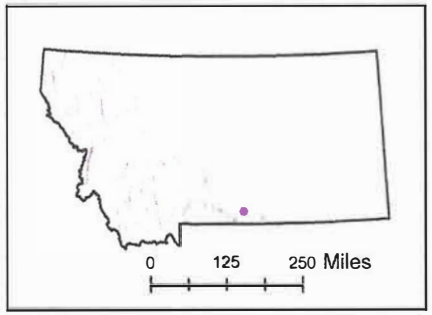
Question 32.

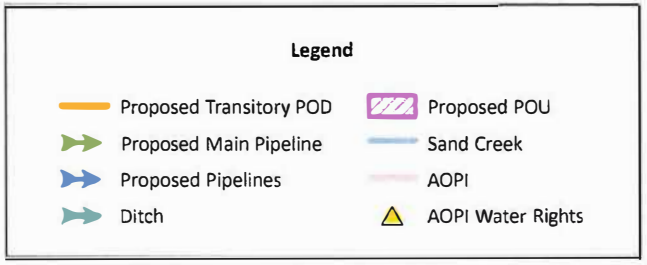
Griswold Proposed POV + POD

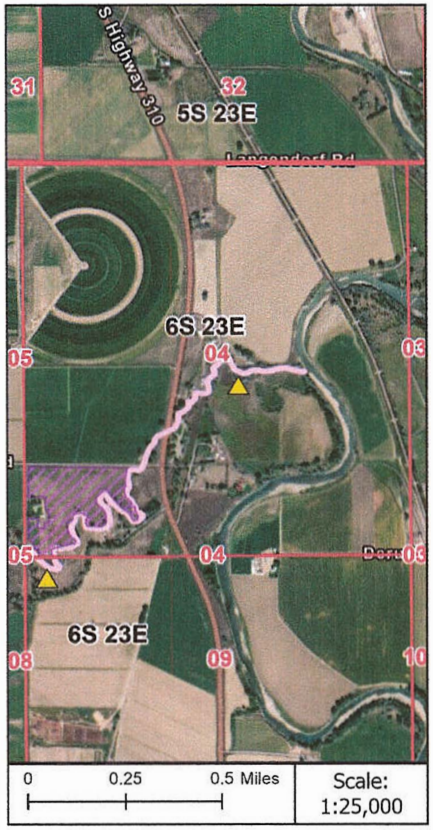
1:3044

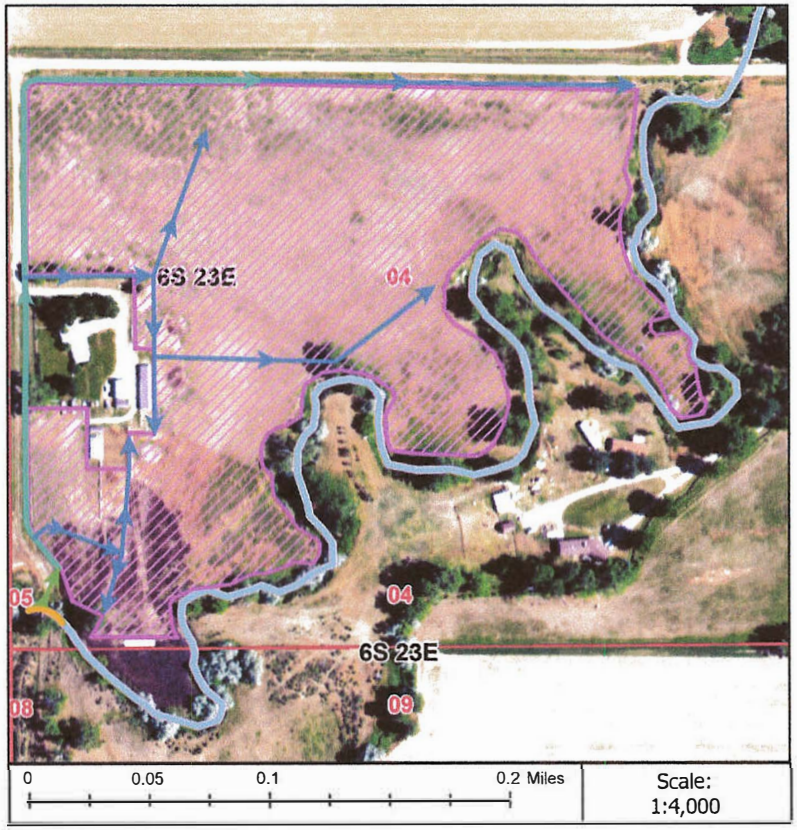
Question 32.

43D 30171860 - Griswold - Proposed







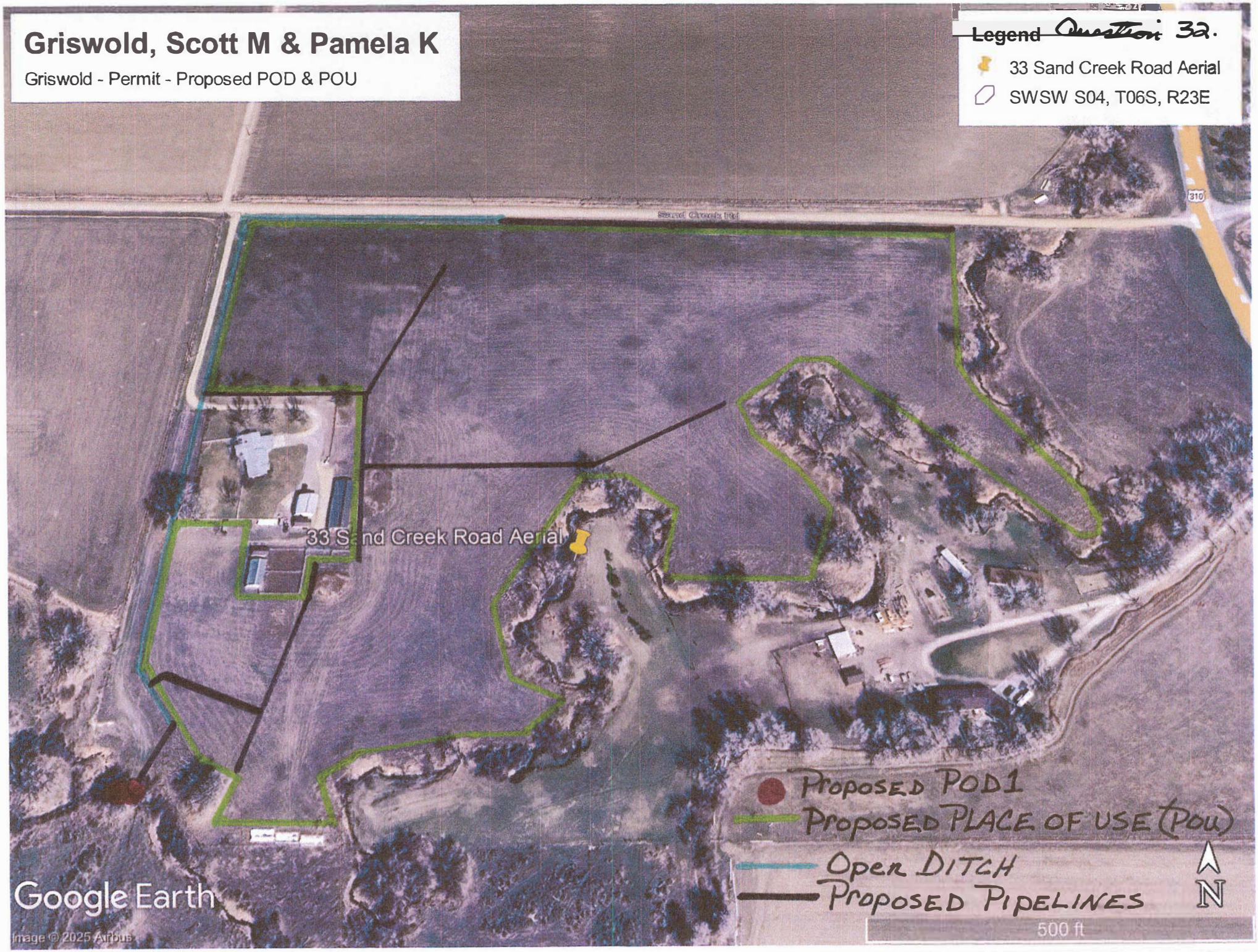


Elements depicted on this map are for illustrative purposes and have not been surveyed by the Department.

Map Created: 11/12/2025
Author: Cassey Strebeck,
Water Resource Specialist

N
W
E
S

MSDI PLSS:
World Imagery: Vantor
World Imagery: Earthstar Geographics
2021 Aerials:
Hybrid Reference Layer: Sources: Esri, TomTom, contributors, and the GIS User Community
World Hillshade: Esri, USGS


Griswold, Scott M & Pamela K
Griswold - Permit - Proposed POD & POU
Legend Question 32.
33 Sand Creek Road Aerial
SWSW S04, T06S, R23E
Sand Creek Rd
310
33 Sand Creek Road Aerial
Proposed POD1
Proposed PLACE OF USE (POU)
Open DITCH
Proposed PIPELINES
N
500 ft
Google Earth
Image © 2025 Airbus

QUESTION 33.

ATTACHMENTS

Question 33.

Scott Griswold Estimated Pump Design

9/19/2025

Big Sky Irrigation - Scott Swenson 406-672-5641 cell
scott@bigskyirrigation.com

See attached map

The Existing flood irrigated field is approximately 23 acres. The field in the past was serviced with a 12" irrigation line. Estimated flow from that supply line approximately 1800 gpm.

The new proposal is to abandon the existing buried supply line. We are looking to install a portable pump, to pump out of Sand Creek.

See attached pictures for a portable pump example

Calculated Pump TDH

	GPM
Proposed Pump Flow	1800
Spray Bar (Self Cleaning screen)	50
	1850

	(Feet)
Lift top of water in creek to top of outlet box	23
Loss 1800 GPM through 120' of 12" 80# PIP	0.8
Estimated Operating Pressure	5
	28.8

Proposed pump is a Cornell 6RB-20, with 11.75" impeller (1200 RPM), this pump will provide 1850 gpm at 35' which is a 18% pump wear factor

See attached pump curve

Pump Data Sheet - Cornell

Company: Big Sky Irrigation
Name: Scott Griswold 1200 RPM pump
Date: 9/19/2025

Pump:

Size: 6RB

Type: Clear Liquids
Synch Speed: 1200 rpm

Speed: 1175 rpm
Dia: 11.375 in

Curve: 6RB12

Impeller:

Specific Speeds:

Ns: 2210
Nss: ---

Dimensions:

Suction: 10 in
Discharge: 6 in

Pump Limits:

Temperature: 250 °F
Pressure: 130 psi g
Sphere Size: 1.31 in

Power: ---
Eye Area: ---

Search Criteria:

Flow: 1850 US gpm

Head: 35 ft

Fluid:

Water
Density: 62.32 lb/ft³
Viscosity: 0.9946 cP

Temperature: 68 °F
Vapor Pressure: 0.3391 psi a
Atm Pressure: 14.7 psi a

NPSHa: ---

Motor:

Standard: NEMA
Enclosure: TEFC

Size: 25 hp
Speed: 1200 rpm
Frame: 324T

Sizing Criteria: Max Power on Design Curve

---- Duty Point ----

Flow:	1861 US gpm
Head:	35.4 ft
Eff:	83%
Power:	19.9 hp
NPSHr:	10.2 ft

---- Design Curve ----

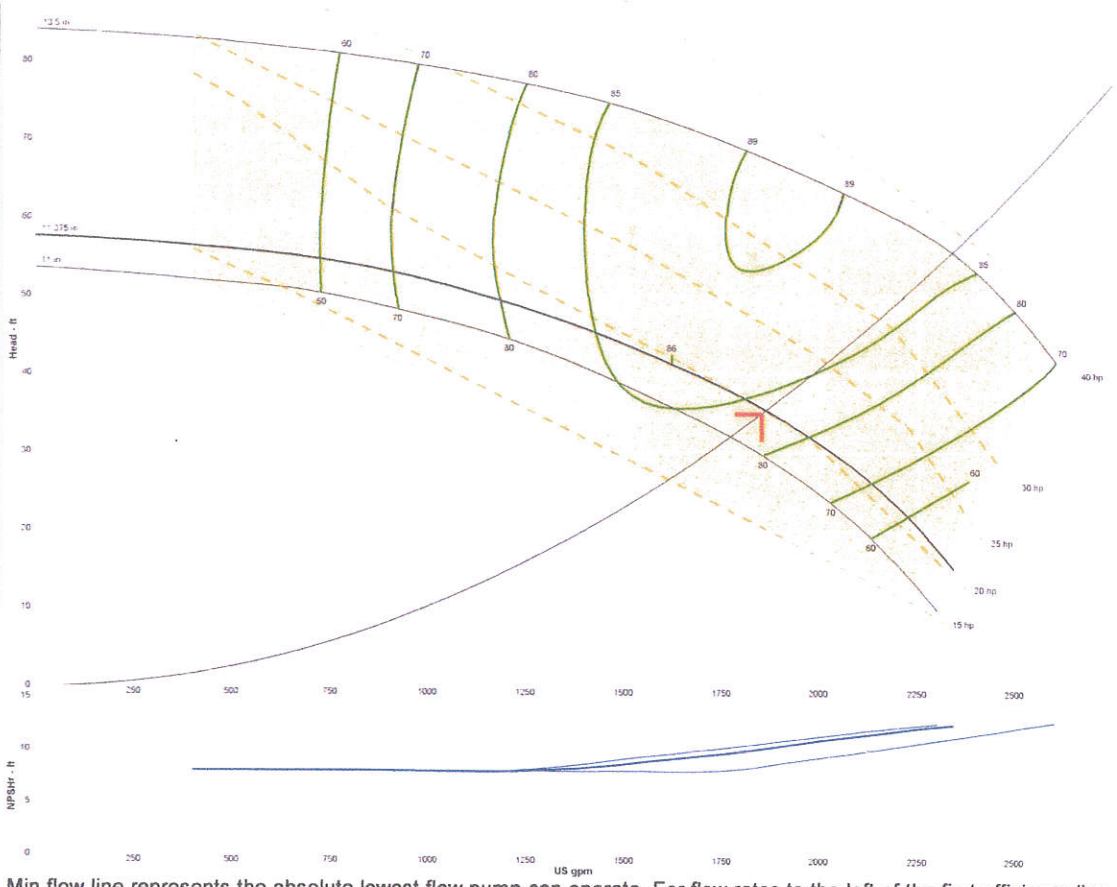
Shutoff Head:	57.6 ft
Shutoff dP:	25 psi
Min Flow:	400 US gpm

BEP: 86% @ 1618 US gpm

NOL Power:
20.6 hp @ 2342 US gpm

-- Max Curve --

Max Power:
39.2 hp @ 2603 US gpm



Min flow line represents the absolute lowest flow pump can operate. For flow rates to the left of the first efficiency line on the curve, consult your Cornell Sales representative. Actual efficiency and HP may vary depending on mounting configuration. Refer to Catalog curve.

Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2220	1175	22.2	61	20.5	12
1850	1175	35.7	84	19.9	10.2
1480	1175	44.2	85	19.3	8.62
1110	1175	50.4	77	18.2	7.96
740	1175	54.6	61	16.7	8

Big Sky Irrigation - Example of Portable Pump / Floating Screen

Sco H Griswold ± 23 Acres
Use to be Feed with 12" pipe

Estimated Flow 1900 GPM

1800 ÷ 23

78 GPM/Acre

Top Box
562.6

Top H2O
541.7

Scott Swenson 406-672-5641 cell

Technical Analyses Report/ Scientific Credibility Review

- Departmental Technical Analyses Report/ Scientific Credibility Review
- Any correspondence relating to the Technical Analyses Report

Technical Analyses Report / Scientific Credibility Review

DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

November 20, 2025

Scott M. & Pamela K. Griswold
33 Sand Creek Road
Bridger, MT, 59014-9581

Subject: Completed Technical Analyses Report for Beneficial Water Use Permit Preapplication No. 43D 30171860

Dear Applicant,

As designated on the submitted Preapplication Meeting Form per §85-2-302(3)(b), MCA, the Department of Natural Resources and Conservation (DNRC or Department) has completed the technical analyses for Beneficial Water Use Permit Preapplication No. 43D 30171860 based on the information provided in your Preapplication Meeting Form accepted by the Department on October 06, 2025. The technical analyses can be found in the attached report.

This Technical Analyses Report **IS**: A collection of facts that the DNRC has gathered, including content provided in the Preapplication Meeting Form materials. The Department will use these data to analyze the criteria in §85-2-311, MCA if you submit an application for the project described in the completed Preapplication Meeting Form.

This Technical Analyses Report **IS NOT**: An analysis or discussion of whether the Preapplication Meeting Form as filed meets the criteria (§85-2-311, MCA).

You have 180 days to submit the Beneficial Water Use Permit Application Form 600, considering the information provided in the technical analyses and Preapplication Meeting Form. If the Application Form is not submitted to the Billings Regional Office by May 19, 2026, a new preapplication meeting will be required to process the Application with expedited timelines (ARM 36.12.1302(6)(b)). If any details described in the submitted Application are changed from that of the submitted Preapplication Meeting Form, the discounted filing fee and expedited timelines will not apply (ARM 36.12.1302(6)(a)). Please note that the technical analyses will expire one year from the date of this letter (ARM 36.12.1302(8)). Please let me know if you have any questions.

Sincerely,

C Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

Surface Water Permit Technical Analyses Report

Department of Natural Resources and Conservation (DNRC or Department) Water Resources Division

Cassey Strebeck, Water Resource Specialist, Billings Regional Office

Applicant	Scott M & Pamela K Griswold
Application No.	43D 30171860
Proposed Transitory Point of Diversion (Upstream)	Begin: SWSWSW Sec. 4, T6S, R23E, Carbon County
Proposed Transitory Point of Diversion (Downstream)	End: SWSWSW Sec. 4, T6S, R23E, Carbon County

Overview

This report analyzes data submitted by the Applicant in support of the above-mentioned water right application. This report provides technical analyses as required under the Administrative Rules of Montana (ARM) 36.12.1303 in support of the water rights criteria assessment as required in § 85-2-311, Montana Code Annotated (MCA).

This Surface Water Permit Technical Analyses Report contains the following sections:

1.0 Application Details

The Applicant proposes to divert up to 86.7 AF of water from May 1 to September 30, at a rate of 4.1 CFS, from Sand Creek, utilizing a transitory point of diversion (POD) along the Applicants' property, with the upstream transitory POD located in the SWSWSW Sec. 4, T6S, R23E, Carbon County, and the downstream transitory POD located in the SWSWSW Sec. 4, T6S, R23E, Carbon County. The Applicant proposes to use this water between May 1 and September 30 for the irrigation of 23.8 acres total: 1.2 acres in Government Lot 10 (SESW) and 22.6 acres in the SWSW Sec. 4, T6S, R23E, Carbon County (Table 1).

This application for appropriation on Sand Creek has become necessary as the Applicants' Sand Creek Canal Co. ditch shares (Statement of Claim 43D 199996-00) are not always available. The Applicants will continue to use the ditch shares when available and utilize this Permit, if approved, when shares are not available.

Table 1. Summary of the proposed use.

Source	Flow Rate	Diverted Volume	Purpose	Period of Use	Place of Use	Points of Diversion	Period of Diversion
Sand Creek	4.1 CFS	86.7 AF	Irrigation	05/01 to 09/30	1.2 Acres in Government Lot 10 (SESW) and 22.6 Acres in the SWSW, Sec. 4, T6S, R23E, Carbon County	Table 2	05/01 to 09/30

Table 2. Proposed Transitory POD

Upstream Transitory POD	Downstream Transitory POD
SWSWSW Sec. 4, T6S, R23E, Carbon County	SWSWSW Sec. 4, T6S, R23E, Carbon County

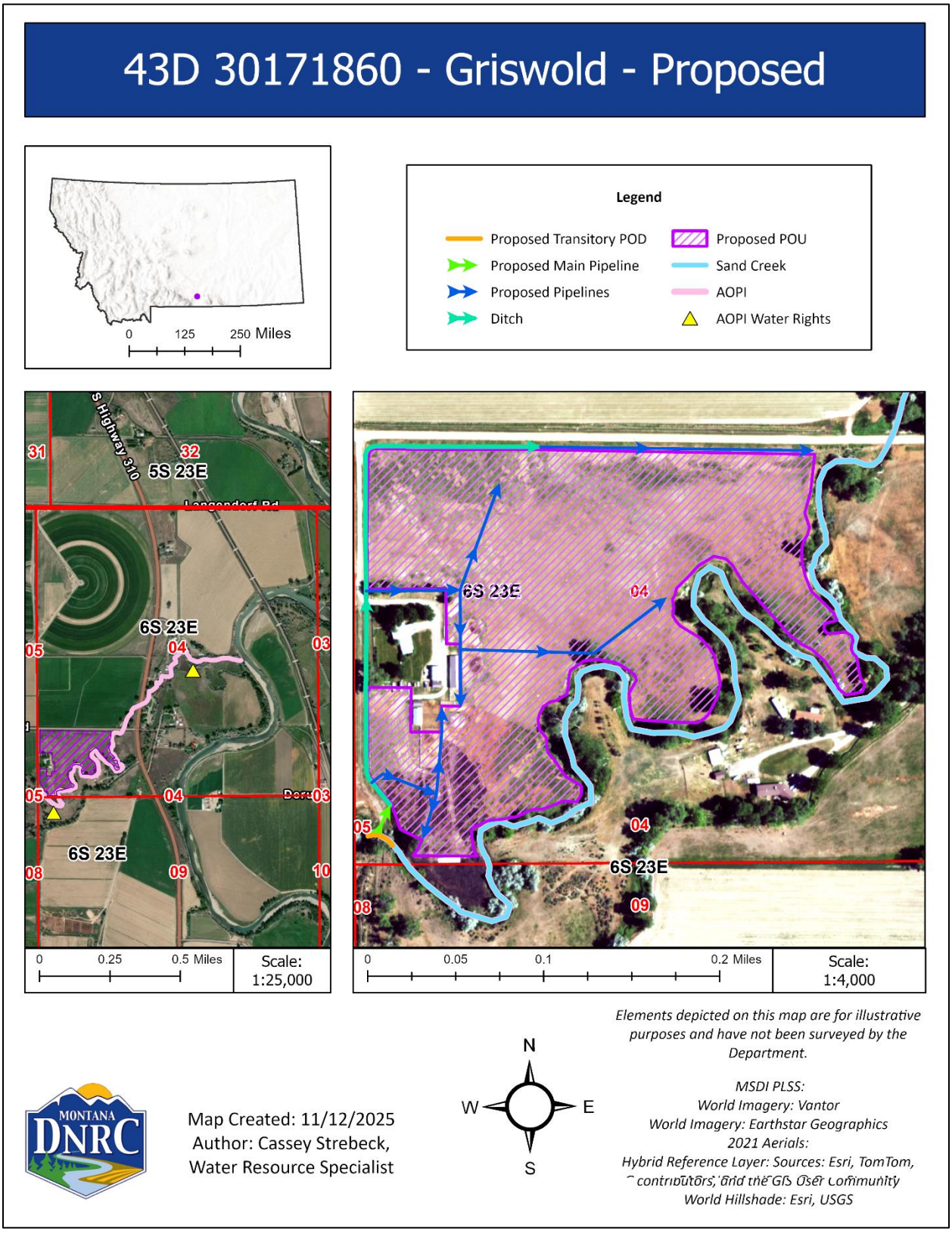


Figure 1: Map of the Applicant's proposed POD on the source and proposed place of use.

2.0 Surface Water Analysis

2.1 Source Description

Proposed Source of Water: Sand Creek.

Proposed Source Type: Other.
Sand Creek is naturally intermittent. However, Sand Creek below the Sand Creek Canal flume crossing, is heavily influenced by anthropogenic activities and does not follow a natural hydrograph. Water in Sand Creek below the canal crossing, during the proposed period of diversion, is largely due to water spilled from the Sand Creek Canal. Should the canal cease operation or stop spilling water into Sand Creek, there would likely be little to no water available at the proposed POD during the proposed period of use.

Proposed Point of Diversion: The Applicant requests a transitory POD along the SW corner of the Applicant's property located in the SWSWSW Sec. 4, T6S, R23E, Carbon County. The upstream point of the transitory POD is located in the SWSWSW Sec. 4, T6S, R23E, Carbon County. The downstream point of the transitory POD is located in the SWSWSW Sec. 4, T6S, R23E, Carbon County.

2.2 Method of Estimation

DNRC collected initial measurements in May using both a FlowTracker 2 velocity meter and the float area method. Measurements collected in June, July, August, and September were collected by the Applicant utilizing the float area method. For consistency, only the data from the float area method measurements were used to evaluate physical availability. The discharge measured using the float area method was approximately 8.26 CFS less than the discharge measured with the velocity meter. The Department used the lower number for the evaluation of physical availability to be conservative. This data is shown below in Table 3.

Table 3: DNRC and Applicant-Collected Measurements of Sand Creek

Measurement Number:	Date:	Collected By:	Method	Flow Rate (CFS):
1	05/28/2025	DNRC	Velocity Meter	24.23
1	05/28/2025	DNRC	Float Method	15.97
2	06/26/2025	Applicant	Float Method	15.62
3	07/31/2025	Applicant	Float Method	19.36
4	08/19/2025	Applicant	Float Method	31.72
5	09/04/2025	Applicant	Float Method	12.33

All measurements were found to be acceptable by the Department.

Method of Estimation Used: Measurements collected by the DNRC and the Applicant were taken as the physical availability of water from May through September, at the POD.

Why this method is considered appropriate: Use of the DNRC and Applicant collected flow measurements are appropriate because the source does not follow a natural hydrograph and therefore, the estimation techniques available to the Department cannot be applied and would not accurately estimate the physically available flow rate and volume. Per ARM 36.12.1702(4), for all other source types, physical availability of water will be determined based on monthly flow rate and volume. The applicant is required to collect measurements for these sources once monthly at Department-approved intervals during the proposed period of diversion.

The contributing drainage basin of Sand Creek above the upstream transitory POD consists of 44.8 square miles. There are no stream gages on Sand Creek, and no similar gaged streams due to the heavy influence of anthropogenic activity. Therefore, the paired drainage analysis is not feasible.

There are two irrigation ditches, Sand Creek Extension Ditch and Sand Creek Canal, that cross the Sand Creek drainage basin and add water to it. Sand Creek only flows consistently through the irrigation season due to overflow from the Sand Creek Canal; therefore, Sand Creek does not follow a natural hydrograph.

2.3 Monthly Flow Rate and Volume

Methodology: The monthly flow rate at the proposed POD was taken as the monthly measurements, utilizing the float area method, only, supplied by DNRC and the Applicant. Monthly volume was calculated as the flow rate times 1.98 times the number of days in the month. All values were rounded to the hundredths place after conversion (Table 4).

Table 4. Measured Monthly Flow Rate and Volume

Month	May	June	July	August	September
Flow Rate (CFS)	15.97	15.62	19.36	31.72	12.33
Volume (AF)	980.24	927.83	1,188.32	1,946.97	730.40

3.0 Area of Potential Impact Analysis

The Area of Potential Impact for this application is:

The area of potential impact (AOPI) is the reach of 1.5 river miles extending from the upstream point of the proposed transitory POD located in the SWSWSW Sec. 4, T6S, R23E, Carbon County, downstream to the confluence of Sand Creek and the Clarks Fork Yellowstone River located in the NENWSE Sec. 4, T6S, R23E, Carbon County. There are two (2) active surface water rights on Sand Creek within the AOPI, shown in Table 5.

Table 5. Water Rights in the AOPI

Water Right Number	Owners	Purposes	Flow Rate (CFS)	Acres	AU	Volume (AF)	Period of Diversion	Period of Use
43D 43402-00	Robin A Schalla, Tammy S Schalla	Irrigation	1	40	N/A	122.8	04/15 to 10/01	04/15 to 10/01
43D 30134926	Heidema Ranch LP	Stock	0.033*	N/A	700	23.8	01/01 to 12/31	01/01 to 12/31
Stock Direct Standard	-	-	0.078	-	-	-	-	-

*Calculated by DNRC using standard practice

Why this is an appropriate Area of Potential Impact: This is an appropriate AOPI because it includes the remaining 1.5 river miles of Sand Creek from the proposed POD to the confluence with the Clarks Fork Yellowstone River. This AOPI adds 0.4 square miles to the drainage area. The confluence with the Clarks Fork Yellowstone River is a significant hydrological boundary.

Methodology: The Department determined the AOPI and quantified the surface water rights using the following methods:

1. The AOPI was assessed moving downstream from the proposed POD to the first major perennial stream.
    a. The first confluence of Sand Creek is with the Clarks Fork Yellowstone River. Clarks Fork Yellowstone River is a major perennial stream. This reach encompasses 1.5 river miles of Sand Creek from the proposed POD and includes a drainage basin of 45.2 square miles. The Clarks Fork Yellowstone River is a substantial hydrologic boundary and is an appropriate location to end the AOPI.
2. Water rights without quantifications were quantified using further analysis:
    a. There is one (1) stock direct from source water right within the AOPI, without a flow rate or volume: Statement of Claim 43D 30134926.
        i. The adjudication standard of 30 gallons per day per animal unit was used for stock claim volumes (0.034 AF/YR).

ii. The flow rate in GPM was back-calculated using the following equation: volume in AF x 325,851 gallons / 365 days / 1,440 minutes per day = GPM.
iii. The flow rate in GPM was converted to the flow rate in CFS using the following equation: GPM / 448.8 GPM/CFS = CFS.
iv. As per the standard practice for calculating stock direct from source, 35 GPM (0.078 CFS) was added to the flow rate.

b. There is one (1) irrigation claim that had acreage, a flow rate, and is located in climatic area 1, without a quantified volume: Statement of Claim 43D 43402-00.
   i. The volume was calculated by taking the lower end of the higher range at 60% efficiency for climatic area 1 (3.07 AF/AC for the range: 3.07-3.55; ARM 36.12.115), multiplied by the acres claimed. Thus, the volume for irrigation claim was calculated using the following equation: Acres x 3.07 AF/AC = AF. This method for estimating volume is Department standard practice.

Review

This document has been reviewed by the Department on November 19, 2025.

References

Department Standard Practice for Determining Physical Availability of Surface Water
Department Standard Practice for Area of Potential Impact Analysis
USGS StreamStats for Montana website at https://streamstats.usgs.gov/ss/
USGS (2015) StreamStats, Chapter G, p. 13, for Montana
DNRC Water Calculation Guide
Technical Memorandum: Physical Availability of Surface Water Without Gage Data
DNRC Change Manual
DNRC Permit Manual

Preapplication Materials

- Preapplication Meeting Request
- Preapplication Meeting Form
- All attachments
- All correspondence prior to application receipt

Preapplication Materials

DNRC Water Resources
Billings Regional Office
1371 Rimtop Dr.
Billings, MT 59105-1978

October 15, 2025

Scott M. & Pamela K. Griswold
33 Sand Creek Road
Bridger, MT, 59014-9581

Subject: Complete Form for Beneficial Water Use Permit Application No. 43D 30171860

Dear Applicant,

The Billings Regional Office of the Department of Natural Resources and Conservation (DNRC or Department) received your Preapplication Meeting Form and preapplication meeting fee on September 29, 2025, and the Department deemed the submitted Preapplication Meeting Form to be successfully completed per ARM 36.12.1302 on October 6, 2025.

As designated on the submitted Preapplication Meeting Form per § 85-2-302(3)(b), MCA, the Department will produce the technical analyses based on the parameters included in the Preapplication Meeting Form (ARM 36.12.1302(4)) within 45 days of October 6, 2025.

Please let me know if you have any questions.

Sincerely,

C. Strebeck

Cassey Strebeck
Water Resource Specialist
Billings Regional Office, Montana DNRC
Cassey.Strebeck@mt.gov
406-247-4422

PREAPPLICATION MEETING FORM: PART B
PERMIT

§ 85-2-302, MCA

Form No. 600P-B *(Revised 02/2025)*

For Department Use Only

Application # 30171860 Basin 43D
Form Received 9/29/2025
Fee Rec'd $ 500.00 Check # 2073
Deposit Receipt # BLS26005670
Payor Scott Griswold
Form Returned _____
Refund $ _____ Date _____

PREAPPLICATION MEETING FEE

$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE

An application will be eligible for a filing fee reduction and expedited timelines if the Applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of Applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

The Applicant is responsible for providing a "Follow-up Responses" document for all follow-up identified in Preapplication Meeting Form Part A (Form 600P-A). The Applicant may not alter Form 600P-A. If a response has changed to a question answered at the preapplication meeting, the Applicant can provide a new response in a separate document entitled "Amended Responses" with the question number labeled.

The following guidelines are applicable to both the "Follow-up Responses" and "Amended Responses" documents. Clearly label all question numbers. Answer questions in the same format as Form 600P-A. For responses in the form of checkboxes, write "Y", "N", or "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is included with the document.

1. ☐ Y ■ N Are you submitting this form in response to a determination by the Department that a previously submitted Form 600P-B was inadequately completed?

   If yes,

   a. Date form was returned ("Form Returned" date found in "For Department Use Only" box on the previously submitted Form 600P-B): _____

   b. If a "Follow-up Responses" or "Amended Responses" document is required by questions 2 or 3, submit complete updated documents with responses that stand-alone. The Department will only use the most recently submitted "Follow-up Responses" and "Amended Responses" documents for departmental technical analyses or scientific credibility review; the Department will not use multiple versions of a document.

2. ☐ Y ■ N Were any questions identified as requiring follow-up on Form 600P-A?

   If yes,

   a. ☐ S Submit "Follow-up Responses" document for all questions requiring follow-up.

3. ☐ Y ■ N Are you submitting amended responses to any questions from Form 600P-A?

If yes,

a. ☐ **S** Submit "Amended Responses" document and record in the table below each question number with an amended response. The amended response will entirely replace the previous response; the amended response cannot build off the previous response.

Question No.	Question No.	Question No.	Question No.

FOLLOW-UP AND AMENDED RESPONSES AFFIDAVIT & CERTIFICATION

"I attest that this preapplication meeting form (Form 600P-A and Form 600P-B), follow-up, and amended responses accurately portray the proposed project. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if, upon submittal of the application to the department, I change any element of the proposed application from the preapplication meeting form, amended responses, or follow-up materials (ARM 36.12.1302(6)(a))."

Scott M Criswold — 9/26/2025

Applicant Signature — Date

Rachel L. Criswold — 9/26/2025

Applicant Signature — Date

"We confirm that the preapplication form (Form 600P-A and Form 600P-B), amended responses, and follow-up information are adequate for the Department to proceed with technical analyses in ARM 36.12.1303. Or, if the Applicant has elected to complete technical analyses, we confirm they have submitted each required element of technical analysis based on the proposed project and the Department is able to proceed with the scientific credibility review (ARM 36.12.1303(8))."

Department Signature — Date

Department Signature — Date

PREAPPLICATION MEETING FORM: PART A
PERMIT

§ 85-2-302, MCA
Form No. 600P-A *(Revised 03/2025)*

For Department Use Only

Application # 30171860 Basin # 43D

Meeting Date 9/22/2025 Time 1100a

Variance Request Deadline _____

Completed Form Deadline 3/21/2026

PREAPPLICATION MEETING FEE

$ 500

FILING FEE REDUCTION & EXPEDITED TIMELINE

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

The Department will fill out Permit Preapplication Meeting Form Part A (Form 600P-A) and will identify items for follow-up during the preapplication meeting. The Department and Applicant will sign the Preapplication Meeting Affidavit and Certification within 10 business days. Within 180 days of the preapplication meeting, the Applicant will complete Preapplication Meeting Form Part B (Form 600P-B), including identified follow-up, any amended responses, and Follow-up and Amended Responses Affidavit & Certification. Variance requests must be submitted on Form 653 to the Department on or before the Variance Request Deadline, which is day 138 of the 180 day-deadline for a completed preapplication meeting form. Form 653 may be submitted earlier than the Variance Request Deadline. The Department has 30 business days to process the Form 653.

Applicant Information: *Add more as necessary.*

Applicant Name Scott M (147423) & Pamela K Griswold (147422)
Mailing Address 33 SAND CREEK RD City Bridger State MT Zip 59014
Phone Numbers: Home 406-662-3500 Work _____ Cell 406-690-9765
Email Address griswoldsmgllc@gmail.com

Applicant Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

Contact/Representative Information: *Add more as necessary.*

Contact/Representative is: ☑ Applicant ☐ Consultant ☐ Attorney ☐ Other (describe) _____
Contact/Representative Name _____
Mailing Address _____ City _____ State _____ Zip _____
Phone Numbers: Home _____ Work _____ Cell _____
Email Address _____

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary (ARM 36.12.122(2)). If a contact person is identified as a consultant, employee, or lessee, the applicant will receive all correspondences, and a copy may be sent to the contact person (ARM 36.12.122(3)).*

Meeting Attendees: *Add more as necessary.*

Name	Role	Name	Role
Scott Griswold	Applicant		
Chris Schweigert	DNRC		
Veronica Corbett	DNRC		
Cassey Strebeck	DNRC		
Rick Cline	Applicant Support		

Table of Contents

APPLICATION DETAILS

The following questions are mandatory and must be filled out before the Preapplication Meeting Form is determined to be complete. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, mark the see attachment ("A") checkbox on this form and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Responses in the form of a table may be entered into the table provided on this form or in an attachment. If an attachment is used, the table must have the exact headings found on this form, and the see attachment ("A") checkbox must be marked. Label units in narrative responses and tables. Questions that require Applicant to submit items to the Department have a submitted ("S") checkbox, which is marked when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted. For all questions where follow-up is necessary, mark the "F" checkbox in the "Follow-Up" column and write the question number on the "Follow-Up Page".

S = Submitted. *Use when required item is included with form.*

A = See attachment. *Use when additional space is needed to answer a question.*

F = Follow-up. *Use when follow-up is necessary.*

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
1. Do you elect to have DNRC conduct Technical Analyses?	■ Y ☐ N	☐ F
2. Provide a map created on an aerial photograph or topographic map that shows the following: section corners, township and range, scale bar, north arrow, all proposed points of diversion labeled with a unique POD ID number (include GWIC ID, if available, for wells), all proposed places of use, all proposed conveyance structures (including ditches and pipelines), all proposed places of storage, and places of use for all overlapping water rights. More than one map may be submitted, if necessary to clearly convey all required information.	■ S	☐ F
3. Is the project located in a Controlled Groundwater Area or Basin Closure Area? If yes, immediately go to Mandatory Project-Specific questions 54 to 56 because Form 600 may be the incorrect form, or this project may not meet the requirements for the Department to accept a Form 600.	☐ Y ■ N	☐ F
4. Is the proposed use temporary?	☐ Y ■ N	☐ F
a. If yes, when will the appropriation cease? _____	☐ A	☐ F

5. Describe the proposed purpose information, including period of diversion (MM/DD-MM/DD), period of use (MM/DD-MM/DD), flow rate (GPM or CFS) and volume (AF). ☐ A ☐ F

Purpose	Period of Diversion	Period of Use	Flow Rate			Volume
	(MM/DD-MM/DD)	*(MM/DD-MM/DD)*	*Flow Rate*	*GPM*	*CFS*	*(AF)*
Irrigation	05/01-09/30	05/01-09/30	4.1	☐	☑	86.7
				☐	☐	
				☐	☐	
				☐	☐	
				☐	☐	
		Total	4.1	☐	☑	86.7

6. Does the proposed use include one or more of the following purposes: domestic, multiple domestic, stock, or irrigation? If yes, fill out the following table, where applicable. ☐ Y ☐ N ☐ F

Purpose	Requested Information	Response
Domestic or multiple domestic	Number of dwellings	
Stock	Number of animal units	
Irrigation	Method of irrigation type (sprinkler or flood) and subtype (if flood: level border, graded border, furrow, contour ditch, or other; if sprinkler: center pivot, wheel line, or other)	Flood(contour)45%eff-4.5 AC;(gated)60%, 19.2AC
Irrigation (flood only)	Design slope	

7. Describe the proposed location of the point(s) diversion to the nearest 10 acres, if source is groundwater (GW) or surface water (SW), source name, and means of diversion (e.g., pump, headgate, well). Label each POD with the POD # used for the project map (question 2). ☐ A ☐ F

POD #	¼	¼	¼	Sec	Twp	Rge	County	Lot	Block	Tract	Subdivision	Gov Lot	SW or GW	Source Name	Means
1-TU	SW	SW	SW	4	6S	23E	Carbon						SW	Sand Creek	Pump (Trans)
1-TD	SW	SW	SW	4	6S	23E	Carbon						SW	Sand Creek	Pump (Trans)

8. What are the geocodes of the place of use?	☐ A	☐ F

10-0449-04-3-03-05-0000	

9. Describe the legal land description for the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.	☐ A	☐ F

Acres	Gov't Lot	Block	¼	¼	¼	Sec	Twp	Rge	County
22.6				SW	SW	4	6S	23E	Carbon
1.2	10			SE	SW	4	6S	23E	Carbon
27.8	***Total***								

10. Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?	☒ Y ☐ N	☐ F
a. If yes, summarize how the water rights will be operated as a whole to serve the purpose(s). Sand Creek Canal Ditch Shares - (43D 199999) - not reliable or always available; will continue to use ditch shares when available, use permit when not	☐ A	☐ F

11. For each supplemental or overlapping water right, please list the water right number, purpose, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed.	☐ A	☐ F

Water Right No.	**Avg. Period of Diversion**	**Avg. Period of Use**	**Flow Rate**			**Volume Contributed**
	MM/DD-MM/DD	*MM/DD-MM/DD*	*Flow Rate*	*GPM*	*CFS*	*AF*
43D 199999-00	04/01-10/15	04/01-10/15	225	☐	☑	0-86.7AF
				☐	☑	
				☐	☐	
				☐	☐	
				☐	☐	

12. Will this application supplement contract water from a Federal Project, ditch company, or other source?	■ Y ☐ N	☐ F
a. If yes, explain. Sand Creek Canal Ditch Shares - (43D 199999) - not reliable or always available; will continue to use ditch shares when available, use permit when not	☐ A	☐ F
13. Does the project involve one or more places of storage? This does not include reservoirs, pits, pit-dams, or ponds with a capacity less than 0.1 AF; water tanks; or cisterns (ARM 36.12.113(6)). If yes, answer the following questions once for each place of storage. Use an "Additional Place of Storage (600P)" sheet if more than one. Additionally, you may choose to answer non-mandatory questions 76 to 80 for place of storage.	☐ Y ▣ N	☐ F
a. Is this application to enlarge an existing reservoir? If yes, list the water right numbers for the existing reservoir.	☐ Y ☐ N	☐ F
b. Is the place of storage located on-stream?	☐ Y ☐ N	☐ F
c. What is the capacity of the proposed place of storage or the existing place of storage after it is enlarged? Use bathymetry data, survey, or engineering plans for capacity. Submit the data source used with this form. In lieu of these data sources, use the following equation: *Surface Acres x Maximum Depth (FT) x 0.5 = Capacity (AF)*	☐ A	☐ F

d. What is the surface area of the place of storage? _____ _____	☐ A	☐ F
14. Will your system be designed to discharge water from the project?	☐ Y ■ N	☐ F
a. If yes, explain the wastewater disposal method. A discharge permit may be required to comply with §§ 75-5-410 and 85-2-364, MCA. _____ _____ _____	☐ A	☐ F
15. Does the project involve an appropriation that is greater than 5.5 CFS and 4,000 AF? If yes, you must submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AF (Form 600-B) with application submittal. The criteria are found in §85-2-311(3), MCA.	☐ Y ■ N	☐ F
16. Will you be transporting water for use outside of Montana? If yes, you must submit an Out-of-State Use Addendum (Form 600/606-OSA) with the application. The out-of-state use criteria are outlined in §85-2-402(6), MCA.	☐ Y ■ N	☐ F
17. Does the project include the water marketing purpose? If yes, you may choose to answer non-mandatory questions 81 to 85 for water marketing. A Water Marketing Purpose Addendum (Form 600/606-WMA) will be required with application submittal.	☐ Y ■ N	☐ F
18. Are you proposing a point of diversion and/or place of use on State of Montana Trust Land? If yes, documentation of consent from the DNRC Trust Lands Management Division will be required at application submittal.	☐ Y ■ N	☐ F
19. Is the project located in designated sage grouse habitat? If yes, a review letter from the Montana Sage Grouse Habitat Conservation Program will be required at application submittal.	■ Y ☐ N	☐ F

SURFACE WATER

■ **Applicable**, move on to question 20. ☐ **Not Applicable**, skip to question 30.

The following questions are mandatory for surface water permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Surface Water Analysis

Questions, Narrative Responses, and Tables	**Check-boxes**	**Follow-up**
20. What is the flow rate (GPM or CFS), volume (AF), period of diversion start date and end date (MM/DD-MM/DD), and source type (e.g., perennial, ephemeral) at each point of diversion? Use the same POD # as the project map (question 2) to label each point of diversion.	☐ A	☐ F

POD #	**Flow Rate**			**Volume**	**Period Start**	**Period End**
	Flow Rate	*GPM*	*CFS*	*AF*	*MM/DD*	*MM/DD*
1-TU	4.1	☐	☑	86.7	05/01	09/30
1-TD	4.1	☐	☑	86.7		
		☐	☐			
		☐	☐			
		☐	☐			

21. Is the source type of the diversion perennial or intermittent, ephemeral, lake, or other? Intermittent (Perennial during period of diversion)	☐ A	☐ F

Perennial or intermittent	Answer questions 22 to 25	**Ephemeral**	Answer question 26	**Lake**	Answer question 27	**Other**	Answer questions 28 to 29

Surface Water Analysis: Perennial or Intermittent

■ **Applicable** ☐ **Not Applicable**

22. Are stream gage data available?	☐ Y ▣ N	☐ F
a. If yes, answer question 23.		
b. If no, answer question 24.		

23. Stream gage data are available.		
a. Is one stream gage located above the most upstream POD and one stream gage located below the most upstream POD?	☐ Y ☐ N	☐ F
i. If no, is only one stream gage located near the most upstream POD?	☐ Y ☐ N	☐ F
1. If yes, is the stream gage located upstream or downstream? _____		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
c. What is the distance between the gage(s) and the most upstream POD? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the most upstream POD? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☐ Y ☐ N	☐ F
i. If yes, explain. _____ _____ _____	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F

g. Is each available stream gage operated and maintained by USGS or DNRC?	☐ Y ☐ N	☐ F
i. If yes, skip to question 23.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		
1. How frequently are stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were requirements established and followed for maintaining a permanent gage datum and meeting specified accuracy limits?		
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F

h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. _____		☐ F
ii. If no, answer question 24.		
24. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☐ Y ■ N	☐ F
a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the requirements of ARM 36.12.1702 or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 25.		
b. If yes,		
i. Submit available measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method were the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F

1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion?	☐ Y ☐ N	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 25.		
25. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for validation of a Department-accepted estimation technique?	☐ Y ■ N	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the source:		

i. Will measurements be collected prior to submission of Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F
c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(1)(b)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(1)(b) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. Sand Creek only flows due to Sand Creek Canal overflow - does not follow a natural hydrograph _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	■ Y ☐ N	☐ F

1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the proposed period of diversion?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F
b. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Surface Water Analysis: Ephemeral

☐ **Applicable** ☒ **Not Applicable**

26. Did you elect for the Department to conduct the Technical Analyses?	☐ Y ☐ N	☐ F
a. If yes, do you have climate or drainage area data you would like the Department to consider during Technical Analyses?	☐ Y ☐ N	☐ F
i. If yes, submit this information to the Department.	☐ S	☐ F
b. If no,		
i. Describe the estimation technique you propose to use to estimate physical availability at the point of diversion. _____ _____ _____	☐ A	☐ F
ii. What is the net annual precipitation? Include the source of this information. _____ _____	☐ A	☐ F

iii. What is the drainage area upstream of the point of diversion and how was this figure calculated? _____ _____ _____	☐ A	☐ F

Surface Water Analysis: Lakes

☐ **Applicable** ☒ **Not Applicable**

27. Has the lake volume been quantified by a qualified entity based on bathymetric data?	☐ Y ☐ N	☐ F
a. If yes, provide this information to DNRC.	☐ S	☐ F
b. If no, answer the following questions,		
i. When do you plan to collect this information? _____		☐ F
ii. What data collection method will you use? _____ _____	☐ A	☐ F

Surface Water Analysis: Other

☐ **Applicable** ☒ **Not Applicable**

28. Explain why the source type is “other”. _____ _____	☐ A	☐ F
29. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, answer the following questions,		
i. With what method was the measurement data collected? _____ _____	☐ A	☐ F

ii. What is the measurement interval? _____		☐ F
1. Does the interval meet the Department's standard for monthly measurements throughout the proposed period of diversion pursuant to ARM 36.12.1702(4)?	☐ Y ☐ N	☐ F
a. If no, do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline.	☐ Y ☐ N	☐ F
b. If no,		
i. When do you plan to measure? _____		☐ F
ii. What data collection method will be used? _____ _____ _____	☐ A	☐ F
iii. Do you plan on requesting a variance from measurement requirements pursuant to ARM 36.12.1702(4)? If you plan to request a variance, you must submit Form 653 on or before the Variance Request Deadline. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Area of Potential Impact Analysis

No additional information needed for Technical Analyses.

GROUNDWATER

☐ **Applicable**, move on to question 30. ⬓ **Not Applicable**, skip to question 54.

The following questions are mandatory for groundwater permit applications and must be filled out before the Preapplication Meeting Form is determined to be complete.

Groundwater Analysis for Permits

Questions, Narrative Responses, and Tables	Check-boxes	Follow-up
30. What is the type of groundwater diversion? _____	☐ A	☐ F

Well/Pumping Pit	Answer questions 31 to 35	**Developed Spring**	Answer question 36	**Pond**	Answer questions 37 to 39

Groundwater Analysis for Permits: Well/Pumping Pit

☐ Applicable ☐ Not Applicable

31. Per ARM 36.12.121 a 24- or 72-hour aquifer test is required; do you propose not to conduct the test? An 8-hour test will be required, if no aquifer test is completed.	☐ Y ☐ N	☐ F
a. If yes, explain. The Department will let you know if the request is reasonable and identify additional data needs. _____ _____ _____ _____ _____	☐ A	☐ F

32. Submit Aquifer Test Data Form (Form 633). If a variance is requested, Form 633 must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 633 is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	☐ S	☐ F
33. Submit the Aquifer Testing Addendum (Form 600/606-ATA) and associated materials (e.g., well logs). If you request a variance, Form 600/606-ATA must be submitted on or before the Variance Request Deadline. If no variance is requested, Form 600/606-ATA is due by the time the preapplication meeting form is complete but may be submitted earlier. However, if the Department determines a variance is needed and the Variance Request Deadline has passed, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).	☐ S	☐ F
34. Are you requesting a variance from ARM 36.12.121? If you are unsure if a variance request will be needed, mark follow-up and answer this question once Form 600/606-ATA and Form 633 are complete. A variance must be requested by the Variance Request Deadline.	☐ Y ☐ N	☐ F
a. If yes, submit Form 653, Form 600/606-ATA, and Form 633 together on or before the Variance Request Deadline.	☐ S	☐ F
b. If no, you may choose to submit Form 600/606-ATA and Form 633 before the Variance Request Deadline, and the Department will review these two forms. However, if the Department determines a variance is needed after the Variance Request Deadline, to submit the Form 653 you must reschedule the preapplication meeting or submit the application without expedited fees and timelines (ARM 36.12.1302(6)).		
35. Have all proposed wells/pumping pits been constructed?	☐ Y ☐ N	☐ F
a. If no, answer the following questions:		
i. Submit a list of the POD IDs for all wells/pumping pits and mark whether they have or have not been constructed.	☐ S	☐ F
ii. When will all proposed wells/pumping pits be constructed? _____		☐ F
iii. Is the requested volume for each proposed well/pumping pit known?	☐ Y ☐ N	☐ F
1. If yes, list the flow rate and volume requested for each proposed well/pumping pit. Label with POD ID. _____ _____ _____	☐ A	☐ F

2. If no, what is the total requested volume (AF) and the number of proposed PODs? _____		☐ F

Groundwater Analysis for Permits: Developed Spring

☐ Applicable ☐ Not Applicable

36. Have you measured the source?	☐ Y ☐ N	☐ F
a. If yes, submit the measurements and answer the following questions,	☐ S	☐ F
i. Do you have flow rate (GPM or CFS) and volume measurements?	☐ Y ☐ N	☐ F
ii. With what method were measurements collected? _____ _____	☐ A	☐ F
iii. What is the interval of measurements? _____		☐ F
iv. Is the interval of measurements sufficient to comply with ARM 36.12.1703(1)?	☐ Y ☐ N	☐ F
b. If no, or if measurements do not comply with ARM 36.12.1703(1), answer the following questions. The Department cannot deem the preapplication meeting form adequately completed until the Department receives measurements that meet the requirements of ARM 36.12.1703(1). Variances from ARM 36.12.1703(1) are not allowed.		
i. When do you plan to measure? _____		☐ F
ii. With what method and at what interval will measurements be collected? _____ _____	☐ A	☐ F

Groundwater Analysis for Permits: Pond

☐ Applicable ☐ Not Applicable

37. Submit Form 653 to apply for a variance from ARM 36.12.121 for the Aquifer Test on or before the Variance Request Deadline.	☐ S	☐ F
38. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S	☐ F
39. Is the pond fed or drained by surface water?	☐ Y ☐ N	☐ F
a. If yes,		
i. Explain. _____ _____ _____	☐ A	☐ F
ii. Submit measurements of the connected surface water source. These may include inflow and outflow measurements.	☐ S	☐ F

Surface Water Depletion Analysis

40. Is the type of groundwater diversion for your proposed project a developed spring? If yes, skip to question 45 because this section is complete. If no, move onto question 41.	☐ Y ☐ N	☐ F
41. Is the type of groundwater diversion for your proposed project a pond? If yes, answer question 41.a, then skip to question 45 because this section is complete. If no, move onto question 42.	☐ Y ☐ N	☐ F
a. Will any of the ponds have diversions for out-of-pond use that differ from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide a schedule of the diversions for out-of-pond use in the table below. Use the same POD # as the project map (question 2). Attach any additional schedules with POD # labeled.	☐ A	☐ F

POD #			
Month	**Diversions for Out-of-Pond Use Volume (AF)**	**Month**	**Diversions for Out-of-Pond Use Volume (AF)**
January		July	
February		August	
March		September	
April		October	
May		November	
June		December	

42. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each well/pumping pit? What is the well/pumping pit depth (FT), if available, or estimated well/pumping pit depth (FT). Please use the same POD # as the project map (question 2) to match this information with the location information.	☐ A	☐ F

POD #	Flow Rate			Volume	Period of Diversion	Depth	Measured or Estimated
	Flow Rate	*GPM*	*CFS*	*AF*	*MM/DD-MM/DD*	*FT*	
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				
		☐	☐				

43. Will any of the *new* wells/pumping pits have a monthly pumping schedule that differs from, if year-round use, an allocation of diverted volume by the number of days in the month, or, if irrigation/lawn and garden use, the 80% dry year net irrigation requirement (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
a. If yes, provide the alternative pumping schedule(s) in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # labeled.	☐ A	☐ F

POD #				POD #			
Month	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

44. Will one or more *existing* wells/pumping pits be used for the proposed project?	☐ Y ☐ N	☐ F
a. If yes, will any of the *existing* wells/pumping pits have a monthly pumping schedule, before or after the proposed project, that differs from an allocation of diverted volume by the number of days in the month (if year-round use) or the 80% dry year net irrigation requirement (if irrigation/lawn and garden use) (IWR, NRCS 2003)?	☐ Y ☐ N	☐ F
i. If yes, provide the pumping schedules before and after the proposed project in the table below. Use the same POD # as the project map (question 2). Attach any additional pumping schedules with POD # and before/after proposed project labeled.	☐ A	☐ F

Before proposed project: POD #				**After proposed project: POD #**			
Month	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**	**Month**	**Volume (AF)**
January		July		January		July	
February		August		February		August	
March		September		March		September	
April		October		April		October	
May		November		May		November	
June		December		June		December	

Surface Water Analysis of Depleted Surface Water

45. Based on the preliminary net depletion data provided by the Department at this preapplication meeting, what are the hydraulically connected surface water source(s)? **Net depletion data provided by the Department at the preapplication meeting is preliminary and is subject to change during Technical Analyses. If the source or location of net depletion data changes during Technical Analyses, then surface water analysis of depleted surface water source(s) will reflect the Technical Analyses; this will not constitute a change of any element to the proposed application pursuant to ARM 36.12.1302(6)(a).* If the type of groundwater diversion for your proposed project is a developed spring, write "NA" and skip to question 51 because this section is complete. _____	☐ A	☐ F
46. Answer the questions in this section one time for each hydraulically connected source. Use the "Additional Hydraulically Connected Source (600P)" sheet, as necessary. For which hydraulically connected source are you answering questions 47 to 50? _____		☐ F
47. Are stream gage data available?	☐ Y ☐ N	☐ F
a. If yes, answer question 48.		
b. If no, answer question 49.		

48. Stream gage data are available		
a. Is one stream gage located above and one stream gage located below the start of the depleted reach?	☐ Y ☐ N	☐ F
i. If no, is only one stream gage located near the start of the depleted reach?	☐ Y ☐ N	☐ F
1. If yes, is the stream gage upstream or downstream? _____		☐ F
b. List the gage name(s). Write "N/A" for Gage 2 if one gage available. Gage 1: _____ Gage 2: _____		☐ F
c. What is the distance between the gage(s) and the start of the depleted reach? Write "N/A" for Gage 2 if one gage available. Gage 1: _____ Gage 2: _____		☐ F
d. Is there a limiting or controlling factor on the source between the stream gage(s) and the start of the depleted reach? This includes dams that control the flow and streams with large gaining and/or losing reaches. If you have questions about this, the Regional Office may provide assistance.	☐ Y ☐ N	☐ F
i. If yes, explain. _____ _____ _____	☐ A	☐ F
e. How long is the period of record? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
f. Who operates and maintains the gage(s)? Write "N/A" for Gage 2 if one gage is available. Gage 1: _____ Gage 2: _____		☐ F
g. Is each available stream gage operated and maintained by USGS or DNRC?	☐ Y ☐ N	☐ F
i. If yes, skip to question 48.h.		
ii. If no, answer the following questions for each gage not operated and maintained by USGS or DNRC.		

1. How frequently is stage data recorded? Write "N/A" for Gage 2 if only one gage is not operated or maintained by USGS. Gage 1: _____ Gage 2: _____		☐ F
2. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
3. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
4. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
a. Gage 1._____	☐ Y ☐ N	☐ F
b. Gage 2. Write "N/A" on the line instead of answering yes or no, if only one gage is not operated or maintained by USGS or DNRC. _____	☐ Y ☐ N	☐ F
h. Do the data for one or more available stream gages meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	☐ Y ☐ N	☐ F
i. If yes, record how many meet the standard, then skip to question 54 because this section is complete. _____		
ii. If no, answer question 49.		
49. If no gage data are available or if available gage data do not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions, is the source otherwise measured?	☐ Y ☐ N	☐ F

a. If no, measurements may be necessary. The Department cannot deem the preapplication meeting form adequately completed until the Department receives gage data and/or measurements that meet the Department's measurement standards or, in combination with an approved request to deviate from the Department's standards, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. Skip to question 50.		
b. If yes,		
i. Submit measurements to the Department.	☐ S	☐ F
ii. Who collected the measurements? _____	☐ A	☐ F
iii. With what method was the data collected? _____ _____	☐ A	☐ F
iv. What is the period of record? _____		☐ F
v. What is the frequency of measurement? _____		☐ F
vi. Are there gaps in the data?	☐ Y ☐ N	☐ F
1. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A	☐ F
vii. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N	☐ F
1. If yes, explain. _____ _____ _____	☐ A	☐ F
viii. Do available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months with net depletions?	☐ Y ☐ N	☐ F
1. If yes, this section is complete. Skip to question 54.		
2. If no, answer question 50.		

50. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
a. If yes,		
i. Describe how the measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A	☐ F
ii. Describe the estimation technique. _____ _____ _____ _____ _____ _____	☐ A	☐ F
b. If no, but a Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Will measurements be collected prior to submission of a completed Form 600P-B that meet the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique?	☐ Y ☐ N	☐ F
1. If yes,		
a. With what method will the data be collected? _____ _____	☐ A	☐ F
b. What will be the interval of measurement? _____		☐ F

c. Describe the proposed estimation technique. _____ _____ _____ _____ _____	☐ A	☐ F
2. If no, do you plan on requesting to deviate from the Department's standard of including a minimum of high, moderate, and low flows to be sufficient to use for calibration of a Department-accepted estimation technique? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F
c. If no, because no Department-accepted estimation technique will be appropriate for the hydraulically connected surface water source:		
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____	☐ A	☐ F
ii. Do the available measurement data, gage and/or otherwise measured, meet the Department's standard for monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
1. If no, will measurements be collected prior to submission of a completed Form 600P that meet the Department's standard of monthly measurements throughout the months with net depletions?	☐ Y ☐ N	☐ F
a. If yes, with what method will the data be collected? _____ _____	☐ A	☐ F

b. If no, do you plan on requesting to deviate from the Department's standard for monthly measurements throughout the months with net depletions? The Department's technical analyses or scientific credibility review of your technical analyses cannot commence until the Department receives measurements that meet Department measurement standards, or in combination with a request to deviate, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N	☐ F

Area of Potential Impact Analysis of Depleted Surface Water

All information for area of potential impact of depleted surface water was collected in previous questions.

Hydrogeologic Report

51. Does your project include one or more wells, pumping pits, or ponds that are in a basin closure area? If yes, fill out questions 52 to 53. Your project must have a Hydrogeologic Report that conforms with § 85-2-361 to comply with the requirements of § 85-2-360, MCA. A Hydrogeologic Report Addendum (Form 600-HRA) or Department Technical Analyses may be used to meet these requirements.	☐ Y ☐ N	☐ F
52. Did you elect in question 1 for the Department to conduct the Technical Analyses?	☐ Y ☐ N	☐ F
a. If yes, the Basin Closure Area Addendum (Form 600-BCA), Form 600-HRA, and Hydrogeologic Report are not required at this time. The Department's Technical Analyses will meet requirements of §85-2-360, MCA for a Hydrogeologic Report and Form 600-HRA. Form 600-BCA will be required with application submittal.		
b. If no, submit the Basin Closure Area Addendum (Form 600-BCA) and Hydrogeologic Report Addendum (600-HRA) with your Technical Analyses.	☐ S	☐ F
53. If the Hydrogeologic Report indicates that the proposed groundwater use will impact a surface water source, identify and explain which of the following three options best describes your plan to mitigate depletions of hydraulically connected surface water and respond to the relevant questions below. ☐ Application to Change a Water Right to mitigate the adverse effects created ☐ Alternative mitigation plan ☐ Documentation to show a mitigation plan is not required		
a. Application to Change a Water Right to mitigate the adverse effects created: Submit a summary of your initial proposal. *A separate Preapplication Meeting will be required for each Application to Change a Water right to a mitigation or aquifer recharge purpose to qualify for expedited timelines and reduced filing fees for the project per ARM 36.12.1302(7)(a).*	☐ S	☐ F
b. Alternative mitigation plan: Submit a summary of your initial proposal.	☐ S	☐ F

i. Do you propose to use water with a marketing for mitigation/aquifer recharge purpose?	☐ Y ☐ N	☐ F
1. If yes,		
a. List the change authorization number(s) for all water rights proposed for use. _____	☐ A	☐ F
b. What is the area defined for marketing for all water rights proposed for use? _____	☐ A	☐ F
c. If Marketing for aquifer recharge, submit the analysis of the monthly accretions to hydraulically connected surface water(s); otherwise write "NA". _____	☐ S	☐ F
c. Documentation to show a mitigation plan is not required: Submit all documentation.	☐ S	☐ F

MANDATORY PROJECT-SPECIFIC QUESTIONS

The following questions are mandatory when applicable and must be filled out before the Preapplication Meeting Form is determined to be complete.

Project-Specific Questions: Controlled Groundwater Areas and Basin Closures

Questions, Narrative Responses, and Tables	Check-boxes	Follow-up
54. Does the project include one or more groundwater points of diversion located in the East Valley Controlled Groundwater Area (EVCGWA)?	☐ Y ■ N	☐ F
a. If yes, is the use over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-EVCGWA: East Valley Controlled Groundwater Area Permit Application.		
ii. If yes, how does this project meet the specific requirements of the East Valley Controlled Groundwater Area? Include any relevant documentation. _____ _____ _____ _____	☐ A	☐ F
b. If no, skip to question 55.		
55. Does the project include one or more groundwater points of diversion located in the Yellowstone Controlled Groundwater Area?	☐ Y ■ N	☐ F
a. If yes, is the proposed flow rate and volume over 35 GPM or 10 AF/YR?	☐ Y ☐ N	☐ F
i. If no, this is the incorrect form. Use instead Form 600-YCGA: Yellowstone Controlled Groundwater Area Permit Application.		
ii. If yes, answer the remaining parts of question 55 and submit *Form 600 YCGA: A Yellowstone Controlled Groundwater Area Addendum Over 35 gallons per minute* with the application.		
1. Does the proposed use require a point of diversion with water temperature of 60 degrees Fahrenheit or more?	☐ Y ☐ N	☐ F
2. If an application is in a basin tributary to a category 3 or 4 stream (generally in or upstream of Yellowstone National Park), submit with the application a report prepared by a qualified professional verifying that the appropriation is not hydrologically connected to surface flow that is tributary to the reserved portion of category 3 or 4 streams.		
b. If no, skip to question 56.		

56. Is the project for surface water or groundwater and subject to one or more of the Controlled Groundwater Areas; administrative, Department ordered, or legislative basin closures; or compact closures listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas) not covered in questions 54 to 55?	☐ Y ☒ N	☐ F
a. If yes, identify each area and describe how the proposed project meets its requirements. An application must meet the specific requirements of the Controlled Groundwater Area or closure to be accepted by the Department. _____ _____ _____ _____ _____ _____ _____ _____ _____	☐ A	☐ F

NON-MANDATORY QUESTIONS FOR CRITERIA ANALYSIS

The following questions are not mandatory. They should be discussed in the Preapplication Meeting, but do not need to be filled out before the Preapplication Meeting Form is determined to be complete.

Adverse Effect

Questions, Narrative Responses, and Tables	Check-boxes
57. Describe your plan to ensure that existing water rights will be satisfied during times of water shortage. Applicant can cease diversion if valid call is made	☐ A
58. Explain how you can control your diversion in response to call being made. Pump can be shut off if valid call is made	☐ A
59. Are you aware of any calls that have been made on the source of supply or depleted surface water source?	☐ Y ☒ N
a. If yes, explain.	☐ A
60. Does a water commissioner distribute water or oversee water distribution on your proposed source or depleted surface water source?	☐ Y ☒ N

61. Will the point of diversion or conveyance infrastructure be shared with one or more existing water rights?	☐ Y ☒ N
a. If yes, explain how capacity of the shared point of diversion and/or conveyance infrastructure is sufficient for all water rights. _____ _____ _____ _____ _____	☐ A

Adequate Diversion Means and Operation

62. Submit a diagram of how you will operate your system from the point of diversion to the place of use.	☒ S
63. Describe specific information about the capacity of the diversionary structure(s). This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length. _____ _____ _____ _____ _____ _____ _____	☐ A

64. Describe the size, materials, capacity, and configuration of infrastructure to convey water from point of diversion to place of use. This may include but is not limited to, pipelines and ditches. Include a description of any losses related to the proposed conveyance. Ditch conveyance losses may be estimated numerous ways, which include a ditch loss rate or Department standard methods. You may work with the Department to estimate ditch conveyance losses but will need to provide sufficient baseline information; which includes ditch slope, dimensions, length, lining material, soil type, and location.	☐ A
65. Describe how the proposed diversion and conveyance infrastructure can provide the required flow and volume, for the purposes plus any conveyance losses and storage, throughout the proposed period of diversion.	☐ A
66. Provide a plan of operations, which includes specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot.	☐ A

67. Does the proposed conveyance require easements?	☐ Y ■ N
a. If yes, explain.	☐ A
68. Do you own the land where all proposed points of diversion are located?	■ Y ☐ N
a. If no, documentation to show you have the right to use all points of diversion located on each property you do not own will be required upon application submittal. This may include, but is not limited to, a well agreement, an easement, or permission of the party that owns the property where the proposed point(s) of diversion are located.	
69. Describe any places of storage, including whether drainage devices will be installed, and provide preliminary designs, if available. Preliminary designs will be required at application submittal.	☐ A
70. Do you have any plans to measure your diversion and use?	☐ Y ■ N
a. If yes, describe the plan and the type of measurements you will take.	☐ A

Beneficial Use

71. Does the Department have a standard for any of the purposes for which water is used? Department standards can be found in ARM 36.12.112 and ARM 36.12.115.	■ Y ☐ N
a. If yes, list the purposes for which the Department has a standard and note whether the proposed use falls within or outside the standard. Irrigation - within	

72. If no Departmental standard exists for any proposed purpose, or if any proposed purpose falls outside of Department standards, explain how the use is reasonable for that purpose. _____ _____ _____ _____ _____ _____ _____	☐ A
73. Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?	☐ Y ▣ N
a. If yes,	
i. Have you researched or consulted with DEQ regarding those requirements?	☐ Y ☐ N
74. Are you proposing to use surface water for in-house domestic use?	☐ Y ▣ N
a. If yes, does a COSA exist for the proposed place of use?	☐ Y ☐ N
i. If yes, please submit the COSA.	☐ S
ii. If no, have you researched or consulted with DEQ regarding their requirements?	☐ Y ☐ N

Possessory Interest

75. Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use.	☐ Y ▣ N
a. If yes, explain. _____ _____ _____ _____	☐ A

b. If no,	
i. Do you own all proposed places of use?	☐ Y ☐ N
1. If no,	
a. Explain. Documentation that shows you either have possessory interest or written permission of the parties with possessory interest of the place of use will be required at application submittal. _____ _____ _____ _____	☐ A
b. Would you like the water right to be appurtenant to the land? Please note that if your water right is not appurtenant to land it will not transfer by default with the conveyance of the property, pursuant to § 85-2-403.	☐ Y ☐ N
i. If no, explain. _____ _____ _____	☐ A

Non-Mandatory Project Specific Questions

Place of Storage

76. Does the proposal include at least one place of storage? If yes, answer questions 77 to 80 for each individual place of storage (use "Additional Place of Storage (600P)" sheet for additional places of storage). A Permit Storage Addendum (Form 600-SA) will be required at application submittal. If no, this section is complete, and you can skip to question 81.	☐ Y ■ N
77. Are preliminary designs available? Preliminary designs will be required at application submittal.	☐ S
a. If yes, submit preliminary designs.	☐ Y ☐ N
78. Will the place of storage be lined?	☐ Y ☐ N
79. What is the annual net evaporation of water from the place of storage, based on the Department's gridded net evaporation layer? If you propose a different method, attach an explanation and justification of the method. _____	☐ A

80. Is the place of storage capacity calculated to be greater than 50 AF?	☐ Y ☐ N
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whether the dam or reservoir is a high-hazard dam? This will be required by application submittal.	☐ Y ☐ N

Project-Specific Questions: Water Marketing

81. Does the proposal include water marketing? If yes, please answer the questions in this section (questions 82 to 85). A Water Marketing Addendum Purpose Addendum (600/606-WMA) will be required at application submittal. If no, this section is complete.	☐ Y ■ N
82. For what purpose(s) will the marketed water be used? _____ _____ _____	☐ A
83. How will you control or limit access to the water? _____ _____ _____	☐ A
84. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N
85. Provide a service area map. Create map on an aerial photograph or topographic map and show the following: general service area boundary, section corners, township and range, scale bar, and north arrow.	☐ S

FOLLOW-UP

The tables below will identify all questions marked for follow-up. Applicant follow-up will be submitted with the completed Preapplication Meeting Form: Part B (Form 600P-B). Applicant will provide all responses to questions marked for follow-up on a separate document entitled "Follow-up Responses." At the preapplication meeting, the Department may offer to provide the Applicant with information pertinent to identified follow-up. In this case, record in the notes column what information the Department will provide and the date by which the Department will email this information to the Applicant. This information will supplement but not replace Applicant follow-up. It is the responsibility of the Applicant to provide all follow-up, including questions supplemented by Department information, in the "Follow-up Responses" document.

The "Follow-up Responses" document must conform to the following standards. Label all responses with the question number. Answer questions in the same format as the form. For responses in the form of checkboxes, write "Y", "N", "S". Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses and tables. Tables must have the exact headings found on the form. Questions that require items to be submitted to the Department may be marked "S" when the required item is attached to the Preapplication Meeting Form. Label all submitted items with the question number for which they were submitted.

***The Applicant may not alter the Preapplication Meeting Form: Part A (Form 600P-A) signed at the Preapplication Meeting**. Instead, the Applicant must use the Amended Responses procedure defined in Form 600P-B. Do not include additional information for questions that were not marked for follow-up on this table; instead include any additional information pursuant to the process for amending responses defined in Form 600P-B.*

QUESTION #	NOTES

PREAPPLICATION MEETING AFFIDAVIT & CERTIFICATION

"We attest that the information on this form accurately describes the proposed project discussed during the preapplication meeting, and that the items marked for follow-up will require the Applicant to provide additional information before the form is deemed complete."

"Applicant acknowledges that any information provided by the Department during the preapplication meeting is preliminary and subject to change."

"Applicant acknowledges that if the follow-up information provided to the Department substantially changes the proposed project, for example in a way that alters which sections of the form are applicable or which technical analyses are required, or who is to complete the technical analyses, the applicant will need to schedule a new preapplication meeting so that the Department can identify any additional information necessary for completion of the technical analyses (ARM 36.12.1302(3)(c))."

Upon Department receipt of the completed form (within 180 days following the meeting), the Department reserves five business days to return the form to the applicant if:

1 – the completed form does not include all necessary follow-up information identified in the meeting, OR
2 – the completed form is not adequate for the Department to proceed with technical analyses, OR
3 – the applicant has elected to complete technical analyses and has not submitted each piece of technical analysis required, OR
4 – the applicant has substantially changed the details of the proposed project, such as in a way that alters which sections of the form are applicable, which technical analyses are required, or who is to complete the technical analyses.

If the Department returns the form to the Applicant within these five days due to reasons 1-3 above, the Applicant can use the balance of their 180-day period in ARM 36.12.1302(4) or (5) to gather the remaining follow-up information needed. If there is no time remaining in the 180-day period, the Applicant can submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). Even if there is still time remaining, the Applicant can choose to schedule a new preapplication meeting. The Department shall transfer the $500 payment received to the new preapplication meeting or refund the payment to the Applicant if the Applicant desires. If the Department returns the form to the Applicant within these five days due to reason (4) above, the Applicant must submit a written request for a new preapplication meeting, pursuant to ARM 36.12.1302(2). The Department shall transfer the $500 payment received to the new preapplication meeting or refund the payment to the Applicant if the Applicant desires.

Scott M. Griswold	9/23/2025
Applicant Signature	Date
Pamela K. Griswold	9/23/2025
Applicant Signature	Date
Christine Schweigert	9/23/2025
Department Signature	Date

Excel File Placeholder

The "Griswold - Flow Measurement Calculator" spreadsheet is available outside of the application file.

*For **pending applications:***

- *Excel files associated with aquifer tests are located in the "Aquifer Tests" link of the application page.*
- *Other excel files are available upon request from the regional office.*

Please contact the Billings Regional Office for more information.

REQUEST FOR PREAPPLICATION MEETING

ARM 36.12.1302(2)

(Revised 02/2025)

For Department Use Only

RECEIVED

AUG 18 2025

DNRC-WRD-BILLINGS

Date Received 8/18/2025

Received By CS

Scheduled Meeting Date 7/22/2025 11 AM

Instructions

Use this optional form to submit a written request for a preapplication meeting, as required in ARM 36.12.1302(2) for applicants electing to complete a preapplication meeting with the department prior to submitting an application for a beneficial water use permit or change in appropriation right pursuant to § 85-2-302, MCA. Use additional sheets as necessary.

Submit this form to the appropriate regional office; see contact information on the last page of this form.

1. **Applicant Name** SCOTT M. GRISWOLD

Mailing Address 33 Sand Creek Road

City Bridger State Montana Zip 59014-9581

Home Phone 406-662-3500 Other Phone 406-690-9765

Email: griswoldsmgllc@gmail.com

2. **Representative Name** (if other than Applicant) _____

☐ Representative is Consultant ☐ Representative is Attorney ☐ Representative is Other

Mailing Address _____

City _____ State _____ Zip _____

Home Phone _____ Other Phone _____

Email: _____

3. **Are you requesting a preapplication meeting for a permit or change application?**

☑ Permit ☐ Change

4. **Describe your project:**

The project is intended to include acquiring a permit to divert Sand Creek Canal Company waste water being carried via Sand Creek for flood irrigation purposes, and to construct a pump site facility to divert/deliver that waste water to an existing flood irrigation system utilizing an open ditch and gated pipe.

5. Identify the following elements of the proposed permit or change in appropriation.

a) The flow rate and volume of water required:

Flow Rate 3.13 ☐ GPM ☑ CFS   Volume ~~95.16~~ 124.71 Acre-Feet

b) The point of diversion:

Point of Diversion #1 SW 1/4 SW 1/4 SW 1/4 Section 04, Township 06 ☐ N ☑ S, Range 23 ☑ E ☐ W

County CARBON

Lot/Tract TR 1A2 Block ____ Subdivision Name COS 1008 2ND AM & PT of GOV LOT 10

Point of Diversion #2 ____ 1/4 ____ 1/4 ____ 1/4 Section ____, Township ____ ☐ N ☐ S, Range ____ ☐ E ☐ W

County ____

Lot/Tract ____ Block ____ Subdivision Name ____

c) The place of use:

~~23.73~~ 31.10 Acres 1A2 Lot ____ Block ____ 1/4 SW 1/4 SW 1/4 Sec 04, Twp 06 ☐ N ☑ S, Rge 23 ☑ E ☐ W

____ Acres ____ Lot ____ Block ____ 1/4 ____ 1/4 ____ 1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

____ Acres ____ Lot ____ Block ____ 1/4 ____ 1/4 ____ 1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

____ Acres ____ Lot ____ Block ____ 1/4 ____ 1/4 ____ 1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

____ Acres ____ Lot ____ Block ____ 1/4 ____ 1/4 ____ 1/4 Sec ____, Twp ____ ☐ N ☐ S, Rge ____ ☐ E ☐ W

d) The source of water: Sand Creek Canal Company Waste Water Carried via Sand Creek

e) The proposed purpose: Crop / Pasture Flood Irrigation Utilizing an Open Ditch and Gated Pipe

f) For a change in appropriation right, the water right(s) proposed for change: N/A

Type of water right ____ Basin ____ Water Right # ____

Type of water right ____ Basin ____ Water Right # ____

Type of water right ____ Basin ____ Water Right # ____

Identify the water right elements proposed for change, with a checkmark for each water right proposed for change.

Water Right #	N/A				
Point of diversion	☐	☐	☐	☐	☐
Place of use	☐	☐	☐	☐	☐
Purpose of use	☐	☐	☐	☐	☐
Place of storage	☐	☐	☐	☐	☐

g) For a change in appropriation right, an explanation of historical use of the right(s) proposed for change:

N/A

h) Any proposed place of storage, if applicable (only if storage capacity is greater than 0.1 acre-feet): N/A

#1 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

#2 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

#3 Capacity: Surface Acres _____ x Max Depth (feet) _____ x (.4 for dams/.5 for pits) = _____Acre-Feet

Location: ____1/4 ____1/4 ____1/4 Section ___, Township ___ ☐ N ☐ S, Range ___ ☐ E ☐ W

i) For applications proposing a well or wells, the well depth(s) and location. If more than two wells, attach a separate sheet to this request: N/A

Well #1 ☐ New Well ☐ Existing Well

For existing well, if available, Water Right # _____ GWIC ID _____

1/4 _____1/4 ___1/4 Section _____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block_____ Subdivision Name_____

Estimated Well Depth _____ Feet

Well #2 ☐ New Well ☐ Existing Well

For existing well, if available, Water Right # _____ GWIC ID _____

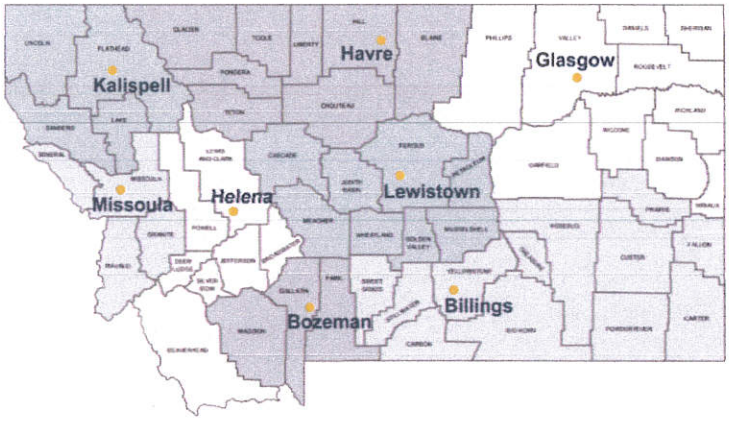
_____1/4 ___1/4 ____1/4 Section _____, Township _____ ☐ N ☐ S, Range _____ ☐ E ☐ W

County _____

Lot/Tract _____ Block_____ Subdivision Name_____

Estimated Well Depth _____ Feet

WATER RESOURCES REGIONAL OFFICES



BILLINGS
Airport Industrial Park, 1371 Rimtop Dr
Billings, MT 59105-9702

PHONE 406-247-4415 FAX 406-247-4416
EMAIL DNRCBillingsWater@mt.gov

Big Horn, Carbon, Carter, Custer, Fallon, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, and Yellowstone Counties

BOZEMAN
2273 Boot Hill Court, Suite 110
Bozeman, MT 59715-7249

PHONE 406-586-3136 FAX 406-587-9726
EMAIL DNRCBozemanWater@mt.gov

Gallatin, Madison, and Park Counties

GLASGOW
222 6th Street South, PO Box 1269
Glasgow, MT 59230-1269

PHONE 406-228-2561
EMAIL DNRCGlasgowWater@mt.gov

Daniels, Dawson, Garfield, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley, and Wibaux Counties

HAVRE
210 6th Ave., PO Box 1828
Havre, MT 59501-1828

PHONE 406-265-5516
EMAIL DNRCHavreWater@mt.gov

Blaine, Chouteau, Glacier, Hill, Liberty, Pondera, Teton, and Toole Counties

HELENA
1424 9th Ave., PO Box 201601,
Helena, MT 59620-1601

PHONE 406-444-6999 FAX 406-444-9317
EMAIL DNRCHelenaWater@mt.gov

Beaverhead, Broadwater, Deer Lodge, Jefferson, Lewis and Clark, Powell, and Silver Bow Counties

KALISPELL
655 Timberwolf Parkway, Suite 4
Kalispell, MT 59901-1215

PHONE 406-752-2288
EMAIL DNRCKalispellWater@mt.gov

Flathead, Lake, Lincoln, and Sanders Counties

LEWISTOWN
613 Northeast Main St., Suite E
Lewistown, MT 59457-2020

PHONE 406-538-7459
EMAIL DNRCLewistownWater@mt.gov

Cascade, Fergus, Golden Valley, Judith Basin, Meagher, Musselshell, Petroleum, and Wheatland Counties

MISSOULA
2705 Spurgin Rd. Bldg. C, PO Box 5004
Missoula, MT 59806-5004

PHONE 406-721-4284 FAX 406-542-5899
EMAIL DNRCMissoulaWater@mt.gov

Granite, Mineral, Missoula, and Ravalli Counties

Existing Rights

- Abstracts of supplemental, associated, or otherwise related water rights

Existing Rights

STATE OF MONTANA

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

1424 9TH AVENUE P.O. BOX 201601 HELENA, MONTANA 59620-1601

GENERAL ABSTRACT

Water Right Number: 43D 199999-00 STATEMENT OF CLAIM

Version: 4 -- CHANGE AUTHORIZATION

Version Status: ACTIVE

THIS AUTHORIZATION IS LIMITED TO THE AMOUNT OF THE HISTORIC USE RECOGNIZED BY THE DEPARTMENT IN THIS PROCEEDING AS SUBJECT TO CHANGE, AND WILL THEREAFTER NOT EXCEED THAT AMOUNT. IF THE HISTORIC USE IS REDUCED UNDER ADJUDICATION PROCEEDINGS PURSUANT TO TITLE 85, CHAPTER 2, PART 2, MCA, THIS AUTHORIZATION WILL BE LIMITED TO A LESSER AMOUNT.

Owners: SAND CREEK CANAL CO
% DORIS DONOHOE
PO BOX 2241
RED LODGE, MT 59068

Priority Date: DECEMBER 23, 1905

Enforceable Priority Date: DECEMBER 23, 1905

Purpose (Use): IRRIGATION

Irrigation Type: SPRINKLER/FLOOD

Maximum Flow Rate: 225.00 CFS

Historical Flow Rate: 225.00 CFS

Maximum Volume: THE TOTAL VOLUME OF THIS WATER RIGHT SHALL NOT EXCEED THE AMOUNT PUT TO HISTORICAL AND BENEFICIAL USE.

Climatic Area: 1 - HIGH

Historical Diverted Volume: 4,002.83 AC-FT

Historical Consumptive Volume: 1,666.61 AC-FT

Maximum Acres: 1,403.90

Source Name: CLARKS FORK YELLOWSTONE RIVER

Source Type: SURFACE WATER

Point of Diversion and Means of Diversion:

ID	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1		NESENW	8	7S	23E	CARBON

Period of Diversion: APRIL 1 TO OCTOBER 15

Diversion Means: HEADGATE

Reservoir: OFF STREAM

Govt Lot	Qtr Sec	Sec	Twp	Rge	County
	SWNE	5	6S	23E	CARBON

Diversion to Reservoir: DIVERSION # 1

Depth: 15.00 FEET

Surface Area: 1.11 ACRES

Current Capacity: 8.30 ACRE-FEET

Period of Use: APRIL 1 to OCTOBER 15

Place of Use:

ID	Acres	Govt Lot	Qtr Sec	Sec	Twp	Rge	County
1	265.00		E2	30	5S	23E	CARBON
2	120.00		NE	31	5S	23E	CARBON
3	104.00		SE	31	5S	23E	CARBON
4	65.00		NW	32	5S	23E	CARBON
5	10.00		S2SWNE	32	5S	23E	CARBON
6	146.00		SW	32	5S	23E	CARBON
7	80.00		SE	32	5S	23E	CARBON
8	155.20		NW	4	6S	23E	CARBON
9	102.00		SW	4	6S	23E	CARBON
10	45.00		SE	4	6S	23E	CARBON
11	4.00		NW	5	6S	23E	CARBON
12	81.70		NE	5	6S	23E	CARBON
13	86.00		SW	5	6S	23E	CARBON
14	120.00		SE	5	6S	23E	CARBON
15	20.00		NE	7	6S	23E	CARBON
Total:	1403.90						

Geocodes/Valid: -- NO VALID GEOCODES --

Remarks: