Montana Department of Transportation Wetland Mitigation Monitoring Report

SCHRIEBER MEADOWS MITIGATION SITE

Project Overview

MDT Project Number: NH 27 (021) UPN # 1027001 Watershed: Watershed #1 – Kootenai River Basin

Monitoring Year: 2023

Years Monitored: 13th year of monitoring.

Corps Permit Number: NWO-2004-90280-MTH

SPA Authorization Number: MDT-R1-88-2010

Monitoring Conducted By: Confluence Consulting Inc. Dates Monitoring Was Conducted: July 10-11, 2023

Purpose of the Approved Project:

The site was constructed to provide 17.84 acres of compensatory wetland mitigation credits and 35,551 stream mitigation credits for wetland and stream impacts associated with the US Highway 2 Swamp Creek – East project and highway impacts associated with future transportation project-related wetland and stream impacts in Watershed #1 – Kootenai River Basin. The project was designed to create new wetlands, restore degraded wetlands, and enhance existing wetlands by restoring natural hydrology in the meadow and constructing a series of shallow depressional wetland cells. The project restored the Coyote Creek channel and added 3,327 linear feet of stream length.

Site Location: The mitigation site includes approximately 60 acres within the 147-acre MDT-owned parcel and a 16-acre easement within the Kootenai National Forest.

Latitude: 48.110423 Longitude: -115.41562 County: Lincoln Nearest Town: Libby, MT Map Included: See Figure 1, page 11

Mitigation Site Construction Started: Fall/2007 Construction Ended: Fall/2011 Dates of Any Recent Corrective or Maintenance Activities (since previous report):

Activity: Weed Spraying **Date:** Forest Service sprayed the northern portion of the mitigation site in July of 2023 to combat orange hawkweed and ox-eye daisy infestations.

Specific recommendations for any additional corrective actions: Weed treatment will continue in 2024. Weed treatments should focus on Canada thistle and ox-eye daisy, which have increased across the site's northern portion since 2021.

Anticipated Wetland Credit Acres: 17.84

Wetland Credit Acres Generated to Date: 28.52

Stream Credits Generated to Date: 35,551

Previous Monitoring Reports: https://www.mdt.mt.gov/publications/brochures/wetland-

mitigation.aspx

Monitoring Period: 5 years from construction completion or until concurrence by US Army Corps of Engineers (USACE).

Requirements (from approved mitigation plan or Department of Army (DA) permit conditions)

Performance Standards: A summary of performance standards, associated success criteria, and 2023 achievement status for the Schrieber Meadows site is provided in Table 1.

Table 1. Summary of Performance Standards

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Wetland Characteristics	Meet the three parameter criteria for hydrology, vegetation, and soils as outlined in the 1987 Wetland Delineation Manual and 2010 Mountains, Valleys, Coast Region.	Y	Areas identified as wetland habitat within the mitigation site meet the three parameter criteria.
Wetland Hydrology	Soil saturation present for at least 12.5 percent of the growing season.	Υ	Areas identified as wetland habitat within the mitigation site exhibit soil saturation for a minimum 12.5 percent of growing season.
	Hydric soil conditions present or appear to be forming.	Υ	Hydric soil characteristics have developed throughout all constructed wetlands.
Hydric Soil	Soil is sufficiently stable to prevent erosion.	Υ	In 2023, disturbed soil was stable and did not exhibit signs of erosion.
	Soil is able to support plant cover.	Υ	Plant cover is well established across disturbed soils.
	Achieved where combined absolute cover of facultative or wetter species is ≥70 percent	Y	Areas identified as wetland habitat within the mitigation site approximately 90% hydrophytic vegetation (OBL, FACW, and FAC).
	Montana State-listed noxious weeds do not exceed 5 percent absolute cover.	Y	State-listed noxious weeds are estimated below 5 percent absolute cover within wetland areas.
	Noxious weeds do not exceed 10 percent cover within the riparian buffer areas.	Y	State-listed noxious weeds are estimated between 3 to 5 percent absolute cover within the riparian buffer.
Hydrophytic Vegetation	Creditable buffer areas must have at least 50 percent aerial cover of non-weed species by the end of the monitoring period.	Υ	Non-weed vegetation consists of greater than 70 percent cover, by a near-monoculture of reed canary grass, within riparian buffer areas.
	Achieved where combined aerial cover of riparian and stream bank vegetation communities is ≥70 percent.	Υ	Riparian and stream bank vegetation communities support greater than 70 percent cover.
	Planted trees and shrubs will be considered successful where they exhibit 50 percent survival after 5 years.	N	Following planting installation, unanticipated high groundwater elevations drowned a majority of plantings by the end of the second growing season. Approximately 2 percent survival was noted in 2023.
Stream Bank Vegetation	Considered successful when banks are vegetated with a majority of deep-rooting riparian plant species having root stability indexes ≥6.	Y	Reed canary grass dominates the stream banks and has a root stability index of 9.
Channel Restoration Success	Revegetation along the new Coyote and Schrieber Creek channel corridors will be considered successful when banks are vegetated with a majority of deeprooting riparian and wetland herbaceous having root stability indexes ≥ 6 and woody plant species.	Y	The majority of stream bank vegetation along the constructed Coyote and Schrieber Creek channel corridors is dominated by reed canary grass, which has a stability rating of 9.
	The intent of the stream restoration is to allow for the stream to naturally migrate within the floodplain and to give it enough room to move and stabilize itself within the site.	Y	The stream has plenty of space within the floodplain for natural migration. The stream currently appears stable with no lateral adjustment observed following construction.

Performance Standards	Success Criteria	Criteria Achieved Y/N	Discussion
Open Water	It is the intent of the project to provide open water during the spring and early summer within excavated depressions. As the growing season progresses and the groundwater levels recede, it is anticipated that vegetation will germinate within the majority of the depressions. Open water with submerged and/or floating vegetation will therefore be considered successful and creditable.	Y	Excavated depressions within the very northern portion of the site experience seasonal drawdown and rooted floating hydrophytic vegetation development has been observed. Those depressions in the southern portion of the site appear to support perennial inundation with an established aquatic macrophyte community.
	Noxious weeds do not exceed 5 percent cover within upland buffer areas.	Y	In 2023, noxious weed cover was less than 5 percent within the upland buffer.
Upland Buffer			Disturbed areas have established greater than 50 percent aerial cover by non-weed species.
Weed Control	Will be based upon annual monitoring of the site to determine weed species and degree of infestation within the site, and control measures based upon the monitoring results will be implemented by MDT to minimize and/or eliminate the intrusion of State Listed Noxious weed species within the site.	Y	State-listed noxious weed species across the site have been monitored and mapped during each post-construction monitoring event. MDT administers an ongoing weed-control program. Weeds were sprayed on site in July 2023. USFS conducted weed spraying in the northern portion of the project to combat infestations of orange hawkweed and ox-eye daisy that emanated from within the forest boundary.

Summary Data

A total of 45.84 acres of wetland and aquatic habitat were delineated within the Schrieber Meadows wetland mitigation site in 2023 (Table 2). This includes 32.56 acres of wetland, 0.34 acres of stream channel, 5.81 acres of open water, and 7.13 acres of stream channel buffer (Table 2).

Table 2. Wetland & Aquatic Habitat Acreage Delineated From 2020 Through 2023

Habitat Type	2020	2021	2022	2023
парісас туре	Acreage	Acreage	Acreage	Acreage
Wetland	31.44	31.20	33.38	32.56
Stream Channel	0.34	0.34	0.34	0.34
Open Water	7.44	6.63	6.47	5.81
Riparian Stream Buffer	8.30	8.30	7.52	7.13
Total Wetland & Aquatic Habitat	47.52	46.47	47.71	45.84

Wetland Delineation – The original wetland delineations conducted in 2004 and 2005, prior to the project's construction, identified four wetland areas totaling approximately 15.56 acres within the mitigation project area. A total of approximately 3.72 acres of mitigation credit were developed in the original pilot project in 2007, involving 2.38 credit acres of wetland creation, 0.75 credit acres of restoration (rehabilitation) of existing wetlands (1.12 acres), and 0.59 credit acres of upland (2.96 acres) buffer around these wetlands. After the second construction phase was completed, the delineation conducted in 2012 mapped a total of 31.44 acres of wetland across the site. A total of 32.56 acres of

wetland were delineated at the site in 2023 (Table 2; see maps in Appendix A). The total wetland acreage delineated in 2023 was a decrease of 1.12 acres from 2022. This decrease in wetland acreage is likely the result of the drought conditions the region was experiencing in 2023, which was evident within the northern and northwestern portions of the site. This portion of the appears to be in flux, as in 2022, this area experienced an increase in wetland acreage.

In 2020, the USACE (N. Green, personal communication, May 6, 2020) provided guidance on open water, defining it as "areas of open water of any depth with less than 5% rooted emergent vegetation, no vegetation, submerged non-rooted vegetation, and/or submerged vegetation rooted in the substrate that does not extend above the water surface." In accordance with this recent USACE guidance, open water accounted for 5.81 acres of the mitigation site in 2023. A beaver dam observed at the outlet of Schrieber Lake from 2019 through 2023, is contributing to a shift in wetland development by increasing perennial inundation across the southern two-thirds of the Schrieber Meadows site. Initially, the elevated water table led to an increase in open water. However, as time has passed, native vegetation such as *Carex* spp. has begun establishing in the open water areas.

Vegetation – A total of 144 plant species have been identified at the site from 2010 through 2023 (Appendix B). No new species were identified in 2023. Three upland and five wetland community types (CT) were identified and mapped at the site in 2023 (Figure A-3, Appendix A). This includes two new upland communities, Upland Type 17 – *Bromus inermis* and Upland Type 18 – *Bromus inermis/Alopecurus* spp. Upland Type 17 largely replaced Upland Type 9 – *Alopecurus spp./Bromus inermis,* which was removed as a CT in 2023. Upland Type 17 largely replaced Upland Type 9 in the site's northern portion due to relatively little *Alopecurus* spp. being observed within the CT in 2023. Upland Type 18 – *Bromus inermis/Alopecurus* spp. replaced Upland Type 9 – *Alopecurus* spp./*Bromus inermis* in the southwestern portion of the site due to a shift in dominance from *Alopecurus* spp. to *Bromus inermis*. Vegetation communities were identified by species composition and dominance. The community composition for each is provided in full detail on the Wetland Mitigation Site Monitoring form (Appendix B), and community boundaries are shown in Figure A-3 (Appendix A).

The vegetation communities identified on site in 2023 include the following:

- Upland Type 8 Elymus repens/Pascopyrum smithii
- Upland Type 17 Bromus inermis
- Upland Type 18 Bromus inermis/Alopecurus spp.
- Wetland Type 3 Phalaris arundinacea
- Wetland / Open Water Type 5 Aquatic Macrophytes/Open Water
- Wetland Type 14 Agrostis capillaris/Phleum pratense
- Wetland Type 15 Typha latifolia/Eleocharis palustris
- Wetland Type 16 Alopecurus spp.

A notable shift in species cover and dominance due to the beaver dam and perennial surface water has been observed within Wetland Type 3 – *Phalaris arundinacea* since 2019. In 2023, inundation levels within Wetland Type 3 were an average of 2-2.5 feet, nearly the same as in 2022. Perennial inundation has continued to increase within this community since 2019, especially around Coyote Creek, the ditch adjacent to Highway 2, and between the excavated depressions. Reed canary grass still dominates, but large patches of the dense monoculture were absent, observed as dead, dying, or floating mats. There was increased cover by native species, such as *Carex* spp., colonizing the open water areas created after 2019. These shifts in cover by reed canary grass, *Carex* spp., and perennial surface water result from more than four years of deep perennial inundation. Extended periods of flooding have been shown to reduce nonnative reed canary grass cover, germination, and rhizome production effectively (Jenkins et

al. 2008; WRCGM 2009; Waggy 2010), which supports a greater diversity of native vegetation. These shifts in species cover and dominance are expected to continue in areas of deep perennial inundation.

Vegetation cover was measured along three belt transects (T-1, T-2, and T-3) in 2023 (Figure A-2, Appendix A). Photographs of the transect endpoints are provided in Appendix C. Table 3 summarizes the data for T-1 from 2012 and 2020 through 2023. T-1 is 318 feet long and intersects Wetland Types 3 – *Phalaris arundinacea* and 5 – Aquatic Macrophytes/Open Water. Wetland Type 3 and Open Water Type 5 accounted for 56.30 and 43.70 percent of the transect, respectively, in 2023. The increase in hydrophytic vegetation cover was due to an increase of *Carex* spp. and other hydrophytes within formerly open water. Total vegetative cover has increased by five percent since 2022. This transect has not intersected an upland area since 2010.

Table 3. Data Summary for T-1 From 2012 and 2010 through 2023 at the Schrieber Meadows Site

Monitoring Year	2012	2020	2021	2022	2023
Transect Length (feet)	318	318	318	318	318
Vegetation Community Transitions Along Transect	7	6	6	5	5
Vegetation Communities Along Transect	3	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	1	1	1	1
Total Vegetative Species	32	10	7	7	12
Total Hydrophytic Species	22	10	7	7	12
Total Upland Species	10	0	0	0	0
Estimated % Total Vegetative Cover	75	45	45	40	45
Estimated % Unvegetated	25	55	55	60	55
% Transect Length Comprising Hydrophytic Vegetation Communities	62	34.3	34.3	34.3	56.30
% Transect Length Comprising Upland Vegetation Communities	13	0	0	0	0
% Transect Length Comprising Open Water with Aquatic Macrophytes	25	65.7	65.7	65.7	43.70

Data collected on T-2 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 4. T-2 is 594 feet long and alternates between Wetland Type 3 – *Phalaris arundinacea*, Wetland Type 14 – *Agrostis capillaris/Phleum pratense*, Wetland Type 15 – *Typha latifolia/Eleocharis palustris*, Wetland Type 16 – *Alopecurus* spp., and Upland Type 17 – *Bromus inermis*. Hydrophytic vegetation communities comprised 80.64 percent of the transect, a decrease of 19.36 percent since 2022 due to an increase in uplands in the site's northern portion. The total vegetative cover was estimated at 65 percent, consistent with that observed in 2022.

T-3 begins near constructed wetland Cell 8 along the Middle Coyote Creek reach and extends east 440 feet to the edge of the former Coyote Creek channel along the eastern site boundary. The data recorded on T-3 (Wetland Mitigation Site Monitoring form, Appendix B) are summarized in Table 5. The transect intervals alternated between Wetland Types 3 – *Phalaris arundinacea* and 5 – Aquatic macrophytes/Open Water. Wetland Type 3 and Wetland/Open Water Type 5 accounted for 79 and 21 percent of the transect, respectively, in 2023. The increase in hydrophytic vegetation communities was due to the reduction in open water along the transect, which was replaced by hydrophytic species. In 2023, Wetland/Open Water Type 5 met the recent USACE definition of open water.

Table 4. Data Summary for T-2 From 2012 and 2020 through 2023 at the Schrieber Meadows Site

Monitoring Year	2012	2020	2021	2022	2023
Transect Length (feet)	594	594	594	594	594
Vegetation Community Transitions Along Transect	16	8	8	8	8
Vegetation Communities Along Transect	3	4	4	4	5
Hydrophytic Vegetation Communities Along Transect	3	4	4	4	4
Total Vegetative Species	23	29	33	33	35
Total Hydrophytic Species	17	24	30	30	30
Total Upland Species	9	5	3	3	5
Estimated % Total Vegetative Cover	60	65	65	65	65
Estimated % Unvegetated	40	35	35	35	35
% Transect Length Comprising Hydrophytic Vegetation Communities	59.1	100	100	100	80.64
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	19.36
% Transect Length Comprising Open Water with Aquatic Macrophytes	40.9	0	0	0	0
% Transect Length Comprising Mudflat	0	0	0	0	0

Table 5. Data Summary for T-3 From 2012 and 2020 through 2023 at the Schrieber Meadows Site

Monitoring Year	2012	2020	2021	2022	2023
Transect Length (feet)	440	440	440	440	440
Vegetation Community Transitions Along Transect	4	4	4	4	2
Vegetation Communities Along Transect	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	2	2	2	1	1
Total Vegetative Species	9	13	9	9	9
Total Hydrophytic Species	7	13	9	9	9
Total Upland Species	2	0	0	0	0
Estimated % Total Vegetative Cover	50	50	50	45	55
Estimated % Unvegetated	50	50	50	55	45
% Transect Length Comprising Hydrophytic Vegetation Communities	53	53.4	52.5	49.5	79
% Transect Length Comprising Upland Vegetation Communities	0	0	0	0	0
% Transect Length Comprising Open Water with Aquatic Macrophytes	47	46.6	47.5	50.5	21

Weeds - During the July 2023 monitoring event, 30 occurrences of Priority 2B noxious weed species were mapped at the site, including Canada thistle (*Cirsium arvense*) and ox-eye daisy (*Leucanthemum vulgare*). Three occurrences of orange hawkweed (*Hieracium aurantiacum*), a Priority 2A noxious weed in Montana, were also mapped. Noxious weed infestations occurred in areas less than 0.1-acre and were present in wetland and upland habitats (Figure A-3, Appendix A). Most noxious weed infestations were found in upland and wetland habitats north of the access road. Canada thistle continues to be the most prominent weed within the site, and a significant increase in ox-eye daisy was observed in the northwest corner of the property around Cell 1 in 2023, continuing a trend observed in 2022. Overall, noxious weed cover across the site was estimated to be below five percent in 2023. Annual weed spraying efforts have effectively reduced infestation size and cover of noxious weed populations across the site to meet the success criteria outlined in the performance standards. The Montana Department of Transportation has an ongoing weed-control program, which will continue in 2024.

A total of 1,000 speckled alders (*Alnus incana*) and 750 willows (*Salix* spp.) were planted along the newly constructed stream channel and wetland cells in the northern third of the site. In 2023, 37 live plants were observed across the mitigation site, indicating approximately two percent survival. No willow (*Salix* spp.) plantings were observed during the 2023 monitoring event. The 37 surviving speckled alder plantings appeared stunted and had poor vigor due to aggressive competition from reed canary grass and perennial deepwater conditions. Balsam poplar (*Populus balsamifera*) volunteers were observed growing around the edges of some excavated wetland cells in the project area north of the access road, along with speckled alder and one Bebb's willow (*Salix bebbiana*) volunteer.

Hydrology – During the 2023 investigation approximately 65% of the site was inundated, which is a slight reduction in inundation from 2022, likely due to drought. The average surface water depth within the inundated areas was estimated at 1.5 feet, with a range of depths from 0 to 5 feet, necessitating the use of kayaks in some areas to complete the 2023 monitoring. Open water accounted for 5.81 acres in 2023, The deepest standing water is located within excavated cells south of the access road, within Coyote Creek, and the former Coyote Creek channel along the east project boundary. The surface-water depth at the emergent vegetation and open-water boundary was estimated at two feet, the same as in 2022. The southern two-thirds of the site was inundated and/or saturated because of the reconstructed Coyote Creek channel, abundant surface water from beaver activity, and groundwater flowing through the valley. The high surface water elevations observed on-site result from past restoration efforts to plug existing drainage ditches and channels, the subsidence of histosol soil elevations over time, and the beaver dam located at the outlet of Schrieber Lake.

The area north of the access road was dryer in 2023 than in 2022, as evidenced by the decrease in wetland acreage in this area. This same area saw an increase in wetland acreage in 2022, indicating that the wetlands in this area are marginal and highly influenced by precipitation. All excavated wetland cells contained surface water or were saturated to the soil surface. The upper portion of the Coyote Creek channel was dry in July 2023, which is typical for an ephemeral stream channel located above the main hydrologic spring source for Coyote Creek and just upstream of the site's access road. The spring provides the primary perennial source of hydrology to Coyote Creek downstream of this location. Direct precipitation also contributes to wetland hydrology, but the high groundwater table is the primary water source across the site. Precipitation accumulation for this area in 2023 was 7.36 inches from January through July, significantly less than the 11.52 inches reported for the same time in 2022 and less than the historical average of 9.35 inches (NRCS 2023). The reduction in precipitation in 2023 was a contributing factor in the loss of wetland acreage in the northern portion of the project area.

Soils – Soil test pits were excavated at ten locations to evaluate the extent of hydric soil development across the site in 2023 (Appendices A and B). Soil textures within wetland test pits ranged from loamy sand to silty clay. Hydric soil indicators were observed in wetland test pits, including redox dark surface, thick dark surface, histic epipedon, loamy gleyed matrix, and depleted matrix. Soil textures within upland test pits ranged from loamy sand to silty clay loam. Many upland soil pits contained unusual soils with a low chroma and high value that could meet the definition of a depleted matrix. They also had a very fine texture resembling corn starch. Upland plants generally dominated these areas and did not contain wetland hydrology, indicating these upland soils contained volcanic ash deposits and not from hydric soil development. Additional field observations for the upland data points are provided in the Corps wetland determination data forms for the Western Mountains, Valleys, and Coast Region in Appendix B.

Photographs — Ten photo points were established within the pilot project, including three constructed cells, initially monitored in 2010. A total of 20 photo points were established in 2012 in response to the increased project area scope and size, including the reestablishment of photo point 7 from its original 2010 location. In addition to established photo points, photographs were taken at each surveyed stream cross-section, sampled data points, and vegetation transect endpoints. Photo point locations are

illustrated in Figure A-2 (Appendix A) and the photographs are provided in Appendix C. Please refer to previous years Schrieber Meadows Mitigation monitoring reports for all previous annual photographs at the MDT website: (https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx).

Functional Assessment – The 2008 MDT Montana Wetland Assessment Method (MWAM) functional assessment results for 2023 are summarized in Table 6. Three separate Assessment Areas (AAs) were used to evaluate the site: Creation AA, Enhancement AA, and Restoration AA. Completed functional assessment forms for all three AAs are provided in Appendix B. All wetlands within the Schrieber Meadows site rate as Category I wetlands. Functional scores and ratings have remained nearly constant since 2015. All AAs received high or exceptional ratings for many assessment parameters, including Listed/Proposed Threatened & Endangered Species Habitat, due to the documentation of grizzly bears on the site in recent years. Other high and/or exceptional functions include General Wildlife Habitat, Short- and Long-Term Surface-Water Storage, Sediment/Nutrient/Toxicant Removal, Sediment/Shoreline Stabilization, Production Export/Food Chain Support, and Groundwater Discharge/Recharge.

Table 6. Montana Wetland Assessment Method Summary for Schrieber Meadows Site

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	2023 Enhancement AA	2023 Creation AA	2023 Restoration AA
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	High (0.8)	High (0.8)	High (0.8)
Montana Natural Heritage Program Species (MTNHP) Habitat	High (0.9)	High (0.9)	High (0.9)
General Wildlife Habitat	Exc (1.0)	Exc (1.0)	Exc (1.0)
General Fish/Aquatic Habitat	Low (0.2)	Mod (0.6)	NA
Flood Attenuation	Mod (0.5)	Mod (0.5)	Mod (0.5)
Short- and Long-Term, Surface-Water Storage	High (1.0)	High (1.0)	High (0.8)
Sediment/Nutrient/Toxicant Removal	High (1.0)	High (0.9)	Mod (0.6)
Sediment/Shoreline Stabilization	High (1.0)	High (1.0)	High (1.0)
Production Export/Food Chain Support	High (0.9)	Exc (1.0)	Exc (1.0)
Groundwater Discharge/Recharge	High (1.0)	High (1.0)	High (1.0)
Uniqueness	Mod (0.4)	Mod (0.4)	Mod (0.4)
Recreation/Education Potential (bonus points)	High (0.2)	High (0.2)	High (0.2)
Actual Points/Possible Points	8.9/11	9.3/11	8.2/10
% of Possible Score Achieved	82%	86%	82%
Overall Category	I	ı	I

Wildlife — Fifteen bird species were identified in 2023. The two bird boxes installed at the site are functional and appear to have been used for nesting in 2023. Herptile observations included Columbia spotted frogs (*Rana luteiventris*) within many of the excavated wetland cells, garter snakes (*Thamnophis sirtalis*), and an unidentified turtle species (most likely Western painted turtles observed in the past on both Schrieber sites). Mammal observations at the site included Columbian ground squirrels (*Urocitellus columbianus*), white-tailed deer (*Odocoileus virginianus*), muskrat (*Ondatra zibethicus*), and one elk (*Cervus canadensis*) carcass. Fish species observed include bluegill (*Lepomis macrochirus*), brook trout (*Salvelinus fontinalis*), and smallmouth bass (*Micropterus dolomieu*).

Stream Monitoring – The survey results for 11 permanent cross-sections established along the constructed Coyote Creek (Figure A-2, Appendix A) are shown in Appendix D. The 2023 data was

compared to the previous surveys and discussions to assess stream channel stability. Generally, the constructed channel's banks were well-vegetated and exhibited stable conditions. Consequently, no major channel morphological changes have been observed throughout the monitoring years.

Credit Summaries

Stream Credits - Completely restoring sinuosity and stream length to Coyote Creek was intended to create a new channel length of approximately 7,756 linear feet, which is an overall increase of 3,327 linear feet from the previously channelized length of 4,429 linear feet. As part of the Montana Stream Mitigation Procedure (USACE, 2010), riparian and stream credits are added together to calculate the total stream mitigation credits (Table 7).

Table 7. Determination of Stream Mitigation Credits for the Schrieber Meadows Site

Factors	Upper Coyote Creek (USFS)	Coyote Creek Spring Area	Middle Coyote Creek (MDT)	Perennial Spring Channel	Lower Coyote Creek ^(b)		
Net Improvement	2.50	0.00	2.50	2.50	2.50		
Stream Status	0.05	0.05	0.05	0.05	0.05		
Type of Protection	0.20	0.20	0.20	0.20	0.20		
Mitigation Timing	0.10	0.10	0.10	0.10	0.10		
Comparative Stream Order	0.20	0.20	0.20	0.20	0.20		
Location	0.10	0.10	0.10	0.10	0.10		
Sum of Factors (M)	3.15	0.65	3.15	3.15	3.15		
Linear Feet (L)	1,752	190	3,179	400	2,425		
Total Stream Credits (M × L)	5,519	123	10,014	1,260	7,639		
Total Stream Credits ^(a) = 24,555							
Total Mitigation Credits (Riparian	+ Stream) = 10,9	96 + 24,555 =	35,551				

- (a) Credits were calculated using the Montana Stream Mitigation Procedure [USACE, 2010].
- (b) Lower Coyote Creek was formerly Merged Coyote/Schreiber Creek channel in mitigation plan.

Wetland Credits - The pilot project, constructed in 2007, generated approximately 3.72 mitigation credit acres, including 2.38 credit acres of wetland creation, 0.75 credit acre for restoration (rehabilitation) of existing wetlands (1.12 acres restored), and 0.59 credit acre of upland buffer (2.96 acres maintained) around the wetlands. The pilot project was integrated into the larger Schrieber Meadows mitigation project constructed in 2011. Table 8 provides the credits generated at the Schrieber Meadows site for the approximately 60-acre, full-scale project and incorporates the original pilot Schrieber Meadows mitigation project.

A total of 32.56 acres of wetland habitat were delineated at the Schrieber Meadows site in 2023, including 23.44 acres of creation, 2.35 acres of restoration, and 6.77 acres of enhancement (Table 8). A total of 44.94 acres, including 6.65 acres of upland buffer, -0.08-acre project impacts, and 5.81 acres of open water, were used to calculate the mitigation credit acres. In accordance with the USACE-approved performance standard for this site, open water areas with submerged and/or floating vegetation will be considered successful and creditable. The open water areas at the site are considered successful and creditable as they exhibited less than 5% emergent vegetation and a diversity of submerged and floating aquatic macrophytes. After applying the USACE-approved ratios to these values, a total of 28.52 mitigation credit acres have been estimated in 2023, which is 11.28 credit acres more than the targeted 17.24 credit acres originally planned for this site.

Table 8. Summary of Wetland Mitigation Credits at the Schrieber Meadows Site from 2013 and 2022-2023

Mitigation Type	Total Proposed Acreage	Ratio	Proposed Credit Acres	2013 Delineated Acreage	2013 Credit Acres	2022 Delineated Acreage	2022 Credit Acres	2023 Delineated Acreage	2023 Credit Acres
Creation – USFS/MDT Property	8.91	1:1	8.91	22.43	22.43	24.67	24.67	23.44	23.44
Restoration on USFS/MDT Property	3.46	1.5:1	2.31	3.46	2.31	2.35	1.57	2.35	1.57
Enhancement of Wetlands Inside Geotechnical Limits Adjacent to US Highway 2 (MDT/USFS)	13.22	3:1	4.41	13.22	4.41	6.36	2.12	6.77	2.26
Upland Buffera	8.50	5:1	1.70	12.39	2.48	4.85	0.97	6.65	1.33
Project Impacts	-0.08	None	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08	-0.08
Open Water ^b	N/A	TBD ^(b)	N/A			6.47	TBD ^(b)	5.81	TBD(b)
Total Mitigation Acreage	34.01		17.24	51.42	31.54	44.62	29.25	44.94	28.52

^a Acreage includes 50-foot buffer around wetlands within MDT and USFS property and outside of the riparian buffer.

Functional Unit Crediting Summary – The 2023 functional units are summarized in Table 9. A total of 250.97 functional units were generated at the Schrieber Meadows site after applying the appropriate mitigation ratios to the 2023 wetland acreage and multiplying that value by the points generated from each the three MWAM assessment areas.

Table 9. Functional Unit Crediting Summary for Schrieber Meadows

Mitigation Type	2023 Delineated Acreage	Ratio	2023 Mitigation Credit Acres	MWAM Actual Points	Functional Units
Creation – USFS/MDT Property	23.44	1:1	23.44	9.3	217.99
Restoration on USFS/MDT Property	2.35	1.5:1	1.57	8.2	12.87
Enhancement of Wetlands Inside Geotechnical Limits Adjacent to US Highway 2 (MDT/USFS)	6.67	3:1	2.26	8.9	20.11
Upland Buffer	6.65	5:1	1.33	TBD	-
Open Water	5.81	TBD	TBD	TBD	_
Functional Units (Mitigation Credit Acres × Actual Points)					250.97

^b Mitigation ratios and crediting for Open Water are To Be Determined (TBD).

Maps, Plans, Photos

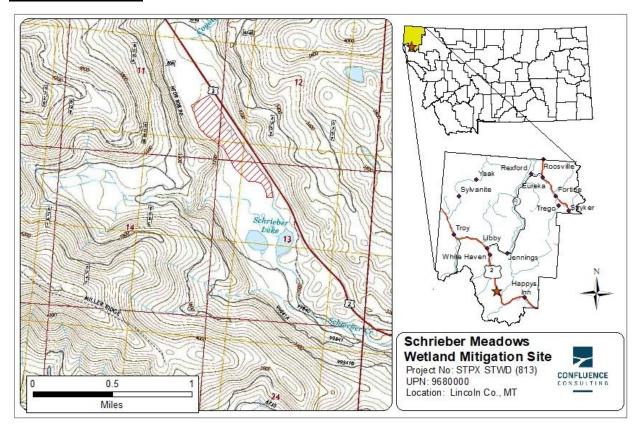


Figure 1. Site Location Map

Project Area Maps/Figures: See Appendix A (Figure A-2 – 2023 Monitoring Activity Locations; Figure A-3 – 2023 Mapped Site Features; Figure A-4 – 2023 Wetland Delineation)

Data Forms: See Appendix B (Site Monitoring form, USACE data forms, MWAM forms, and plant list)

Photos: See Appendix C

Plans: See Appendix D of 2012 Schrieber Meadows Wetland Monitoring Report found at this website

link: https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx

Conclusions

Based on the results of the thirteenth year of monitoring, the mitigation site is continuing to develop into a diverse wetland ecosystem and is exceeding mitigation credit expectations. The site is meeting all performance standards except for the following:

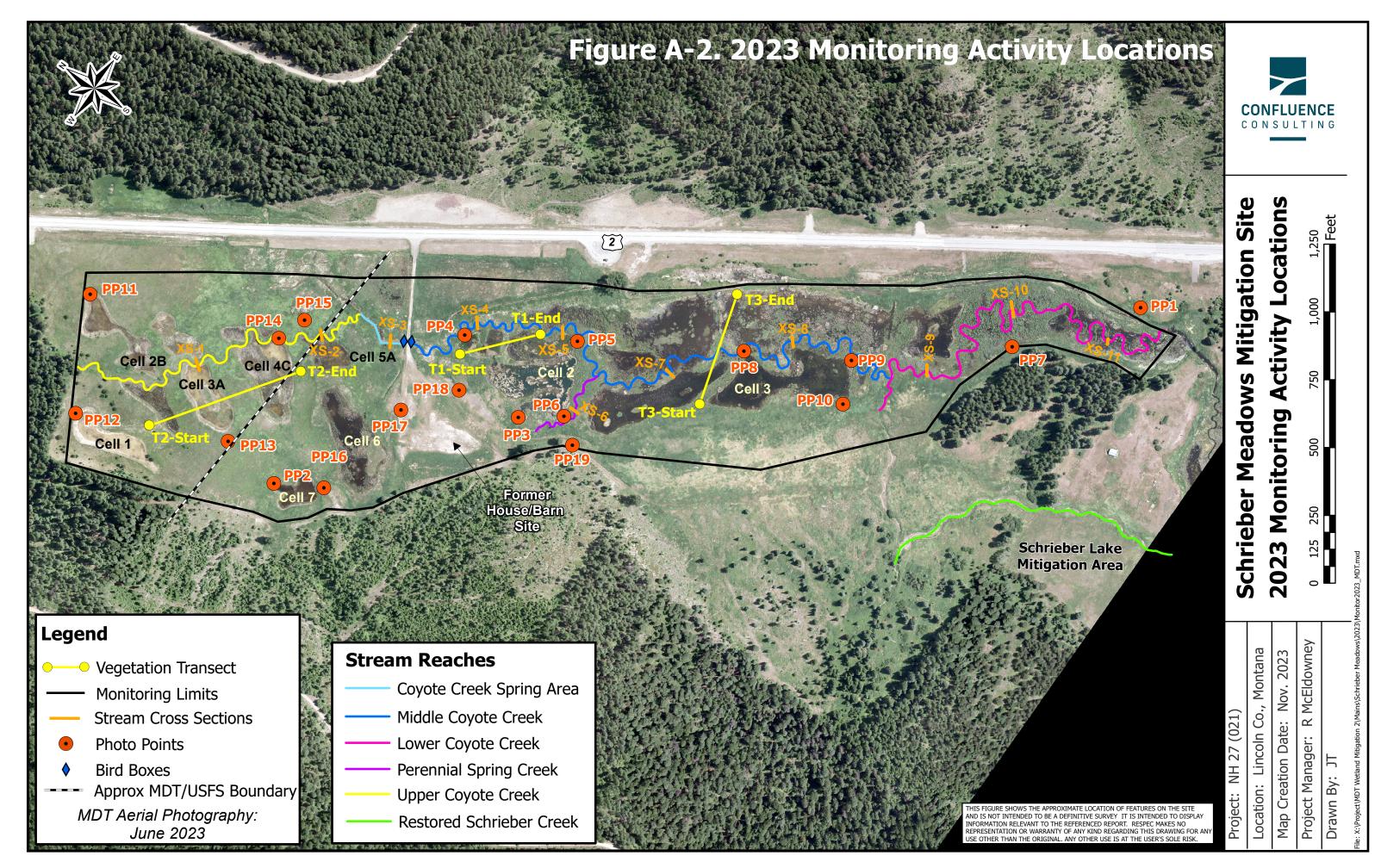
- 1. Riparian Buffer Success: Woody and riparian vegetation is established.
 - a. Woody vegetation along the reconstructed stream channels has been slow to develop due to perennial deepwater conditions and aggressive competition from RCG.
- 2. Planted trees and shrubs will be considered successful when they exhibit 50 percent survival after 5 years.
 - a. Woody plant survival is not expected to meet this performance standard.

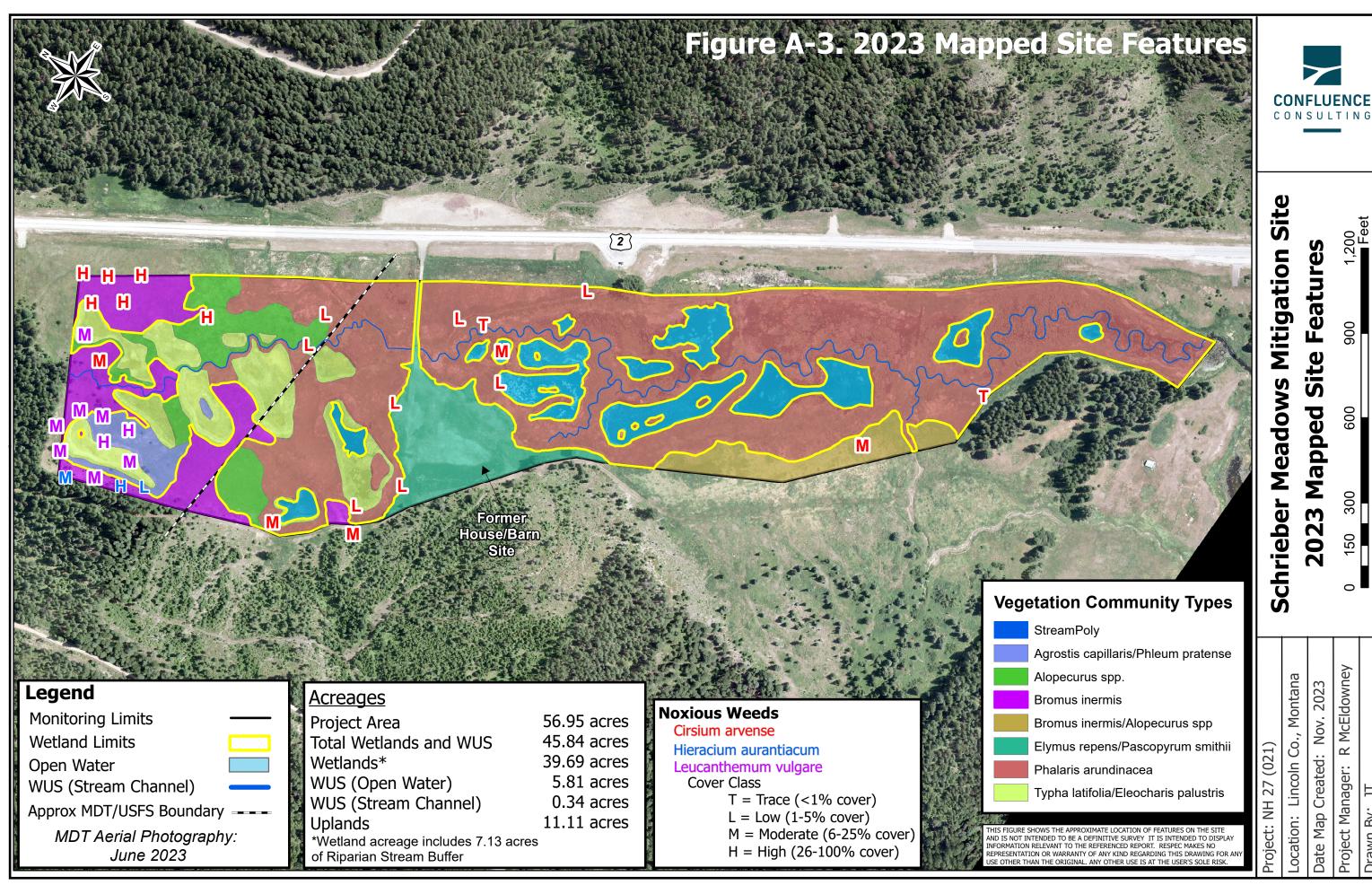
References

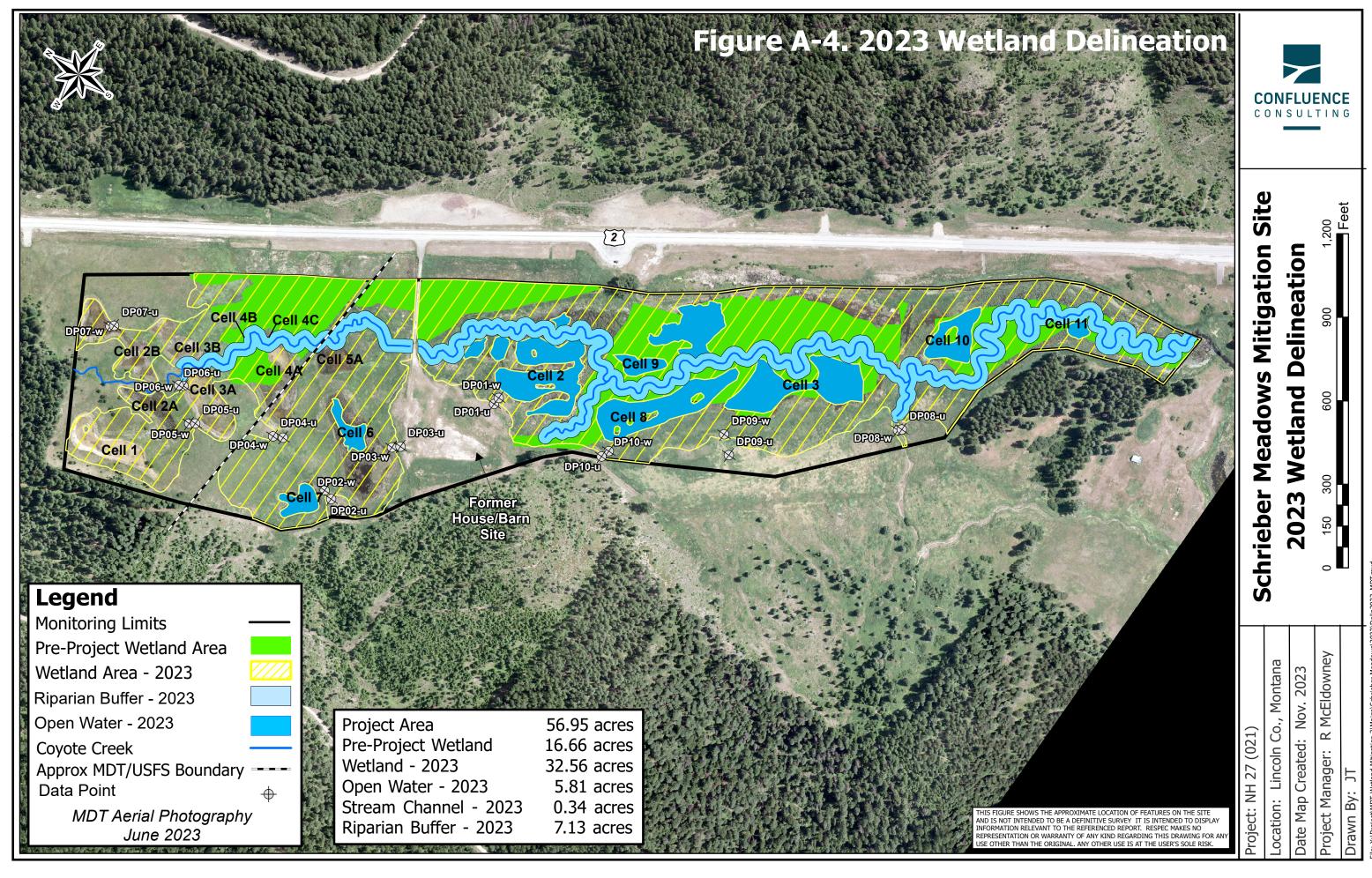
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APPENDIX A PROJECT AREA MAPS

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana







APPENDIX B MONITORING FORMS

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana

MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Schrieber Meadows Assessment Date/Time	7/11/2023
Person(s) conducting the assessment: J Trilling, S Weyant, M Hickey, K Lauver	
Weather: 75 degrees, partly cloudy, clear Location: Highway 2, Swamp Creek East	
MDT District: Missoula Milepost: 53.5	
Legal Description: T <u>27N</u> R <u>30W</u> Section(s) 11, 12, 13	
Initial Evaluation Date: 8/29/2010 Monitoring Year: 13 #Visits in Year: 1	
Size of Evaluation Area: 57 (acres)	
Land use surrounding wetland: US Highway 2, US Forest Service, forested watershed	
HYDROLOGY	
Surface Water Source: Coyote Creek spring, Precipitation, Groundwater	
Inundation: Average Depth:1.5 (ft) Range of Depths:0-5 (ft)	
Percent of assessment area under inundation:65 %	
Depth at emergent vegetation-open water boundary:2 (ft)	
If assessment area is not inundated then are the soils saturated within 12 inches of surface:Ye	es
Other evidence of hydrology on the site (ex. – drift lines, erosion, stained vegetation, etc <u>:</u>	
Surface water, saturation, high water table, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test.	
Groundwater Monitoring Wells	
Record depth of water surface below ground surface, in feet.	
Additional Activities Checklist:	
Map emergent vegetation-open water boundary on aerial photograph.	
Observe extent of surface water during each site visit and look for evidence of past surface water	
elevations (drift lines, erosion, vegetation staining, etc.)	
Use GPS to survey groundwater monitoring well locations, if present.	
łydrology Notes:	
Water depths in 2023 were very similar to 2022 in the southern 2/3 of the site, where excavated depressions and surrounding area had water depths ranging from 2-4 feet. Cells in the norther of the site had lower water depths than 2022, ranging from 0 to 1 feet. Region has been a prolonged drought since late 2022.	

VEGETATION COMMUNITIES

Site Schrieber Meadows

(Cover Class Codes $\mathbf{0} = < 1\%$, $\mathbf{1} = 1-5\%$, $\mathbf{2} = 6-10\%$, $\mathbf{3} = 11-20\%$, $\mathbf{4} = 21-50\%$, $\mathbf{5} = >50\%$)

Community # 3 Community Type: Phalaris arundinacea / Acres: 30.19

Species	Cover class	Species	Cover class
Alnus incana	0	Alopecurus arundinaceus	1
Alopecurus pratensis	1	Bare Ground	0
Calamagrostis canadensis	1	Carex athrostachya	1
Carex lasiocarpa	0	Carex nebrascensis	1
Carex stipata	1	Carex utriculata	1
Cirsium arvense	1	Eleocharis palustris	1
Epilobium brachycarpum	0	Epilobium ciliatum	1
Glyceria grandis	0	Juncus tenuis	0
Lemna minor	1	Mimulus guttatus	1
Open Water	3	Persicaria amphibia	1
Phalaris arundinacea	5	Scirpus microcarpus	1

Comments:

Dominant wetland community type observed across the site. Water depths within the CT were 0.5-3 feet south of the access road and 0-1 foot in the north of the road. Since water levels have increased in 2019, reed canary grass has been expanding outwards due to higher groundwater levels. However, in 2023 within the perennially inundated areas where reed canary grass has been observed braking up into floating mats in the past, more Carex spp. and other Obligate species were observed replacing the once dominant reed canary grass.

Community # 5 Community Type: Aquatic macrophytes / Open Water Acres: 5.81

Species	Cover class	Species	Cover class
Algae, brown	2	Algae, green	2
Alnus incana	0	Aquatic macrophytes	2
Carex athrostachya	0	Carex nebrascensis	0
Carex utriculata	0	Chara sp.	2
Eleocharis palustris	0	Epilobium brachycarpum	0
Glyceria grandis	0	Lemna minor	0
Mimulus guttatus	0	Open Water	5
Persicaria amphibia	1	Phalaris arundinacea	1
Sparganium natans	0	Typha latifolia	1

Comments:

Areas dominated by an average of 2-5 feet of standing water, less than 5% emergent wetland vegetation, and a diversity of submergent/floating aquatic macrophytes. Open water acreage decreased slightly from 2022 due to more Obligate plant species taking root where reed canary grass was drowned out since the water levels rose in 2019.

Community #	8 Community	/ Type:	Elymus repens / Pascopyrum smithii	Acres:	3.9
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Species	Cover class	Species	Cover class
Achillea millefolium	1	Alopecurus pratensis	1
Bare Ground	4	Bromus briziformis	1
Bromus inermis	1	Bromus tectorum	2
Descurainia pinnata	1	Elymus repens	2
Elymus trachycaulus	2	Fragaria virginiana	0
Medicago lupulina	2	Pascopyrum smithii	2
Sisymbrium altissimum	1	Verbascum thapsus	1
Comments:			

Upland community type that runs along the access road that bisects the property. This community appears to have been seeded with a native grass seed mix but also contains some non-native forbs.

Community # 14 Community Type: Agrostis capillaris / Phleum pratense Acres: <u>1.23</u>

Species	Cover class	Species	Cover class
Agrostis capillaris	4	Agrostis stolonifera	1
Alopecurus pratensis	1	Bare Ground	1
Bromus inermis	2	Carex athrostachya	1
Cirsium arvense	0	Dactylis glomerata	0
Equisetum arvense	0	Equisetum arvense	0
Festuca rubra	1	Hieracium aurantiacum	0
Juncus confusus	1	Juncus tenuis	1
Leucanthemum vulgare	2	Phalaris arundinacea	2
Phleum pratense	2	Picea engelmannii	0
Pinus contorta	0	Pinus ponderosa	0
Populus balsamifera	0	Pseudotsuga menziesii	0
Rosa woodsii	0	Symphyotrichum spathulatur	n 0
Comments:			

Comments:

Wetland community type located in northwest corner of site. This CT decreased in size in 2023 due a decrease in wetlands in this area, likely due to the drought in the region.

Community #	15	Community Type:	Typha latifolia / Eleocharis	palustris Acres:	5.41
-------------	----	-----------------	------------------------------	------------------	------

Species	Cover class	Species	Cover class
Achillea millefolium	0	Agrostis capillaris	1
Alisma triviale	1	Alnus incana	0
Alopecurus arundinaceus	1	Alopecurus pratensis	1
Bare Ground	1	Beckmannia syzigachne	0
Carex aquatilis	1	Carex athrostachya	1
Carex bebbii	0	Carex nebrascensis	0
Carex pellita	1	Carex stipata	1
Carex vesicaria	1	Chara sp.	1
Eleocharis palustris	2	Epilobium ciliatum	1
Glyceria grandis	1	Glyceria striata	1
Juncus bufonius	0	Juncus confusus	1
Juncus nodosus	1	Juncus tenuis	0
Leucanthemum vulgare	1	Mentha arvensis	1
Open Water	3	Persicaria amphibia	1
Phalaris arundinacea	1	Polypogon monspeliensis	0
Populus balsamifera	1	Potamogeton natans	1
Salix bebbiana	0	Scirpus cyperinus	0
Scirpus microcarpus	1	Trifolium pratense	1
Typha latifolia	4	Veronica scutellata	1

Located northwest of access road that bisects the property in excavated depressions. Surface water depths ranged from 0-1 feet in 2023. This area was noticeably drier in 2023 than in 2022. Many of the excavated cells were completely dry during the 2023 site visit. Volunteer Populus balsamifera and Alnus incana seedlings observed around margins of depressions and this CT.

Community # 16 Community Type: Alopecurus spp. / Acres: 3.13

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	5	Alopecurus pratensis	2
Arnica chamissonis	1	Bromus inermis	1
Carex athrostachya	1	Cirsium arvense	1
Elymus lanceolatus	1	Elymus repens	2
Phalaris arundinacea	1	Potentilla gracilis	1
Senecio hydrophiloides	1	Stellaria longipes	0

Comments:

This is a new CT in 2022 created in the northern portion of the project area in areas that were newly classified as wetlands in 2022. These areas were formerly CT 9, a similar upland community, but lacked a significant Bromus inermis component.

Community #	17	Community Type:	Bromus inermis /	Acres: 5.	.06
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Species	Cover class	Species	Cover class
Achillea millefolium	1	Agropyron trachycaulum	2
Agrostis capillaris	2	Alopecurus arundinaceus	2
Alopecurus pratensis	3	Arnica chamissonis	1
Bare Ground	0	Bromus carinatus	1
Bromus inermis	5	Cirsium arvense	1
Dactylis glomerata	1	Elymus repens	1
Mahonia repens	0	Penstemon confertus	1
Phalaris arundinacea	1	Phleum pratense	1
Poa pratensis	1	Senecio hydrophiloides	1
Taraxacum officinale	1		

New upland community created in 2023 that largely replaced the Alopecurus spp./Bromus inermis CT. This CT is located in the northern portions of the project area where the area has repeatedly transitioned from wetlands to uplands and back again.

Community # 18 Community Type: Bromus inermis / Alopecurus spp. Acres: 2.14

Species	Cover class	Species	Cover class
Agrostis capillaris	0	Alopecurus arundinaceus	2
Alopecurus pratensis	2	Bromus inermis	3
Carex microptera	1	Cirsium arvense	1
Elymus lanceolatus	2	Elymus repens	1
Phalaris arundinacea	2	Phleum pratense	0
Poa pratensis	2		

Comments:

This community type created in 2023 to characterize vegetation in the uplands located in the southwest portion of the site which are significantly different than the uplands at the northern portion of the site.

Total Vegetation Community Acreage

56.87

VEGETATION TRANSECTS

Schrieber Meadows	Da	ate: 7/11/2023	
Transect Number	Compa	ss Direction from Sta	art: <u>112</u>
Interval Data:			
Ending Station	18 Community Type:	Phalaris arundinacea /	
Species	Cover class	Species	Cover clas
Epilobium brachycarpum	1	Persicaria amphibia	
Phalaris arundinacea	5		
Ending Station	55 Community Type:	Aquatic macrophytes / Ope	n Water
Species	Cover class	Species	Cover clas
Algae, green	1	Alnus incana	(
Epilobium brachycarpum	1	Lemna minor	
Mimulus guttatus	0	Open Water	
Persicaria amphibia	1	Phalaris arundinacea	
Ending Station	80 Community Type:	Phalaris arundinacea /	
Species	Cover class	Species	Cover clas
Cirsium arvense	2	Epilobium brachycarpum	
Mimulus guttatus	1	Open Water	
Phalaris arundinacea	5		
Ending Station	155 Community Type:	Aquatic macrophytes / Ope	n Water
Species	Cover class	Species	Cover clas
Algae, brown	1	Aquatic macrophytes	
Lemna minor	0	Open Water	
Persicaria amphibia	1	·	
Ending Station	188 Community Type:	Phalaris arundinacea /	
Species	Cover class	Species	Cover clas
Alnus incana	1	Carex aquatilis	
Lemna minor	1	Mimulus guttatus	
Lemna minor Open Water	1 3	Mimulus guttatus Persicaria amphibia	

Ending Station	215 Community Type:	Aquatic macrophytes / Open	Water
Species	Cover class	Species	Cover class
Algae, brown	0	Algae, green	1
Aquatic macrophytes	2	Carex vesicaria	2
Epilobium brachycarpum	1	Lemna minor	1
Mimulus guttatus	1	Open Water	5
Persicaria amphibia	1	Phalaris arundinacea	1
Ending Station	318 Community Type:	Phalaris arundinacea /	
Species	Cover class	Species	Cover class
Epilobium brachycarpum	1	Glyceria grandis	1
Open Water	3	Phalaris arundinacea	5
Sparganium natans	1	Typha latifolia	1

Transect Notes:

Open water covered most of the surface area in 2023 as it did in 2022. Water depths were similar to 2022 and ranged from 0.5 to 5 feet.

Interval Data: Ending Station Agrostis capillaris / Phleum pratense 35 Community Type: Cover class **Cover class Species Species** Agrostis capillaris 5 0 Antennaria microphylla Bare Ground 0 Bromus inermis 1 2 Carex microptera cerastium sp. 1 Equisetum arvense Juncus confusus 1 2 Leucanthemum vulgare 2 Juncus tenuis Phleum pratense 1 Prunella vulgaris 0 Schedonorus pratensis **Ending Station** Typha latifolia / Eleocharis palustris 105 Community Type: **Species** Cover class **Species** Cover class Agrostis stolonifera 0 Carex nebrascensis 1 Carex pellita 3 Carex vesicaria 2 Eleocharis palustris 1 Glyceria grandis 0 Juncus ensifolius Juncus tenuis Open Water 3 Phalaris arundinacea Scirpus microcarpus Typha latifolia **Ending Station** Alopecurus pratensis / 168 Community Type: **Species** Cover class **Species** Cover class Agrostis stolonifera 2 Alopecurus pratensis 3 Arnica chamissonis 1 Bromus inermis 0 Carex microptera 2 Carex nebrascensis 0 Carex vesicaria 4 Epilobium ciliatum Equisetum arvense 0 Leucanthemum vulgare 0 Phalaris arundinacea **Ending Station** 219 Community Type: Typha latifolia / Eleocharis palustris **Species** Cover class **Cover class Species** 0 Achillea millefolium Agrostis capillaris 1 Bare Ground 3 Alopecurus pratensis 1 2 Carex nebrascensis 1 Eleocharis palustris Epilobium ciliatum 0 Gnaphalium palustre 0 Juncus tenuis 1 Leucanthemum vulgare 0 Phalaris arundinacea Polypogon monspeliensis Populus balsamifera 0 Typha latifolia 4

Compass Direction from Start:

Transect Number:

100

Ending Station	250	Community Type:	e: Agrostis capillaris / Phleum pratense	
Species		Cover class	Species	Cover class
Agrostis capillaris		2	Bare Ground	2
Bromus inermis		4	Carex microptera	1
Fragaria virginiana		0	Leucanthemum vulgare	1
Penstemon confertus		1		
Ending Station	295	Community Type:	Typha latifolia / Eleocharis pa	alustris
Species		Cover class	Species	Cover class
Achillea millefolium		0	Agrostis capillaris	0
Alopecurus arundinaceus		1	Bare Ground	2
Beckmannia syzigachne		2	Carex atherodes	0
Carex nebrascensis		1	Eleocharis palustris	3
Epilobium ciliatum		0	Gnaphalium palustre	1
Juncus tenuis		1	Leucanthemum vulgare	0
Phalaris arundinacea		1	Populus balsamifera	1
Rosa woodsii		1	Typha latifolia	4
Ending Station	410	Community Type:	Bromus inermis /	
Species		Cover class	Species	Cover class
Agrostis capillaris		1	Alopecurus pratensis	3
Arnica chamissonis		0	Bare Ground	0
Bromus inermis		5	Carex microptera	1
Cerastium fontanum		0	Equisetum arvense	1
Geum macrophyllum		0	Gnaphalium palustre	0
Leucanthemum vulgare		0	Penstemon confertus	1
Potentilla gracilis		1	Rosa woodsii	0
Ending Station	562	Community Type:	Typha latifolia / Eleocharis pa	alustris
Species		Cover class	Species	Cover class
Agrostis capillaris		1	Alisma gramineum	1
Alnus incana		0	Alopecurus pratensis	0
Carex aquatilis		1	Carex nebrascensis	0
Eleocharis palustris		2	Juncus nodosus	1
Open Water		2	Persicaria amphibia	1
Phalaris arundinacea		1	Phalaris arundinacea	1
Salix bebbiana		0	Scirpus microcarpus	2
Typha latifolia		4		
Ending Station	594	Community Type:	Phalaris arundinacea /	
Species		Cover class	Species	Cover class
Alopecurus pratensis		2	Carex vesicaria	1
Cirsium arvense		0	Persicaria amphibia	1
Phalaris arundinacea		5	Scirpus microcarpus	2

Transect Notes:

0-1 feet of water observed in cells in 2023, a significant decrease since 2022. Populus balsamifera volunteer seedlings observed growing around margins of CT 15 along transect. The weed ox-eye daisy increased in cover along this transect in 2023 continuing a trend observed in 2022.

Transect Number: 3	Compass Direction from Start:	45

Interval Data:

Ending Station	57 Community Type:	Phalaris arundinacea /	
Species	Cover class	Species	Cover class
Epilobium ciliatum	2	Lemna minor	0
Open Water	2	Persicaria amphibia	2
Phalaris arundinacea	5	Sparganium natans	1
Ending Station	150 Community Type:	Aquatic macrophytes / Oper	n Water
Species	Cover class	Species	Cover class
Aquatic macrophytes	3	Lemna minor	0
Open Water	5	Persicaria amphibia	0
Ending Station	440 Community Type:	Phalaris arundinacea /	
Species	Cover class	Species	Cover class
Algae, brown	1	Carex utriculata	1
Carex vesicaria	3	Eleocharis palustris	1
Epilobium ciliatum	1	Lemna minor	1
Open Water	4	Persicaria amphibia	2
Phalaris arundinacea	4	Typha latifolia	1

Transect Notes:

Open water decreased in 2023 as more Carex spp. and reed canary grass encroach in the open water areas within the southern portion of the site.

PLANTED WOODY VEGETATION SURVIVAL

Schrieber Meadows

Planting Type	#Planted	#Alive Notes
Alnus incana	1000	37 too wet, stunted, poor vigor, out-competed by reed canary grass
Salix sp.	750	0 too wet and out-competed by reed canary grass

Comments

Planted shrubs are difficult to see at the site due to the dense cover of tall reed canary grass. It is thought that the majority of woody plantings have died because of perennial deep water conditions and aggressive competition from reed canary grass. Volunteer Populus balsamifera and Alnus incana seedlings observed around margins of excavated depressions in northern 1/3 of site. In addition, volunteer Rosa Woodsii has been observed within upland areas at the site.

Schrieber Meadows

WILDLIFE

Were man-made nesting structures instal	led? Yes
If yes, type of structure: Bird boxes	
How many?2	
Are the nesting structures being used? _	Yes
Do the nesting structures need repairs?_	No

Nesting Structure Comments:

The observed nesting structures appeared to have been occupied in 2023.

Species	#Observed	Behavior	Habitat	
American Wigeon	9			
Belted Kingfisher	2			
Canada Goose	5			
Common Yellowthroat	6			
Eastern Kingbird	2			
Mallard	11			
Marsh Wren	1			
Northern Rough-winged	Sw 2			
Red-tailed Hawk	1			
Red-winged Blackbird	28			
Sandhill Crane	2			
Song Sparrow	2			
Tree Swallow	15			
Turkey Vulture	1			
Wilson's Snipe	2			
Bird Comments				

A diversity of bird species were observed at the site in 2023.

BEHAVIOR CODES

BP = One of a <u>breeding pair</u> **BD** = <u>Breeding display</u> **F** = <u>Foraging</u> **FO** = <u>Flyover</u> **L** = <u>Loafing</u> **N** = <u>Nesting</u>

HABITAT CODES

AB = Aquatic bed **SS** = Scrub/Shrub **FO** = Forested **UP** = Upland buffer **I** = Island

 $\mathbf{WM} = \mathbf{Wet} \; \mathbf{meadow} \; \mathbf{MA} = \mathbf{Marsh} \; \mathbf{US} = \mathbf{Unconsolidated} \; \mathbf{shore} \; \mathbf{MF} = \mathbf{Mud} \; \mathbf{Flat} \; \mathbf{OW} = \mathbf{Open} \; \mathbf{Water} \; \mathbf{VS} = \mathbf{VS} \; \mathbf{VS}$

Mammals and Herptiles

Species	# Observed	Tracks	Scat	Burrows	Comments
Brook Trout	5	No	No	No	
Columbia Spotted Frog	1	No	No	No	
Elk	1	No	No	No	Carcass
Garter Snake	10	No	No	No	
Muskrat	1	No	No	No	
Pumpkinseed	10	No	No	No	
Smallmouth Bass	5	No	No	No	
Turtle sp.	1	No	No	No	
White-tailed Deer	2	Yes	Yes	No	

Wildlife Comments:

Many fish observed in Cell 3.

PHOTOGRAPHS

Take photographs of the following permanent reference points listed in the check list below. Record the direction of the photograph using a compass. When at the site for the first time, establish a permanent reference point by setting a ½ inch rebar or fencepost extending 2-3 feet above ground. Survey the location with a resource grade GPS and mark the location on the aerial photograph.

Photograph Checklist:

- ✓ One photograph for each of the four cardinal directions surrounding the wetland.
- At least one photograph showing upland use surrounding the wetland. If more than one upland exists then take additional photographs.
- At least one photograph showing the buffer surrounding the wetland.
- One photograph from each end of the vegetation transect, showing the transect.

Photo #	Latitude	Longitude	Bearing	Description	
DP01-u	48.1125823254	-115.417550066			
DP01-w	48.112584655	-115.417438634			
DP02-u	48.1132301194	-115.42015072			
DP02-w	48.1133340264	-115.420111783			
DP03-u	48.1130301227	-115.418907051			
DP03-w	48.1130890101	-115.418996734			
DP04-u	48.11404692	-115.419994707			
DP04-w	48.113978876	-115.419901002			
DP05-u	48.1147371344	-115.420556764			
DP05-w	48.1147831875	-115.420613418			
DP06-u	48.1151017847	-115.420274777			
DP06-w	48.1150613191	-115.420238238			
DP07-u	48.1159647222	-115.420201616			
DP07-w	48.1159903214	-115.420243422			
DP08-u	48.1093173106	-115.414039889			
DP08-w	48.1093423691	-115.414084678			
DP09-u	48.110474359	-115.415943172			
DP09-w	48.1106403628	-115.415751571			
DP10-u	48.1114356039	-115.417146628			
DP10-w	48.1114136797	-115.417016634			
PP01	48.10804	-115.410172	270	Photo Point 1 (Pano):	
PP02	48.113735	-115.420509	150	Photo Point 2:	
PP03	48.112183	-115.417503	90	Photo Point 3 (Pano):	
PP04	48.113213	-115.416832	180	Photo Point 4 (Pano):	
PP05	48.112614	-115.415977	300	Photo Point 5 (Pano):	
PP06	48.11904	-115.417023	0	Photo Point 6 (Pano):	
PP07	48.108813	-115.411923	0	Photo Point 7 (Pano):	
			B-14	4	

PP08	48.11121	-115.414238	190	Photo Point 8 (Pano):
PP09	48.109997	-115.413765	280	Photo Point 9 (Pano):
PP10	48.109737	-115.414024	0	Photo Point 10 (Pano):
PP11	48.116409	-115.420021	190	Photo Point 11 (Pano):
PP12	48.115673	-115.421562	180	Photo Point 12 (Pano):
PP13	48.11422	-115.420403	280	Photo Point 13 (Pano):
PP14	48.114655	-115.41893	230	Photo Point 14 (Pano):
PP15	48.114323	-115.418449	180	Photo Point 15 (Pano):
PP16	48.113403	-115.420128	70	Photo Point 16 (Pano):
PP17	48.112938	-115.418388	270	Photo Point 17 (Pano):
PP18	48.1129	-115.417618	90	Photo Point 18:
PP19	48.111553	-115.417084	10	Photo Point 19, Photo 1:
PP-19	48.111553	-115.417084	100	Photo Point 19, Photo 2:
PP-20	48.109493	-115.413918	100	Photo Point 20:
T-1 end	48.112663	-115.41642	295	Transect 1 end:
T-1 start	48.115204	-115.417503	115	Transect 1 start:
T-2 end	48.114197	-115.418991	280	Transect 2 end:
T-2 start	48.115204	-115.421013	100	Transect 2 start:
T-3 end	48.111187	-115.413849	225	Transect 3 end:
T-3 start	48.111134	-115.415642	45	Transect 3 start:

Schrieber Meadows

ADDITIONAL ITEMS CHECKLIST

Hydrology				
 Map emergent vegetation/open water boundary on aerial photos. Observe extent of surface water. Look for evidence of past surface water elevations (e.g. drift 				
lines, vegetation staining, erosion, etc).				
Photos				
 One photo from the wetland toward each of the four cardinal directions One photo showing upland use surrounding the wetland. 				
 ✓ One photo showing upland use surrounding the wetland. ✓ One photo showing the buffer around the wetland ✓ One photo from each end of each vegetation transect, toward the transect 				
One photo from each end of each vegetation transect, toward the transect				
Vegetation				
_				
✓ Map vegetation community boundaries				
✓ Complete Vegetation Transects				
Soils				
✓ Assess soils				
Wetland Delinections				
Wetland Delineations				
Delineate wetlands according to applicable USACE protocol (1987 form or Supplement)				
Delineate wetland – upland boundary onto aerial photograph.				
Wetland Delineation Comments				
A total of 45.84 acres of jurisdictional wetland and waters of the US (WUS) were delineated at the				
Schrieber Meadows site in 2023. The total creditable wetland acreage delineated in 2023, was 32.56				
acres, which is a decrease of 1.87 acres since 2022. WUS (Open Water) was 5.81 acres in 2023, 0.66 acres less than 2022.				
Functional Assessments				
☑ Complete and attach full MDT Montana Wetland Assessment Method field forms.				
Functional Assessment Comments:				
All 3 AA's Category I wetlands.				

Maintenance

Were man-made nesting structure installed at this site? Yes
If yes, do they need to be repaired? No
If yes, describe the problems below and indicate if any actions were taken to remedy the problems
Were man-made structures built or installed to impound water or control water flow
into or out of the wetland? No
If yes, are the structures in need of repair?
If yes, describe the problems below.
No maintenance needs were observed in 2023.

Project/Site: Schrieber Meadows	C	City/County:	Lincoln	County	Sampling Date: 2023-07-11
Applicant/Owner: MDT				State: Montana	Sampling Point: DP01U
Investigator(s): J Trilling	§	Section, To	wnship, Raı	nge: S12 T27N R30W	1
Landform (hillslope, terrace, etc.): Hillslope					
Subregion (LRR): E 43A	Lat: 48.1	1125454		Long: -115.4175765	Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly					
Are climatic / hydrologic conditions on the site typical for thi					
Are Vegetation, Soil, or Hydrologys	-				resent? Yes No
Are Vegetation, Soil, or Hydrologyı				eded, explain any answei	
SUMMARY OF FINDINGS – Attach site map					
Hydrophytic Vegetation Present? Yes N				· · · · · · · · · · · · · · · · · · ·	•
Hydric Soil Present? Yes N	lo <u> </u>		e Sampled		🗸
Wetland Hydrology Present? Yes N	10	with	in a Wetlan	id? Yes	No
Remarks:					
Upland sample point located at west	t end of	wetlan	d cell 2		
VEGETATION – Use scientific names of plan	nts.				
				Dominance Test work	sheet:
Tree Stratum (Plot size:)	% Cover			Number of Dominant Sp	pecies
1				That Are OBL, FACW, o	or FAC: 2 (A)
3.				Total Number of Domina Species Across All Stra	
4					
	0	= Total Co	ver	Percent of Dominant Sp That Are OBL, FACW, of	
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worl	
1				Total % Cover of:	
2				OBL species 0	x 1 = 0
3				FACW species 0	
4	_				x 3 = <u>90</u>
o	0	= Total Co	ver		x 4 = 100
Herb Stratum (Plot size:)				UPL species 0	
1. Pascopyrum smithii	<u>25</u>			Column Totals: 55	(A) <u>190</u> (B)
2. Alopecurus arundinaceus	15		FAC	Prevalence Index	= B/A = 3.45
3. Elymus repens	15		FAC	Hydrophytic Vegetation	
4				1 - Rapid Test for H	
5				✓ 2 - Dominance Tes	
6				3 - Prevalence Inde	
7 8					daptations ¹ (Provide supporting or on a separate sheet)
9.				5 - Wetland Non-Va	• • • • • • • • • • • • • • • • • • • •
10.					ohytic Vegetation¹ (Explain)
11.				¹ Indicators of hydric soil	and wetland hydrology must
		= Total Cov	er	be present, unless distu	rbed or problematic.
Woody Vine Stratum (Plot size:)					
1				Hydrophytic	
2				Vegetation Present? Yes	s <u>/</u> No
% Bare Ground in Herb Stratum 45	0 =	= Total Cov	EI		
Remarks:					
Although this point contains marginal h	ydrophyt	ic vege	tation, i	t lacks hydric soil	s and wetland
hydrology.					

SOIL Sampling Point: DP01U

Depth	Matrix		Redo	ox Feature				
(inches) Color	(moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8 10YR 3	3/2	100					Loam	cobbles
-								
					- ——			-
<u> </u>								
-								
								-
	D-DI	leties DM	- Dadwaad Matrix C	C-Causan			21 -	anting DI - Days Lining M-Matrix
ype: C=Concentrations ydric Soil Indicators						a Sana Gr		cation: PL=Pore Lining, M=Matrix. prs for Problematic Hydric Soils ³ :
_ Histosol (A1)	s. (Applica	able to all	Sandy Redox (cu.,			m Muck (A10)
_ Histic Epipedon (A	(2)		Stripped Matrix					d Parent Material (TF2)
Black Histic (A3)	(Z)		Loamy Mucky	. ,	1) (except	MLRA 1)		y Shallow Dark Surface (TF12)
_ Hydrogen Sulfide	(A4)		Loamy Gleyed			,		er (Explain in Remarks)
_ Depleted Below D		e (A11)	Depleted Matri	•	,			,
_ Thick Dark Surfac	e (A12)	, ,	Redox Dark Su)		³ Indicate	ors of hydrophytic vegetation and
_ Sandy Mucky Min	eral (S1)		Depleted Dark				wetla	and hydrology must be present,
_ Sandy Gleyed Ma			Redox Depres	sions (F8)			unles	ss disturbed or problematic.
estrictive Layer (if p	resent):							
Type: Cobbles								
Depth (inches): 8							Hydric Soil	Present? Yes No
emarks: o evidence o obbles in the	-		observed as	samp	ling pit	could	1 -	to a depth of 8" due to
emarks: o evidence of obbles in the YDROLOGY	substr		observed as	samp	ling pit	could	1 -	
emarks: o evidence of obbles in the obbles	substr	ate.			ling pit	could	only get	
emarks: o evidence o obbles in the 'DROLOGY letland Hydrology In	substrandicators:	ate.	d; check all that app	ly)	ling pit		only get	to a depth of 8" due to ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2
emarks: O evidence O Obbles in the 'DROLOGY 'etland Hydrology In rimary Indicators (min Surface Water (A1 High Water Table	substrandicators:	ate.	d; check all that app Water-Sta	ly)	ves (B9) (e .		only get	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2
emarks: O evidence O Obbles in the 'DROLOGY Vetland Hydrology In rimary Indicators (min Surface Water (A1	substrandicators:	ate.	d; check all that app Water-Sta	ly) ained Leav	ves (B9) (e .		only get	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2
emarks: o evidence of obbles in the obbles	substrandicators:	ate.	d; check all that app — Water-Sta MLRA — Salt Crus — Aquatic Ir	nined Leav	ves (B9) (e. and 4B)		only get Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
emarks: o evidence of obbles in the obbles	substrandicators:	ate.	d; check all that app Water-Sta MLRA Salt Crusi	nined Leav	ves (B9) (e. and 4B)		only get Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
emarks: o evidence of obbles in the obbles	substrandicators: nimum of or) (A2)	ate.	d; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized	ained Leav 1, 2, 4A, at t (B11) nvertebrate s Sulfide O Rhizosphe	res (B9) (e. and 4B) es (B13) dor (C1) eres along	xcept Living Roo	only get Seco V [ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
emarks: o evidence of obbles in the obbles	substrandicators: nimum of or) (A2)	ate.	d; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen	ained Leav 1, 2, 4A, at t (B11) nvertebrate s Sulfide O Rhizosphe	res (B9) (e. and 4B) es (B13) dor (C1) eres along	xcept Living Roo	Seco V E Sts (C3) C	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
emarks: O evidence O obbles in the OBCOMBORY Vetland Hydrology In mimary Indicators (min Surface Water (An High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5)	substrandicators: nimum of on (A2) (A2) (B4)	ate.	d; check all that app Water-Sta MLRA Salt Crusi Aquatic Ir Hydrogen Oxidized Presence Recent Ire	nined Leav 1, 2, 4A, at t (B11) nvertebrate s Sulfide O Rhizosphe of Reduce	ves (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tilled	xcept Living Roo) d Soils (C6	Seco V E Sots (C3) S	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
emarks: O evidence O Obbles in the OBCOMBORY Vetland Hydrology In Inimary Indicators (min Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust	substrandicators: nimum of on (A2) (A2) (B4)	ate.	d; check all that app — Water-Sta MLRA — Salt Crusi — Aquatic Ir — Hydrogen — Oxidized — Presence	nined Leav 1, 2, 4A, at t (B11) nvertebrate s Sulfide O Rhizosphe of Reduce	ves (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tilled	xcept Living Roo) d Soils (C6	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Coeomorphic Position (D2) Shallow Aquitard (D3) SAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
o evidence of obbles in the ob	ndicators: nimum of or) (A2) s (B2) (B4) cs (B6) on Aerial II	ne required	d: check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ire Stunted of	ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduction r Stressed	res (B9) (exand 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tilled	xcept Living Roo) d Soils (C6	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Coemorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
rimary Indicators (mir Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate	ndicators: nimum of or) (A2) s (B2) (B4) cs (B6) on Aerial II	ne required	d: check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ire Stunted of	ained Leav 1, 2, 4A, a t (B11) avertebrate Sulfide O Rhizosphe of Reduction r Stressed	res (B9) (exand 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tilled	xcept Living Roo) d Soils (C6	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Coeomorphic Position (D2) Shallow Aquitard (D3) SAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: O evidence O Obbles in the OBCOMBES IN THE OBC	substrandicators: nimum of or) (A2) s (B2) (B4) cs (B6) on Aerial II d Concave	magery (B	d: check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ire Stunted of	ained Leav 1, 2, 4A, at t (B11) nvertebrate s Sulfide O Rhizosphe of Reduce on Reducti r Stressed plain in Re	res (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4) ion in Tilled I Plants (D	Living Roo) d Soils (C6 1) (LRR A	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Coeomorphic Position (D2) Shallow Aquitard (D3) SAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
rimary Indicators (minumary Indicators (Manual Manual Manu	substrandicators: nimum of or) (A2) s (B2) (B4) cs (B6) on Aerial II d Concave	magery (B	d; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ire Stunted of Other (Ex	ained Leav 1, 2, 4A, at (B11) avertebrate Sulfide O Rhizosphe of Reduction Reduction To Stressed	res (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled I Plants (Demarks)	Living Roc) d Soils (C6	Seco V	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Coeomorphic Position (D2) Shallow Aquitard (D3) SAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: O evidence O Obbles in the /DROLOGY /etland Hydrology In rimary Indicators (min Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate ield Observations: urface Water Present /ater Table Present? notludes capillary fring	substrandicators: nimum of on) (A2) s (B2) (B4) ss (B6) on Aerial II dd Concave	magery (Bessurface (I	d; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted or Other (Ex	ained Leaven, 1, 2, 4A, 6 at (B11) avertebrate of Reduction Reduction Reduction Reduction Reduction Reduction Reduction Stressed plain in Reduction Reductio	res (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled I Plants (D emarks)	Living Roc) d Soils (C6 1) (LRR A	Seco Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (Coemorphic Position (D2) Shallow Aquitard (D3) SAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Cemarks: O evidence of obbles in the obbles	substrandicators: nimum of on) (A2) s (B2) (B4) ss (B6) on Aerial II dd Concave	magery (Bessurface (I	d; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted or Other (Ex	ained Leaven, 1, 2, 4A, 6 at (B11) avertebrate of Reduction Reduction Reduction Reduction Reduction Reduction Reduction Stressed plain in Reduction Reductio	res (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled I Plants (D emarks)	Living Roc) d Soils (C6 1) (LRR A	Seco Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Remarks: Io evidence of obbles in the obble	substrandicators: nimum of on) (A2) s (B2) (B4) ss (B6) on Aerial II dd Concave	magery (Bessurface (I	d; check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted or Other (Ex	ained Leaven, 1, 2, 4A, 6 at (B11) avertebrate of Reduction Reduction Reduction Reduction Reduction Reduction Reduction Stressed plain in Reduction Reductio	res (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled I Plants (D emarks)	Living Roc) d Soils (C6 1) (LRR A	Seco Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Cemarks: O evidence of obbles in the obbles	substrandicators: nimum of on) (A2) (B4) (B4) (B6) on Aerial II d Concave (C)	magery (B e Surface (I es es gauge, mo	d: check all that app Water-Sta MLRA Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of Other (Ex 38) No Depth (ir No Depth (ir positoring well, aerial	ained Leaven 1, 2, 4A, at (B11) envertebrate of Reducetion Reduction Stressed enches):	res (B9) (e. and 4B) es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled I Plants (D emarks)	Living Roc) d Soils (C6 1) (LRR A	Seco Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: Schrieber Meadows		Citv/Countv	Lincoln	County Sampling Date: 2023-07-11
Applicant/Owner: MDT				State: Montana Sampling Point: DP01W
• •				nge: S12 T27N R30W
Landform (hillslope, terrace, etc.): Fringe				
Subregion (LRR): E 43A				
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly				
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrologys	-			"Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology n				eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map				
Hydrophytic Vegetation Present? Yes V			9	
Hydric Soil Present? Yes N	0		e Sampled	
Wetland Hydrology Present? Yes N	0	with	in a Wetlar	nd? Yes No
Remarks:				
Wetland sample point located at wes	st end c	of wetla	nd cell	2.
VEGETATION II : ::				_
VEGETATION – Use scientific names of plan		<u> </u>		I Danielana Tartunalahari
Tree Stratum (Plot size:)		Dominant Species?		Dominance Test worksheet: Number of Dominant Species
1				That Are OBL, FACW, or FAC: 2 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	<u>U</u>	= Total Co	ver	That Are OBL, FACW, or FAC: 100.00 (A/B)
1				Prevalence Index worksheet:
2				Total % Cover of: Multiply by: OBL species 3 x 1 = 3
3				FACW species 50 x 2 = 100
4				FAC species $0 \times 3 = 0$
5				FACU species $0 x 4 = 0$
Herb Stratum (Plot size:)	<u>U</u>	= Total Co	ver	UPL species <u>0</u> x 5 = <u>0</u>
1. Phalaris arundinacea	35		FACW	Column Totals: <u>53</u> (A) <u>103</u> (B)
2. Carex athrostachya	15		FACW	Prevalence Index = B/A = 1.94
3. Persicaria amphibia	3		OBL	Hydrophytic Vegetation Indicators:
4				✓ 1 - Rapid Test for Hydrophytic Vegetation
5				✓ 2 - Dominance Test is >50%
6				✓ 3 - Prevalence Index is ≤3.0 ¹
8.				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9.				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vino Stratum (Plot size:	53	= Total Cov	/er	be present, unless disturbed of problematic.
Woody Vine Stratum (Plot size:) 1				Undranbritia
2.				Hydrophytic Vegetation
	_	= Total Cov	/er	Present? Yes No No
% Bare Ground in Herb Stratum 47				
Remarks:				

Aquatic moss layer makes up large portion of bare ground. Positive dominance and rapid tests, as well as a prevalence index below three, indicate a hydrophytic vegetation community at this point.

OIL	depth needed to document the indicator or confirm	the absence	Sampling Point: DP01W
		i tile absence	of indicators.)
Depth Matrix (inches) Color (moist) %	Redox Features Color (moist) % Type ¹ Loc ²	Texture	Remarks
0 - 2		Sandy Loam	root mat
2 - 8 N 5/0 100		Sandy Loam	cobbles
2-8 113/0 100		Canay Loan	CODDICS
,,,			
-			
-			
_ -			
_ -			
Гуре: C=Concentration, D=Depletion, F	RM=Reduced Matrix, CS=Covered or Coated Sand G		eation: PL=Pore Lining, M=Matrix.
lydric Soil Indicators: (Applicable to	all LRRs, unless otherwise noted.)	Indicato	rs for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Redox (S5)		n Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)		Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)	-	Shallow Dark Surface (TF12)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Othe	er (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3) Redox Dark Surface (F6)	3Indicato	re of hydrophytic vegetation and
Thick Dark Surface (A12) Sandy Mucky Mineral (S1)	Redox Dark Surface (F6) Depleted Dark Surface (F7)		rs of hydrophytic vegetation and nd hydrology must be present,
_ Sandy Gleyed Matrix (S4)	Redox Depressions (F8)		s disturbed or problematic.
estrictive Layer (if present):	Nead Depressions (Fe)	1	o dictarged or problematic.
Type: cobbles			
. , p = .			
Denth (inches): 8		Hydric Soil	Present? Yes V No
Depth (inches): 8		Hydric Soil	Present? Yes V No No
Depth (inches): 8 Remarks:		Hydric Soil	Present? Yes V No No
Remarks:	licates hydric soils in this profile,	<u> </u>	
Remarks: A loamy gleyed matrix ind	licates hydric soils in this profile,	<u> </u>	
loamy gleyed matrix ind	licates hydric soils in this profile, due to cobbles in the substrate.	<u> </u>	
emarks: loamy gleyed matrix ind nly get to a depth of 8" o		<u> </u>	
lemarks: loamy gleyed matrix ind nly get to a depth of 8" of ODROLOGY		<u> </u>	
lemarks: Ioamy gleyed matrix indications and get to a depth of 8" of the control	lue to cobbles in the substrate.	consideri	
lemarks: Ioamy gleyed matrix indications and get to a depth of 8" of the control	lue to cobbles in the substrate.	consideri	ng sampling pit could
emarks: loamy gleyed matrix indently get to a depth of 8" of the control of the	due to cobbles in the substrate.	consideri	ng sampling pit could
emarks: loamy gleyed matrix indicators of the state of t	due to cobbles in the substrate. uired; check all that apply) Water-Stained Leaves (B9) (except	consideri Secor	ng sampling pit could Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2,
emarks: loamy gleyed matrix indicators of the state of t	due to cobbles in the substrate. uired; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	consideri Secor N D	ng sampling pit could adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
emarks: loamy gleyed matrix indicationally get to a depth of 8" of a dept	due to cobbles in the substrate. uired; check all that apply) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Salt Crust (B11)	consideri Secor W D D	ng sampling pit could adary Indicators (2 or more required) //ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10)
emarks: loamy gleyed matrix indication of the second seco	due to cobbles in the substrate. uired; check all that apply) Water-Stained Leaves (B9) (except	consideri Secor W D D S S S S S S S S S S S	ng sampling pit could Indary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2)
emarks: loamy gleyed matrix indication of a second plant of a depth of a second plant of a second pla	due to cobbles in the substrate. uired; check all that apply) Water-Stained Leaves (B9) (except	Secon Secon W D D Sts (C3)	ng sampling pit could adary Indicators (2 or more required) (ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
emarks: loamy gleyed matrix indication of the second seco	due to cobbles in the substrate. dired; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Roc	Secor Secor D Sts (C3) V G S	ng sampling pit could adary Indicators (2 or more required) //ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9 eomorphic Position (D2)
Ioamy gleyed matrix indicators and the state of the state	due to cobbles in the substrate. uired; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Roc — Presence of Reduced Iron (C4)	Secon W Secon W Secon Seco	ng sampling pit could adary Indicators (2 or more required) /ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9 eomorphic Position (D2) hallow Aquitard (D3)
Icamy gleyed matrix indicators: Interpretation of the control of	due to cobbles in the substrate. Salt Crust (B11)	Secon W Secon	ng sampling pit could Indicators (2 or more required) Indicators (B9) (MLRA 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4,
Remarks: I loamy gleyed matrix indication of the second s	due to cobbles in the substrate. Salt Crust (B11)	Secon W Secon	ng sampling pit could adary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9 eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Remarks: A loamy gleyed matrix indicators and gently get to a depth of 8" of the control of the	due to cobbles in the substrate. Salt Crust (B11)	Secon W Secon	ng sampling pit could adary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9 eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Remarks: A loamy gleyed matrix ind nly get to a depth of 8" of the control of th	due to cobbles in the substrate. Salt Crust (B11)	Secon W Secon	ng sampling pit could adary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9 eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)
Remarks: A loamy gleyed matrix indicators and get to a depth of 8" of the control of the contro	due to cobbles in the substrate. Lired; check all that apply) — Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) — Salt Crust (B11) — Aquatic Invertebrates (B13) — Hydrogen Sulfide Odor (C1) — Oxidized Rhizospheres along Living Roccent Presence of Reduced Iron (C4) — Recent Iron Reduction in Tilled Soils (C6) — Stunted or Stressed Plants (D1) (LRR Active (B7)) — Other (Explain in Remarks)	Secon W Secon	ng sampling pit could adary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) rainage Patterns (B10) ry-Season Water Table (C2) aturation Visible on Aerial Imagery (CS eomorphic Position (D2) hallow Aquitard (D3) AC-Neutral Test (D5) aised Ant Mounds (D6) (LRR A)

Remarks:

A water table at a depth of 6 inches, saturation to the surface, the point's geomorphic position, and a positive FAC-neutral test provide evidence of wetland hydrology at this data point.

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Project/Site: Schrieber Meadows	(City/Coun	_{ity:} Lincoln (County	Sampling Date: 2023-07-	-12
Applicant/Owner: MDT		-	-	State: Montana S		
				nge: S11 T27N R30W		
Landform (hillslope, terrace, etc.): Mound			·	-	Slope (%): 5	
Subregion (LRR): E 43A			•			34
Soil Map Unit Name: 108 - Andic Dystric Eutrochrepts, lacustrine terra						
Are climatic / hydrologic conditions on the site typical for th						
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS - Attach site map				eded, explain any answers		etc
Hydrophytic Vegetation Present? Yes N			g po	, and an		
Hydric Soil Present? Yes N		Is	the Sampled			
Wetland Hydrology Present? Yes N	No	wi	thin a Wetlan	d? Yes	No	
Remarks:		ı				
Upland sample point located at sout	heast e	nd of	wetland	cell 7.		
VEGETATION – Use scientific names of plan						
Tree Stratum (Plot size:)	Absolute % Cover		nt Indicator Status	Dominance Test worksh		
1				Number of Dominant Spe That Are OBL, FACW, or		.)
2.						,
3				Total Number of Dominar Species Across All Strata)
4				Percent of Dominant Spe		
	0	= Total C	Cover	That Are OBL, FACW, or		/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index works	sheet:	
1				Total % Cover of:	Multiply by:	
2				T	x 1 = 0	
3					x 2 = 0	
5.		-			x 3 = 45	
	0	= Total C	Cover		x 4 = 0	
Herb Stratum (Plot size:)				UPL species 40	$\times 5 = 200$ (A) 245 (F	Β)
1. Agropyron intermedium				Column Totals: 55	(A) <u>245</u> (E	B)
2. Alopecurus arundinaceus 3 Penstemon confertus	<u>15</u> 5		FAC	Prevalence Index =		
0			UPL	Hydrophytic Vegetation		
4				1 - Rapid Test for Hy		
5				2 - Dominance Test i		
6				3 - Prevalence Index		4: a.
7 8				data in Remarks o	aptations ¹ (Provide support or on a separate sheet)	ing
9.				5 - Wetland Non-Vas	scular Plants ¹	
10.				Problematic Hydroph	nytic Vegetation ¹ (Explain)	
11.					and wetland hydrology must	t
		= Total C	over	be present, unless disturb	ped or problematic.	
Woody Vine Stratum (Plot size:)						
1				Hydrophytic		
2				Vegetation Present? Yes	No	
% Bare Ground in Herb Stratum 45	0	= Total C	over			
Remarks:						
No evidence of a hydrophytic veget	ation co	mmur	nity obse	rved.		

SOIL Sampling Point: DP02U

Profile Desc	ription: (Describ	e to the depth	needed to docu	ment the i	ndicator	or confirn	n the absence	e of indicators.)
Depth	Matrix			ox Features	4	. 2	_	
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0 - 12	10YR 4/3	100					Loam	
-								
	-							
-								
¹Type: C=Co	ncentration, D=D	epletion, RM=F	Reduced Matrix, C	S=Covered	or Coate	d Sand G	rains. ² Lo	ocation: PL=Pore Lining, M=Matrix.
			RRs, unless othe					tors for Problematic Hydric Soils ³ :
Histosol	(A1)	_	Sandy Redox	(S5)			2 c	cm Muck (A10)
Histic Ep	ipedon (A2)	_	Stripped Matrix					ed Parent Material (TF2)
Black His	stic (A3)	_	Loamy Mucky	Mineral (F1) (except	MLRA 1)	Ve	ry Shallow Dark Surface (TF12)
	n Sulfide (A4)	_	Loamy Gleyed	, ,)		Otl	her (Explain in Remarks)
	Below Dark Surf	ace (A11)	Depleted Matri				3	
	rk Surface (A12)	_	Redox Dark Su		7)			tors of hydrophytic vegetation and
-	ucky Mineral (S1 leyed Matrix (S4)		_ Depleted Dark _ Redox Depres	•	7)			land hydrology must be present, ess disturbed or problematic.
	ayer (if present)		Redox Depres	310113 (1 0)			T dille	ess disturbed of problematic.
Type: Co		•						
Depth (inc							Hydric So	il Present? Yes No
Remarks:	1103).						Tiyane oo	111 Tesent: 163 140
ixemarks.								
No evide	nce of hyd	ric soil ob	served.					
HYDROLO	3 Y							
Wetland Hyd	Irology Indicator	rs:						
Primary Indic	ators (minimum c	of one required;	check all that app	ly)			Seco	ondary Indicators (2 or more required)
Surface \	Nater (A1)		Water-Sta	ained Leave	es (B9) (e :	xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
High Wat	ter Table (A2)		MLRA	1, 2, 4A, a	nd 4B)			4A, and 4B)
Saturatio	n (A3)		Salt Crus	t (B11)				Drainage Patterns (B10)
Water Ma	arks (B1)		Aquatic Ir	vertebrates	s (B13)			Dry-Season Water Table (C2)
Sedimen	t Deposits (B2)		Hydroger	Sulfide Oc	dor (C1)		:	Saturation Visible on Aerial Imagery (C9)
Drift Dep	osits (B3)		Oxidized	Rhizospher	res along	Living Roo	ots (C3)	Geomorphic Position (D2)
	t or Crust (B4)			of Reduce				Shallow Aquitard (D3)
-	osits (B5)			on Reduction			· —	FAC-Neutral Test (D5)
	Soil Cracks (B6)		Stunted o			1) (LRR A		Raised Ant Mounds (D6) (LRR A)
	on Vis ble on Aeria			plain in Re	marks)		_	Frost-Heave Hummocks (D7)
	Vegetated Conc	ave Surface (B8	3)					
Field Observ								
Surface Water	er Present?		o 🖊 Depth (ir					
Water Table I	Present?		o <u> </u>					
Saturation Pr		Yes N	o 🔽 Depth (ir	nches):		Wetl	land Hydrolog	gy Present? Yes No
(includes cap		am daude mon	itoring well, aerial	nhotos nre	evious ins	nections)	if available:	
Describe Nec	orded Bala (Sire	am gauge, mon	intorning went, acriai	priotos, pro	SVIOUS IIIS	pections),	ii avallabic.	
Remarks:								
	_		_					
No evide	nce of wet	land hydr	ology obse	rved.				

Project/Site: Schrieber Meadows	City/	County: Lincoln	County	Sampling Date: 2023-07-11
Applicant/Owner: MDT			State: Montana	Sampling Point: DP02W
Investigator(s): J Trilling	Sect	ion, Township, Ra	ange: S11 T27N R30W	
Landform (hillslope, terrace, etc.): Hillside				
Subregion (LRR): E 43A				
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly				
Are climatic / hydrologic conditions on the site typical for this		_		
	_			resent? Yes No
Are Vegetation, Soil, or Hydrologys				
Are Vegetation, Soil, or Hydrology n SUMMARY OF FINDINGS – Attach site map			eeded, explain any answer	
·			cations, transects,	, important reatures, etc.
Hydrophytic Vegetation Present? Yes No No No No No No No No No N		Is the Sampled		
Wetland Hydrology Present?		within a Wetla	nd? Yes <u> </u>	No
Remarks:				
Wetland sample point located at sou	thaset an	d of wetlan	d cell 7	
Wetland Sample Point located at Sou	tileast elli	u or wetian	u cen 7.	
VEGETATION – Use scientific names of plant	ts.			
Tree Stratum (Plot size:)		minant Indicator ecies? Status	Dominance Test works	sheet:
1			Number of Dominant Sp That Are OBL, FACW, o	
2	- 		Total Number of Domina	ant
3	· — —		Species Across All Strat	ta: <u>1</u> (B)
4	<u>0</u> = To	otal Cover	Percent of Dominant Sp That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size:)			Prevalence Index work	(/ 12)
1	- 		Total % Cover of:	
2				x 1 = 18
3				x 2 = 150
4				x 3 = 9
5			FACU species 0	
Herb Stratum (Plot size:)	<u>0</u> = T	otal Cover	UPL species 0	x 5 = 0
1. Phalaris arundinacea	75	✓ FACW	Column Totals: 96	(A) <u>177</u> (B)
2. Carex atherodes	10	OBL	Prevalence Index	= B/A = 1.84
3. Carex stipata	8	OBL	Hydrophytic Vegetatio	
4. Alopecurus arundinaceus	3	FAC	✓ 1 - Rapid Test for H	
5	. 		✓ 2 - Dominance Test	t is >50%
6	. <u> </u>		✓ 3 - Prevalence Inde	ex is ≤3.0 ¹
7				daptations ¹ (Provide supporting
8	- 			s or on a separate sheet)
9			5 - Wetland Non-Va	
10				ohytic Vegetation¹ (Explain)
11	^^		be present, unless distu	and wetland hydrology must bed or problematic.
Woody Vine Stratum (Plot size:)	96 = To	otal Cover		
1			Hydrophytic	
2.			Vegetation	
	0 = To		Present? Yes	s No
% Bare Ground in Herb Stratum 4				
Remarks:				
A positive dominance test, positive rapid	d test, and	prevalence	index below three	indicate the
presence of a hydrophytic vegetation co	ommunity.			

SOIL Sampling Point: DP02W

Profile Desc	ription: (Describ	e to the de	pth needed to docu	ment the	indicator	or confir	m the absen	ce of indicators.)
Depth	Matrix		Redo	x Feature	es		_	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 12	10YR 2/1	100					Loam	
12 - 20	2.5Y 5/2	96	10YR 4/6	4	С	М	Loam	
-								
						-	-	
-								_
				-				_
								_
							_	
-								
¹Type: C=Ce	oncentration, D=D	epletion, RM	1=Reduced Matrix, C	S=Covere	d or Coate	ed Sand C	Grains. ² L	Location: PL=Pore Lining, M=Matrix.
	•		I LRRs, unless othe					ators for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox (S5)			2	cm Muck (A10)
Histic Ep	pipedon (A2)		Stripped Matrix				R	led Parent Material (TF2)
Black Hi	stic (A3)		Loamy Mucky I	Mineral (F	1) (except	MLRA 1		ery Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed		2)		0	other (Explain in Remarks)
	Below Dark Surf	ace (A11)	Depleted Matri				3	
	ark Surface (A12)		Redox Dark Su	•	,			ators of hydrophytic vegetation and
	lucky Mineral (S1) Bleyed Matrix (S4)		Depleted Dark Redox Depress	,	•			etland hydrology must be present, less disturbed or problematic.
	_ayer (if present)	<u> </u>	Redox Depress	310110 (1 0)				icos distarbed of problematic.
Type:	-wyo: (p. ccc)	-						
· · ·	ches):						Hydric S	oil Present? Yes No
Remarks:							Tiyano o	011103cm: 103 140
Promine	nt redoximo	orphic c	oncentration	s com	mon w	rithin t	the matri	ix below 12".
HYDROLO	GY							
Wetland Hy	drology Indicator	s:						
Primary India	cators (minimum o	f one require	ed; check all that app	ly)			<u>Sec</u>	condary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ined Leav	/es (B9) (e	xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
High Wa	iter Table (A2)		MLRA	1, 2, 4A,	and 4B)			4A, and 4B)
Saturation	on (A3)		Salt Crust	(B11)			_	Drainage Patterns (B10)
·	arks (B1)		Aquatic In				_	Dry-Season Water Table (C2)
· ——	nt Deposits (B2)		Hydrogen					Saturation Visible on Aerial Imagery (C9)
-	oosits (B3)				eres along			Geomorphic Position (D2)
	at or Crust (B4)				ed Iron (C4			Shallow Aquitard (D3)
	oosits (B5)		Recent Iro			•		FAC-Neutral Test (D5)
· ——	Soil Cracks (B6)		Stunted o			1) (LRR /		Raised Ant Mounds (D6) (LRR A)
	on Vis ble on Aeria			plain in R	emarks)			Frost-Heave Hummocks (D7)
	Vegetated Conca	ave Surface	(B8)					
Field Obser			4					
Surface Wat			No Depth (in					
Water Table			No Depth (in					
Saturation P (includes car		Yes	No Depth (in	iches):		Wet	tland Hydrol	ogy Present? Yes V No No
Describe Re	corded Data (strea	am gauge, m	nonitoring well, aerial	photos, p	revious ins	pections)), if available:	
Remarks:								
A positiv	e FAC-neu	tral test	t and the geo	mornh	nic pos	ition c	of the po	int provide evidence of
•			•	.	, , ,		. po	
welland	hydrology	at tills C	ιατα μυπτ.					

Project/Site: Schrieber Meadows	Ci	tv/County: Lincoln C	County	Sampling Date: 2023-07-11
Applicant/Owner: MDT				a Sampling Point: DP03U
Investigator(s): J Trilling			<u> </u>	
Landform (hillslope, terrace, etc.): Bench				
Subregion (LRR): E 43A				
Soil Map Unit Name: 105 - Aquic Udifluvents, poorl			ŭ —	
Are climatic / hydrologic conditions on the site typical for the	•			
Are Vegetation, Soil, or Hydrology			Normal Circumstances	" present? Yes No
Are Vegetation, Soil, or Hydrology	naturally probl	ematic? (If nee	eded, explain any ansv	wers in Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing s	ampling point lo	ocations, transec	ts, important features, etc.
Hydrophytic Vegetation Present? Yes	No			
Hydric Soil Present? Yes	No	Is the Sampled within a Wetlan		No
Wetland Hydrology Present? Yes	No	within a wettan		
Remarks:				
Upland sample point located to the	northwes	st of former ho	ouse/barn site	.
VEGETATION – Use scientific names of pla	nts.			
		Dominant Indicator	Dominance Test wo	orksheet:
Tree Stratum (Plot size:) 1		Species? Status	Number of Dominant That Are OBL, FACV	
2			Total Number of Don	ninant
3.			Species Across All S	1
4			Percent of Dominant	Species
Sapling/Shrub Stratum (Plot size:)	0 =	Total Cover	That Are OBL, FACV	
1			Prevalence Index w	orksheet:
2.			Total % Cover o	
3.				x 1 = 0
4				x 2 = 0
5.				^ 3
	0 =	: Total Cover		x 4 = 0
Herb Stratum (Plot size:)				x = 5 = 0 (A) 294 (B)
1. Elymus trachycaulus	<u>98</u>	FAC FAC	Column Totals. <u>50</u>	(A) <u>234</u> (B)
2. Sisymbrium loeselii				ex = B/A = <u>3.00</u>
3			Hydrophytic Vegeta	
4				or Hydrophytic Vegetation
5			✓ 2 - Dominance T	
6			3 - Prevalence Ir	
7 8				al Adaptations ¹ (Provide supporting lrks or on a separate sheet)
9.			5 - Wetland Non	' '
10.				rophytic Vegetation¹ (Explain)
11.				soil and wetland hydrology must
	400	Total Cover	be present, unless di	sturbed or problematic.
Woody Vine Stratum (Plot size:)				
1			Hydrophytic	
2			Vegetation Present?	Yes No
% Bare Ground in Herb Stratum 0	<u>0 </u>	Total Cover		
Remarks:				
Although this point contains hydrophyt	tic vegetat	ion it lacks by	dric soils and w	vetland hydrology
The sage that point contains hydrophy	regetal	, it lacks fly	and Jones and V	Totalia liyalology.

SOIL Sampling Point: DP03U

Depth Matrix Redox Features	of indicators.)
(inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture	Remarks
0 - 8 7.5YR 2.5/1 50 Loam	Fine roots, large rocks throughout
	Tille roots, large rocks tilloughout
0 - 8 10YR 4/4 50 Loam	
<u> </u>	
<u> </u>	
-	
_ -	
	
	cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ :
<u> </u>	m Muck (A10) d Parent Material (TF2)
_	y Shallow Dark Surface (TF12)
_ , , , ,	er (Explain in Remarks)
Depleted Below Dark Surface (A11) Depleted Matrix (F3)	, ,
Thick Dark Surface (A12) Redox Dark Surface (F6) ³ Indicate	ors of hydrophytic vegetation and
	and hydrology must be present,
	ss disturbed or problematic.
Restrictive Layer (if present):	
Type:	
Depth (inches): Hydric Soil	Present? Yes No
No evidence of hydric soil indicators observed, as sampling pit could only cobbles in the substrate. Mixed matrix observed from 0-8"	y get to a depth of 8" due to
HYDROLOGY	
HYDROLOGY Wetland Hydrology Indicators:	
Wetland Hydrology Indicators:	ndary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Seco	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Seco	· · · · · · · · · · · · · · · · · · ·
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Seco Surface Water (A1) High Water Table (A2) Saturation (A3) Salt Crust (B11) Second 19 Second 20 Seco	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Seco Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) C Water Marks (B1) Aquatic Invertebrates (B13) C	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Description Water Marks (B1) Aquatic Invertebrates (B13) Description Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Secondary Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Secomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except Valor High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Date of the color of the colo	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Seomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except Water Water (B2) High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Date (B12) Water Marks (B1) Aquatic Invertebrates (B13) Date (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Salt Crust (B13) Algal Mat or Crust (B4) Oxidized Rhizospheres along Living Roots (C3) C3 Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Salt Crust (B1) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Facent Iron Reduction in Tilled Soils (C6) Facent Iron Reduction in Tilled Soils (C6) Facent Iron Reduction in Remarks) Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks) Facent Iron Reduction in Remarks)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) F Sparsely Vegetated Concave Surface (B8)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) C Water Marks (B1) Aquatic Invertebrates (B13) C Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) F Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches):	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) V Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) F Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Depth (inches): Water Table Present? Yes No Depth (inches): Depth (inches): Depth (inches): Depth (inches): Depth (inches):	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) C Water Marks (B1) Aquatic Invertebrates (B13) C Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7)	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) F Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No V Depth (inches): Wetland Hydrolog Water Table Present? Yes No V Depth (inches): Wetland Hydrolog	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Vis ble on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No V Depth (inches): Water Algal Mat or Crest (B4) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Seco Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) F Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) F Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secon Surface Water (A1) Water-Stained Leaves (B9) (except V High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) D Water Marks (B1) Aquatic Invertebrates (B13) D Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) S Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) C Algal Mat or Crust (B4) Presence of Reduced Iron (C4) S Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) F Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) F Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) F Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Wetland Hydrolog (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: Schrieber Meadows	City/	County: Lincoln	County	Sampling Date: 2023-07-11
Applicant/Owner: MDT	-	-		Sampling Point: DP03W
• •			nge: S11 T27N R30W	
Landform (hillslope, terrace, etc.): Open Depression			=	
· · ·		•	,	Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poor			NWI classification	
Are climatic / hydrologic conditions on the site typical for ti				
Are Vegetation, Soil, or Hydrology	-			resent? Yes No
Are Vegetation, Soil, or Hydrology			eeded, explain any answer	
SUMMARY OF FINDINGS – Attach site maj				•
	No	<u> </u>	· ·	•
	No	Is the Sampled		
Wetland Hydrology Present? Yes	No	within a Wetlar	nd? Yes	No
Remarks:				
Wetland sample point located to the	e northwes	t of former	house/barn site.	•
VEGETATION – Use scientific names of pla	ints.			
		minant Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size:)		ecies? Status	Number of Dominant Sp	pecies
1			That Are OBL, FACW, o	or FAC: 1 (A)
2			Total Number of Domina	
3			Species Across All Strat	ta: <u>1</u> (B)
4	0 = T	otal Cover	Percent of Dominant Sp That Are OBL, FACW, of	
Sapling/Shrub Stratum (Plot size:)	<u></u> .	0.0.	Prevalence Index work	
1			Total % Cover of:	
2				x 1 = 0
3			FACW species 65	
4				x 3 = 15
5			FACU species 0	x 4 = <u>0</u>
Herb Stratum (Plot size:)	<u>0</u> = T	otal Cover	UPL species 0	x 5 = 0
1. Phalaris arundinacea	65	✓ FACW	Column Totals: 70	(A) <u>145</u> (B)
2. Equisetum arvense	5	FAC	Prevalence Index	= B/A = 2.07
3			Hydrophytic Vegetatio	on Indicators:
4			✓ 1 - Rapid Test for H	lydrophytic Vegetation
5			✓ 2 - Dominance Test	t is >50%
6			✓ 3 - Prevalence Inde	ex is ≤3.0 ¹
7				daptations ¹ (Provide supporting
8			5 - Wetland Non-Va	s or on a separate sheet)
9				phytic Vegetation ¹ (Explain)
10				and wetland hydrology must
11.	70	otal Cover	be present, unless distu	
Woody Vine Stratum (Plot size:)	<u></u> 10	olai Covei		
1			Hydrophytic	
2			Vegetation	s No
% Page Orang dia Hart Otatan 30	<u>0</u> = To	otal Cover	Present? Yes	S NO
% Bare Ground in Herb Stratum 30 Remarks:				
			a in day is all 11	aa laalaata a
A positive rapid test, positive dominan	•	-	e index below thre	ee indicate a
hydrophytic vegetation community at	this data po	ınt.		

US Army Corps of Engineers

SOIL Sampling Point: DP03W

Profile Desc	cription: (Describ	e to the de	oth needed to docu	ment the	indicator	or confirm	the absence of indicators.)			
Depth	Matrix			x Feature						
(inches)	Color (moist)		Color (moist)	%	Type'	Loc ²	Texture Remarks			
0-2	10YR 3/2	100	1				Loam			
2 - 18	2.5Y 7/1	96	10YR 6/6	4	<u>C</u>		Silt Loam			
18 - 24	10Y 6/1	100	10YR 6/6	5	С		Loam			
-										
_										
				_						
	-			_						
-			-	_						
			=Reduced Matrix, C			ed Sand Gr				
-		icable to al	LRRs, unless othe		ted.)		Indicators for Problematic Hydric Soils ³ :			
Histosol	` '		Sandy Redox (2 cm Muck (A10)			
Histic Epipedon (A2) Stripped Matrix (S6) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1					MIRA 1)	Red Parent Material (TF2) Very Shallow Dark Surface (TF12)				
	en Sulfide (A4)		Loamy Gleyed			WILKA I)	Other (Explain in Remarks)			
	d Below Dark Surfa	ace (A11)	✓ Depleted Matri	•	_,		other (Explain in Normanie)			
	ark Surface (A12)	,	Redox Dark Su)		³ Indicators of hydrophytic vegetation and			
Sandy N	Mucky Mineral (S1)		Depleted Dark	Surface (F7)		wetland hydrology must be present,			
	Gleyed Matrix (S4)		Redox Depres	sions (F8)			unless disturbed or problematic.			
Restrictive	Layer (if present):									
Type:							,			
Depth (in	ches):						Hydric Soil Present? Yes No			
Remarks:										
Promine	nt redoximo	rphic c	oncentration	s com	mon w	ithin th	ne depleted matrix.			
							io depicted matrix.			
HYDROLO	GY									
Wetland Hy	drology Indicators	s:								
			ed; check all that app	ly)			Secondary Indicators (2 or more required)			
Surface	Water (A1)		Water-Sta	ined Leav	ves (B9) (e	xcept	Water-Stained Leaves (B9) (MLRA 1, 2,			
	ater Table (A2)			1, 2, 4A,			4A, and 4B)			
✓ Saturation			Salt Crust		,		Drainage Patterns (B10)			
	larks (B1)		Aquatic Ir	, ,	es (B13)		Drainage Fatterns (B10) Dry-Season Water Table (C2)			
	nt Deposits (B2)		Hydrogen				Saturation Visible on Aerial Imagery (C9)			
	posits (B3)					Living Roo				
Algal Ma	at or Crust (B4)		Presence	of Reduc	ed Iron (C4	1)	Shallow Aquitard (D3)			
Iron Dep	posits (B5)		Recent Iro	on Reduct	tion in Tille	d Soils (C6	FAC-Neutral Test (D5)			
Surface	Soil Cracks (B6)		Stunted o	r Stressed	d Plants (D	1) (LRR A)) Raised Ant Mounds (D6) (LRR A)			
Inundati	ion Vis ble on Aeria	l Imagery (E	37) Other (Ex	plain in R	emarks)		Frost-Heave Hummocks (D7)			
			(B8)							
Sparsely	y Vegetated Conca	ve Surface	(DO)							
Sparsely Field Obser	vations:									
	vations: ter Present?	Yes	No Depth (ir							
Field Obser	vations: ter Present? Present?	Yes	No Depth (ir	iches):						
Field Obser Surface Wat Water Table Saturation P	vations: ter Present? Present?	Yes	No Depth (ir	iches):			and Hydrology Present? Yes No			
Field Obser Surface Wat Water Table Saturation P (includes cap	rvations: ter Present? Present? tresent? pillary fringe)	Yes Yes Yes	No Pepth (ir No Depth (ir No Depth (ir	iches): iches): 0		Wetla				
Field Obser Surface Wat Water Table Saturation P (includes cap	rvations: ter Present? Present? tresent? pillary fringe)	Yes Yes Yes	No Depth (ir	iches): iches): 0		Wetla				
Field Obser Surface Wat Water Table Saturation P (includes cap Describe Re	rvations: ter Present? Present? tresent? pillary fringe)	Yes Yes Yes	No Pepth (ir No Depth (ir No Depth (ir	iches): iches): 0		Wetla				
Field Obser Surface Wat Water Table Saturation P (includes cal Describe Re	er Present? Present? Present? Present? pillary fringe) Present (strea	Yes Yes Yes m gauge, m	No Depth (ir No Depth (ir Depth (ir onitoring well, aerial	nches): nches): 0 photos, p	revious ins	Wetla pections),	if available:			
Field Obser Surface Wat Water Table Saturation P (includes cap Describe Re Remarks: Saturatio	rvations: ter Present? Present? tresent? pillary fringe) corded Data (strea	Yes Yes Yes m gauge, m	No Pepth (ir No Depth (ir No Depth (ir onitoring well, aerial	photos, p	revious ins	wetla pections),	if available: roots, the geomorphic position of the			
Field Obser Surface Wat Water Table Saturation P (includes cap Describe Re Remarks: Saturatio	rvations: ter Present? Present? tresent? pillary fringe) corded Data (strea	Yes Yes Yes m gauge, m	No Pepth (ir No Depth (ir No Depth (ir onitoring well, aerial	photos, p	revious ins	wetla pections),	if available:			

Project/Site: Schreiber Meadows	(City/County:	Lincoln (County Sampling Date: 2023-07-12
Applicant/Owner: MDT				State: Montana Sampling Point: DP04U
Investigator(s): M Hickey	(Section, To	wnship, Rar	nge: S11 T27N R30W
Landform (hillslope, terrace, etc.): Terrace				
Subregion (LRR): E 43A	Lat: 48.	1140528	,	Long: -115.4199651 Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly				
Are climatic / hydrologic conditions on the site typical for this			_	
Are Vegetation, Soil, or Hydrologys	-			Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology r	-			eded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map				
Hydrophytic Vegetation Present? Yes N			3 1	, , , , , , , , , , , , , , , , , , , ,
Hydric Soil Present? Yes N			e Sampled	
Wetland Hydrology Present? Yes N	o <u> </u>	withi	in a Wetlan	d? Yes No
Remarks:		l .		
Upland sample point located to the s	outh of	excava	ated we	etland cell 4A.
VEGETATION – Use scientific names of plan	ts.			
	Absolute			Dominance Test worksheet:
Tree Stratum (Plot size:)	% Cover			Number of Dominant Species
1				That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4		= Total Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
Sapling/Shrub Stratum (Plot size:)		Total Oo	VCI	That Are OBL, FACW, or FAC: 50.00 (A/B) Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species 0 x 1 = 0
3				FACW species 0 x 2 = 0
4	-			FAC species 36 x 3 = 108
5				FACU species 4 x 4 = 16
Herb Stratum (Plot size:)	0	= Total Co	ver	UPL species 40 x 5 = 200
1. Agropyron intermedium	40	~	UPL	Column Totals: <u>80</u> (A) <u>324</u> (B)
2. Alopecurus arundinaceus	30	~	FAC	Prevalence Index = B/A = 4.05
3. Cirsium arvense	6		FAC	Hydrophytic Vegetation Indicators:
4. Achillea millefolium	4		FACU	1 - Rapid Test for Hydrophytic Vegetation
5				2 - Dominance Test is >50%
6				3 - Prevalence Index is ≤3.0 ¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation¹ (Explain)
11	~~			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	80	= Total Cov	er	<u> </u>
1				Hydrophytic
2.				Vegetation
	_	= Total Cov		Present? Yes No
% Bare Ground in Herb Stratum 20				
Remarks:				
No evidence of hydrophytic vegetati	on obse	erved.		

SOIL Sampling Point: DP04U

Depth inches) Color	Matrix (moist)	%	Color (m	Redox oist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 7 10YR 2		100		<u> </u>		.,,,,		Sandy Loam	
7 - 16 10Y 5/		100						Clay Loam	many mio roots
7-10 101 3/		100						Oldy Louin	
-			· 						
-									
<u>-</u>			<u> </u>						
-									
			· ·						
									-
mai C=Canaantratii	n D-Don	lotion DA	4-Dadwaad M	etriv CC		d or Coots	d Cond Cr	21 o	action: DI -Doro Lining M-Matrix
/pe: C=Concentration dric Soil Indicators							a Sand Gr		cation: PL=Pore Lining, M=Matrix. prs for Problematic Hydric Soils ³ :
Histosol (A1)	. (Applic	abic to a		Redox (S		cu.,			n Muck (A10)
_ Histic Epipedon (A	2)			d Matrix (•			·	Parent Material (TF2)
Black Histic (A3)	_,				. ,	1) (except	MLRA 1)		y Shallow Dark Surface (TF12)
Hydrogen Sulfide	(A4)		-	-	∕latrix (F2		,		er (Explain in Remarks)
Depleted Below D		e (A11)	Deplete	d Matrix	(F3)				
_ Thick Dark Surface				Dark Surl	` ,				ors of hydrophytic vegetation and
_ Sandy Mucky Mine					Surface (F	- 7)			nd hydrology must be present,
Sandy Gleyed Ma			Redox	Depressi	ons (F8)			unles	s disturbed or problematic.
strictive Layer (if p									
Type:									
Donth (inchas):								Hydric Soil	Present? Yes No
o hydric soil i erived soils.	ndicat	ors ok	oserved.	Low	chrom	a and	high v	1 -	the result of volcanica
emarks: o hydric soil i erived soils. DROLOGY			oserved.	Low	chrom	a and	high v	1 -	the result of volcanica
emarks: D hydric soil i Prived soils. DROLOGY etland Hydrology Ir	idicators:					a and	high v	alue soils	
emarks: D hydric soil i Prived soils. DROLOGY etland Hydrology Ir	ndicators:		ed; check all t	hat apply	·)	es (B9) (e		alue soils	ndary Indicators (2 or more required)
marks: hydric soil i rived soils. DROLOGY etland Hydrology Ir mary Indicators (mir	idicators:		ed; check all t	hat apply ater-Stair	·)	es (B9) (e		alue soils	ndary Indicators (2 or more required)
marks: hydric soil in the prived soils. DROLOGY etland Hydrology In the mary Indicators (minus of source). Surface Water (A1)	idicators:		ed; check all t	hat apply ater-Stair	r) ned Leav	es (B9) (e		alue soils Secon	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1 ,
phydric soil in the phydric soil in the phydric soils. DROLOGY Setland Hydrology In the phydrology I	idicators:		<u>ed; check all t</u> W: Sa	hat apply ater-Stair MLRA 1 Ilt Crust (r) ned Leav	es (B9) (e and 4B)		alue soils Secon D	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B)
phydric soil in the prived soils. DROLOGY Petland Hydrology In the prived soils. DROLOGY Petland Hydrology In the prive soil in the pr	idicators: nimum of o) (A2)		ed; check all t W Sa Ac Hy	hat apply ater-Stair MLRA 1 ilt Crust (juatic Invi	ned Leave 1, 2, 4A , a B11) ertebrate Sulfide Od	es (B9) (e and 4B) es (B13) dor (C1)	xcept	alue soils Secon Becon	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Valuation Visible on Aerial Imagery (
emarks: D hydric soil is prived soils. DROLOGY etland Hydrology Interpretation (A1) High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3)	idicators: nimum of o) (A2) s (B2)		ed; check all t W Sa Ac Hy Os	hat apply ater-Stain MLRA 1 ilt Crust (juatic Invi drogen S kidized R	ned Leav 1, 2, 4A, a B11) ertebrate Sulfide Od hizosphe	es (B9) (e and 4B) es (B13) dor (C1) eres along	xcept Living Roo	Secon W	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (Geomorphic Position (D2)
emarks: D hydric soil in the prived soils. DROLOGY etland Hydrology In the prive imary Indicators (mirror imary Indica	idicators: himum of o) (A2) (B2) (B4)		ed; check all t W: Sa Ac Hy O: Pr	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Inv drogen S kidized Ri esence o	ned Leav 1, 2, 4A , a B11) ertebrate Sulfide Od hizosphe	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4	xcept Living Roc	Secondary Second	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (Coemorphic Position (D2) Schallow Aquitard (D3)
prived soils. DROLOGY etland Hydrology Ir mary Indicators (mir Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5)	idicators: nimum of o) (A2) s (B2) (B4)		ed; check all t — W — Sa — Ac — Hy — Ox — Pr — Re	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Invedrogen S kidized Ri esence o	ned Leaver, 2, 4A, and B11) ertebrate Sulfide Or hizosphe of Reduce	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4 on in Tille	xcept Living Roo	Secon — W — D — Sots (C3) — S	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (Company Properties (D2) Season Water (D3) Schallow Aquitard (D3) AC-Neutral Test (D5)
prived soils. DROLOGY Petland Hydrology In mary Indicators (mir. Surface Water (A1. High Water Table Saturation (A3). Water Marks (B1). Sediment Deposits. Drift Deposits (B3). Algal Mat or Crust. Iron Deposits (B5). Surface Soil Crack.	idicators: aimum of o) (A2) (B2) (B4) (B4)	ne requir	ed; check all t — W — Sa — Ac — Hy — Pr — Re — St	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Invidrogen S kidized Ri esence o ecent Iron	ned Leave 1, 2, 4A, a B11) ertebrate Sulfide Od hizosphe of Reduce n Reducti Stressed	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) on in Tillee Plants (D	xcept Living Roc	Secon V D S Sts (C3) S S F) R	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Praituration Visible on Aerial Imagery (Ca) Proposition (D2) Proposition (D3) Proposition (D3) Proposition (D3) Proposition (D5) Proposition (D6) (LRR A) Proposition (D6) (LRR A)
prived soils. DROLOGY Etland Hydrology In mary Indicators (min Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble	idicators: aimum of o) (A2) (B2) (B4) (B4) (B6) on Aerial I	ne requir	ed; check all t Sa Ac Hy On Pr Re St B7) Ot	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Invidrogen S kidized Ri esence o ecent Iron	ned Leaver, 2, 4A, and B11) ertebrate Sulfide Or hizosphe of Reduce	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) on in Tillee Plants (D	xcept Living Roo	Secon V D S Sts (C3) S S F) R	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (Company Properties (D2) Season Water (D3) Schallow Aquitard (D3) AC-Neutral Test (D5)
Prived soils. PROLOGY Petland Hydrology In Mary Indicators (min Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate	idicators: aimum of o) (A2) (B2) (B4) (B4) (B6) on Aerial I	ne requir	ed; check all t Sa Ac Hy On Pr Re St B7) Ot	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Invidrogen S kidized Ri esence o ecent Iron	ned Leave 1, 2, 4A, a B11) ertebrate Sulfide Od hizosphe of Reduce n Reducti Stressed	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4) on in Tillee Plants (D	xcept Living Roo	Secon V D S Sts (C3) S S F) R	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Praituration Visible on Aerial Imagery (Ca) Proposition (D2) Proposition (D3) Proposition (D3) Proposition (D3) Proposition (D5) Proposition (D6) (LRR A) Proposition (D6) (LRR A)
prived soils. PROLOGY Stand Hydrology In mary Indicators (mir and Hydrology In any Indicators (mir any Indicators (mir any Indicators (Mary	idicators: himum of o) (A2) (B2) (B4) (B4) as (B6) on Aerial I d Concave	magery (le Surface	ed; check all t	hat apply ater-Stair MLRA 1 alt Crust (juatic Inv drogen S kidized Ri esence o ecent Iron unted or a her (Expl	ned Leavel, 2, 4A, a B11) ertebrate Sulfide Ochizosphe of Reduce on Reducti Stressed lain in Re	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4 on in Tillee Plants (D	xcept Living Roo) d Soils (C6 1) (LRR A	Secon V D S Sts (C3) S S F) R	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Praituration Visible on Aerial Imagery (Ca) Proceedings of the Color (D2) Procedure (D3) Procedure (D3) Procedure (D3) Procedure (D5) Procedure (D5) Procedure (D6) (LRR A)
prived soils. PROLOGY Petland Hydrology In mary Indicators (mir. Surface Water (A1. High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Peld Observations: rface Water Present	idicators: himum of o (A2) (B2) (B4) (S (B6) on Aerial I d Concave	magery (ie Surface	ed; check all t	hat apply ater-Stair MLRA 1 alt Crust (juatic Inv drogen S kidized Ri esence o ecent Iron unted or a her (Expl	ned Leavel, 2, 4A, a B11) ertebrate Sulfide Ochizosphe of Reduce of Reducti Stressed dain in Re	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4 on in Tilled Plants (D	xcept Living Rock I) d Soils (C6 1) (LRR A	Secon V D S Sts (C3) S S F) R	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Praituration Visible on Aerial Imagery (Ca) Proceedings of the Color (D2) Procedure (D3) Procedure (D3) Procedure (D3) Procedure (D5) Procedure (D5) Procedure (D6) (LRR A)
Prived soils. PROLOGY Petland Hydrology Interpretation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Petel Observations: Irace Water Present Pater Table Present?	dicators: nimum of o) (A2) (B4) (B4) (B6) on Aerial I d Concave	magery (le Surface	ed; check all t — W — Sa — Ac — Hy — Pr — Re — St B7) — Ot (B8)	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Invidrogen S kidized Ri esence of ecent Iron unted on her (Expl	ned Leave 1, 2, 4A, a B11) ertebrate Sulfide Oo hizosphe of Reducti Stressed lain in Re hes): hes):	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4 on in Tillee Plants (D emarks)	xcept Living Roo I) d Soils (C6 1) (LRR A	Secondary Second	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (Ca) Seomorphic Position (D2) Schallow Aquitard (D3) AC-Neutral Test (D5) Caised Ant Mounds (D6) (LRR A) Orost-Heave Hummocks (D7)
emarks: D hydric soil is erived soils. DROLOGY etland Hydrology Ir mary Indicators (mir Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Eld Observations: Irface Water Present ater Table Present? Ituration Present? cludes capillary fring Iron Present?	dicators: nimum of o) (A2) (B4) (B4) (B6) on Aerial I d Concave ? Y Y	magery (le Surface	ed; check all t — W — Sa — Ac — Hy — Pr — Re — St B7) — Ot (B8)	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Invidrogen S kidized Ri esence o ecent Iron unted or her (Expl	ned Leave 1, 2, 4A, a B11) ertebrate Sulfide Oo hizosphe of Reducti Stressed lain in Re hes): hes):	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4 on in Tillee Plants (D emarks)	Living Rook Soils (C6 1) (LRR A	Secondary Second	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Staturation Visible on Aerial Imagery (Ca) Seomorphic Position (D2) Schallow Aquitard (D3) AC-Neutral Test (D5) Caised Ant Mounds (D6) (LRR A) Orost-Heave Hummocks (D7)
emarks: D hydric soil in erived soils. DROLOGY etland Hydrology In imary Indicators (minumary Indicators (minumary Indicators (minumary Indicators (Manager Indicat	dicators: nimum of o) (A2) (B4) (B4) (B6) on Aerial I d Concave ? Y Y	magery (le Surface	ed; check all t — W — Sa — Ac — Hy — Pr — Re — St B7) — Ot (B8)	hat apply ater-Stair MLRA 1 Ilt Crust (juatic Invidrogen S kidized Ri esence o ecent Iron unted or her (Expl	ned Leave 1, 2, 4A, a B11) ertebrate Sulfide Oo hizosphe of Reducti Stressed lain in Re hes): hes):	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4 on in Tillee Plants (D emarks)	Living Rook Soils (C6 1) (LRR A	Secondary Second	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Oraturation Visible on Aerial Imagery (Ca) Oraturation Position (D2) Orathallow Aquitard (D3) Orathallow Aquitard (D3) Orathallow Aquitard (D5) Orathallow And (D6) (LRR A) Orathallow And (D6)
emarks: D hydric soil is erived soils. DROLOGY etland Hydrology Interpretation (A1) Surface Water (A1) High Water Table Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble	dicators: himum of o) (A2) (B4) (B4) (B6) on Aerial I d Concave ? Y Y e) ta (stream	magery (le Surface fes fes gauge, n	ed; check all t Will Sa Ac Hy Or Pr Re St B7) No No No D nonitoring well	hat apply ater-Stair MLRA 1 alt Crust (juatic Invidrogen S kidized Ri esence of ecent Iron unted or a her (Expl epth (inc epth (inc epth (inc	ned Leavel, 2, 4A, and B11) ertebrate Sulfide Oo hizosphe of Reducting Stressed lain in Resultation in Resultat	es (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C4 on in Tillee Plants (D emarks)	Living Rook Soils (C6 1) (LRR A	Secondary Second	ndary Indicators (2 or more required) Vater-Stained Leaves (B9) (MLRA 1, 4A, and 4B) Prainage Patterns (B10) Pry-Season Water Table (C2) Praituration Visible on Aerial Imagery (Ca) Proceedings of the Color (D2) Procedure (D3) Procedure (D3) Procedure (D4) Procedure (D5) Procedure (D5) Procedure (D6) (LRR A)

Project/Site: Schrieber Meadows	(City/Cour	nty: Lincoln (County	Sampling Date: _	2023-07-12
Applicant/Owner: MDT				State: Montana	Sampling Point:	DP04W
Investigator(s): J Trilling		Section,	Township, Rai	nge: S11 T27N R30W	<u> </u>	
Landform (hillslope, terrace, etc.): Valley Floor		Local rel	ief (concave, o	convex, none): Concave	e Slo	oe (%): 2
Subregion (LRR): E 43A						
Soil Map Unit Name: 105 - Aquic Udifluvents, poor						
Are climatic / hydrologic conditions on the site typical for t						
Are Vegetation, Soil, or Hydrology	-					No
Are Vegetation, Soil, or Hydrology				eded, explain any answe		
SUMMARY OF FINDINGS – Attach site ma					•	atures, etc.
Hydrophytic Vegetation Present? Yes	No			<u> </u>	<u>: -</u>	<u> </u>
	No		the Sampled	Area		
	No	WI	ithin a Wetlan	id? Yes	No	-
Remarks:						
Wetland sample point located at th	e south e	end of	excavat	ed wetland cell	4A.	
VEGETATION – Use scientific names of pla	ınts.					
Tree Stratum (Plot size:			int Indicator S? Status	Dominance Test work		
1	· · · · · · · · · · · · · · · · · · ·			Number of Dominant Sp That Are OBL, FACW, of		(A)
2.						(/ //
3.				Total Number of Domin Species Across All Stra		(B)
4				Percent of Dominant Sp		
Carling/Charle Charles (Dlat sing)	0	= Total (Cover	That Are OBL, FACW, of		(A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index wor	ksheet:	
1 2				Total % Cover of:		y by:
3.					x 1 = 0	
4.				FACW species 90		<u> </u>
5					x 3 = 18	
	•	= Total (Cover	^	x 4 = 0 x 5 = 0	
Herb Stratum (Plot size:)	00		E 4 O)4/		$\times 5 = 0$ (A) 198	
Phalaris arundinacea Alopecurus arundinaceus	90		FACW FAC			(D)
3 Cirsium arvense	2		FAC	Prevalence Index		
•-				Hydrophytic Vegetation		
4. 5.				1 - Rapid Test for F		ation
6.				✓ 2 - Dominance Tes✓ 3 - Prevalence Inde		
7.				4 - Morphological A		ide supporting
8.				data in Remarks	s or on a separate	sheet)
9.				5 - Wetland Non-Va	ascular Plants ¹	
10				Problematic Hydro	phytic Vegetation ¹	(Explain)
11				¹ Indicators of hydric soil be present, unless distu	l and wetland hydr	ology must
Manda Vina Otratam (Blataina	96	= Total C	Cover	be present, unless distr		uc.
Woody Vine Stratum (Plot size:)						
1				Hydrophytic Vegetation		
2	_	= Total C		Present? Yes	s No	
% Bare Ground in Herb Stratum 4						
Remarks:						
A positive rapid test, positive dominan	ce test, a	nd a p	revalence	e index below thr	ee indicate a	1
hydrophytic vegetation community at	this data	point.				

US Army Corps of Engineers

SOIL Sampling Point: DP04W

Depth	cription: (Describe Matrix	e to the dep	oth needed to docu Red	ment the		or confirm	the absence	or indicators.)
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0 - 16	10YR 2/1	100					Loam	moist
16 - 20	10YR 7/1	98	7.5YR 6/6	2	С	M	Loam	moist
	<u> </u>		· · · · · · · · · · · · · · · · · · ·					
					_			
-					_			
-								
-				_				
¹Type: C=C	oncentration. D=De	pletion RM	=Reduced Matrix, C	S=Covere	ed or Coat	ted Sand Gra	ains. ² Lo	cation: PL=Pore Lining, M=Matrix.
			LRRs, unless other					ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Sandy Redox	(S5)			2 cr	m Muck (A10)
Histic E	oipedon (A2)		Stripped Matrix					Parent Material (TF2)
Black Hi	, ,		Loamy Mucky			ot MLRA 1)		y Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed		2)		Oth	er (Explain in Remarks)
	d Below Dark Surfa	ce (A11)	Depleted Matri		`		31	ore of hydrophytic verstation and
	ark Surface (A12) Mucky Mineral (S1)		Redox Dark Si Depleted Dark	•	•			ors of hydrophytic vegetation and and and hydrology must be present,
	Gleyed Matrix (S4)		Redox Depres					es disturbed or problematic.
	Layer (if present):			0.0.10 (1.0)	'		1	o dictarsed or prosicinguo.
	ches):						Hydric Soil	Present? Yes No
Remarks:	,		<u>-</u>					
		orpriic c	oncentration	S COIII	IIIOII II	n the ma	atrix beit	ow 16 .
HYDROLO								
•	drology Indicators		d; check all that app	dv)			Seco	ndary Indicators (2 or more required)
	Water (A1)	One require	<u>u, check all that app</u> Water-Sta	•	(BQ) (evcent		Vater-Stained Leaves (B9) (MLRA 1, 2,
	iter Table (A2)			1, 2, 4A,		except	<u> </u>	4A, and 4B)
Saturation			Salt Crus		ana 46)		Г	Orainage Patterns (B10)
Water M	` '		Aquatic Ir	` ,	es (B13)			Ory-Season Water Table (C2)
	nt Deposits (B2)		Hydroger					Saturation Visible on Aerial Imagery (C9)
	posits (B3)					g Living Roof		Geomorphic Position (D2)
	at or Crust (B4)		Presence			-	· · —	Shallow Aquitard (D3)
Iron Dep	oosits (B5)		Recent In	on Reduct	ion in Till	ed Soils (C6)) <u>•</u> F	AC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted of	r Stressed	d Plants (l	D1) (LRR A)	F	Raised Ant Mounds (D6) (LRR A)
Inundati	on Vis ble on Aeria	I Imagery (B	7) Other (Ex	plain in R	emarks)		F	rost-Heave Hummocks (D7)
Sparsely	Vegetated Conca	ve Surface (B8)					
Field Obser	vations:							
Surface Wat			No Depth (ir					
Water Table			No Depth (in					
Saturation P		Yes	No V Depth (in	nches):		Wetla	and Hydrolog	y Present? Yes No
(includes cap Describe Re		m gauge, m	onitoring well, aerial	photos, p	revious ir	l nspections), i	f available:	
Remarks:								
The geo	morphic pos	sition of	the point ar	nd a po	sitive	FAC-ne	eutral tes	st provide evidence of
•	hydrology a		•					•
weciaiiu	inyurulugy a	at till5 U	αια μυπι.					

Project/Site: Schreiber Meadows	(City/County:	Lincoln (County Sampling D	oate: 2023-07-12
Applicant/Owner: MDT				State: Montana Sampling P	oint: DP05U
Investigator(s): M Hickey					
Landform (hillslope, terrace, etc.):					Slope (%):
				Long: -115.4207935	
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly					
Are climatic / hydrologic conditions on the site typical for thi			_		
Are Vegetation, Soil, or Hydrologys	-			Normal Circumstances" present? Ye	No.
	-				
Are Vegetation, Soil, or Hydrology I SUMMARY OF FINDINGS – Attach site map				eded, explain any answers in Remark ocations. transects. importa	
Hydrophytic Vegetation Present? Yes N		<u> </u>	<u> </u>	, , , ,	
Hydric Soil Present? Yes N			e Sampled		.,
Wetland Hydrology Present? Yes N	lo <u> </u>	with	in a Wetlan	d? Yes No	<u> </u>
Remarks:					
Upland sample point located betwee	en exca	vated w	etland/	cells 2A and 3A,	
VEGETATION – Use scientific names of plan	nts.				
Total Objections (Diet sings)		Dominant		Dominance Test worksheet:	
Tree Stratum (Plot size:) 1	% Cover			Number of Dominant Species That Are OBL, FACW, or FAC: 0	(A)
2				Total Number of Dominant	
3					(B)
4				Percent of Dominant Species	
Carling/Charle Charles (Diet size)	0	= Total Co	ver	That Are OBL, FACW, or FAC: 0	.00 (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:	-
1					Nultiply by:
3.				OBL species $0 \times 1 =$	
4.				FACW species $0 \times 2 =$	
5.				FAC species $\frac{17}{2}$ x 3 =	
	0	= Total Co	ver	FACU species $0 \times 4 =$	
Herb Stratum (Plot size:)		•			300
1. Bromus inermis			·	Column Totals: <u>77</u> (A)	351 (B)
2. Alopecurus arundinaceus	_ 10		FAC	Prevalence Index = $B/A = 4$	
3. Agrostis capillaris Poa pratensis	- 4		FAC	Hydrophytic Vegetation Indicator	
¬	- 		FAC	1 - Rapid Test for Hydrophytic \	/egetation
5				2 - Dominance Test is >50%	
6				3 - Prevalence Index is ≤3.0 ¹	
7 8				4 - Morphological Adaptations ¹ data in Remarks or on a sep	(Provide supporting parate sheet)
9.				5 - Wetland Non-Vascular Plan	· ·
10				Problematic Hydrophytic Veget	
11.				¹ Indicators of hydric soil and wetland	d hydrology must
		= Total Cov	er	be present, unless disturbed or prob	olematic.
Woody Vine Stratum (Plot size:)					
1				Hydrophytic	
2				Vegetation Present? Yes I	No 🗸
% Bare Ground in Herb Stratum 23	0	= Total Cov	rer	1001	
Remarks:					
	ion alas	owy o al			
No evidence of hydrophytic vegetat	ion obs	ervea.			

SOIL Sampling Point: DP05U

Depth inches)	Matrix Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	10YR 6/2	97	7.5YR 4/6	3	С	М	Loam	Fine roots throughout
	7.5YR 3/1	100			-		Loam	
	7.011(0)1			_			Louin	-
					· ——			-
				_				· -
<u> </u>								
-								
		_		_				
		_	_					-
			_				. 2.	
			M=Reduced Matrix, C			ed Sand G		ocation: PL=Pore Lining, M=Matrix.
		cable to a	III LRRs, unless other		ea.)			ors for Problematic Hydric Soils ³ :
_ Histosol (A	•		Sandy Redox Stripped Matri	. ,			·	cm Muck (A10)
Histic EpipBlack Histi			Suipped Math		1) (excen	·MIRA1)		d Parent Material (TF2) ry Shallow Dark Surface (TF12)
	Sulfide (A4)		Loamy Gleyed			· WERA I)		her (Explain in Remarks)
	Below Dark Surfac	ce (A11)	Depleted Matr		-,		_ •	(2) (2) (2) (2) (2) (3)
	Surface (A12)	,	Redox Dark S)		³ Indica	tors of hydrophytic vegetation and
	cky Mineral (S1)		Depleted Dark	Surface (=7)		wet	and hydrology must be present,
	yed Matrix (S4)		Redox Depres	sions (F8)			unle	ess disturbed or problematic.
estrictive La	yer (if present):							
Type:								
Depth (inche	es):						Usalaia Ca	il Present? Yes No 🛂
emarks: ow chror atures li	na and hig kely relict.	h valu	e soils the re	sult of	volcan	ically	Hydric So	soils. Redoximorphic
emarks: Dw chrore atures li 'DROLOG	na and hig kely relict.		e soils the re	sult of	volcan	ically (
emarks: DW chrore eatures li DROLOG fetland Hydro	ma and hig kely relict. Y ology Indicators	:	e soils the res		volcan	ically (derived s	<u> </u>
emarks: DW chrore eatures li DROLOG etland Hydro	ma and hig kely relict. Y plogy Indicators ors (minimum of	:	red; check all that app			-	derived s	soils. Redoximorphic
emarks: DW Chror eatures li DROLOG etland Hydro imary Indicat Surface W High Wate	ma and hig kely relict. Y Dlogy Indicators ors (minimum of ater (A1) r Table (A2)	:	red; check all that app Water-St MLRA	oly) ained Leav	ves (B9) (€	-	derived s	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2
emarks: OW chrore atures li OROLOG Total Hydro Timary Indicat Surface W	ma and hig kely relict. Y Dlogy Indicators ors (minimum of ater (A1) r Table (A2)	:	red; check all that app	oly) ained Leav	ves (B9) (€	-	derived s	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10)
emarks: OW Chror eatures li CDROLOG etland Hydro imary Indicat Surface W High Wate Saturation Water Mar	ma and high kely relict. Y plogy Indicators ors (minimum of later (A1) or Table (A2) (A3) ks (B1)	:	red; check all that app — Water-St MLRA — Salt Crus — Aquatic I	oly) ained Leav A 1, 2, 4A, at (B11) nvertebrate	ves (B9) (eand 4B)	-	derived s	endary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
emarks: DW Chror eatures li DROLOG etland Hydro rimary Indicat Surface W High Wate Saturation Water Mar Sediment I	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	:	red; check all that app — Water-St MLR A — Salt Crus — Aquatic I — Hydrogel	oly) ained Leav A 1, 2, 4A, et (B11) nvertebrate	ves (B9) (e and 4B) es (B13) dor (C1)	xcept	derived s	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C
emarks: DW Chror eatures li DROLOG fetland Hydro rimary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depos	ma and high kely relict. Y Dlogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	:	red; check all that app — Water-St MLRA — Salt Crus — Aquatic I — Hydroger — Oxidized	oly) ained Leav A 1, 2, 4A, st (B11) nvertebrate n Sulfide O Rhizosphe	res (B9) (eand 4B) es (B13) dor (C1) eres along	xcept Living Roo	derived s	ondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)
emarks: DW Chrore atures li DROLOG Vetland Hydrorimary Indicat Surface W. High Wate Saturation Water Mar Sediment I Drift Depos	ma and high kely relict. Y plogy Indicators ors (minimum of atter (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	:	red; check all that app — Water-St MLRA — Salt Crus — Aquatic I — Hydrogel — Oxidized — Presence	oly) ained Leav A 1, 2, 4A, at (B11) nvertebrate n Sulfide O Rhizosphe	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C-	xcept Living Root	Second Se	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3)
emarks: DW Chrore atures li DROLOG Vetland Hydrorimary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) sits (B5)	:	red; check all that app — Water-St MLRA — Salt Crus — Aquatic I — Hydroger — Oxidized — Presence — Recent Ir	ained Leav A 1, 2, 4A, at (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (Co ion in Tille	xcept Living Root 4) d Soils (Co	Second Se	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
emarks: DW Chrore eatures li DROLOG Vetland Hydro rimary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)	: one requi	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydrogel Oxidized Presence Recent Ir	ained Leav A 1, 2, 4A, et (B11) invertebrate in Sulfide O Rhizosphe e of Reduct on Reduct or Stressed	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C-ion in Tille I Plants (D	xcept Living Root 4) d Soils (Co	Second S	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: DW Chrore eatures li DROLOG fetland Hydro rimary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Vis ble on Aerial	: one requi	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydroger Oxidized Presence Recent Ir Stunted of	ained Leav A 1, 2, 4A, et (B11) invertebrate in Sulfide O Rhizosphe e of Reduct on Reduct or Stressed	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C-ion in Tille I Plants (D	xcept Living Root 4) d Soils (Co	Second S	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
emarks: OW Chrore eatures li /DROLOG /etland Hydro rimary Indicat _ Surface W _ High Wate _ Saturation _ Water Mar _ Sediment I _ Drift Depos _ Algal Mat co _ Iron Depos _ Surface Sco _ Inundation _ Sparsely V	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Vis ble on Aerial (egetated Concav	: one requi	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydroger Oxidized Presence Recent Ir Stunted of	ained Leav A 1, 2, 4A, et (B11) invertebrate in Sulfide O Rhizosphe e of Reduct on Reduct or Stressed	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C-ion in Tille I Plants (D	xcept Living Root 4) d Soils (Co	Second S	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: DW Chrore atures li DROLOG Total Mydrorimary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of Iron Depose Surface So Inundation Sparsely Weld Observa	ma and high kely relict. Y Dlogy Indicators ors (minimum of oter (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Vis ble on Aerial degetated Concavitions:	: one requir Imagery (re Surface	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydroger Oxidized Presence Recent Ir Stunted of (B7) (B8)	ained Leav A 1, 2, 4A, at (B11) nvertebrate n Sulfide O Rhizosphe e of Reduct on Reduct or Stressec	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C-ion in Tille I Plants (Demarks)	xcept Living Roo 4) d Soils (Co	Second S	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: DW Chrore atures live ature l	ma and high kely relict. Y Dlogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) oils (B5) oil Cracks (B6) Vis ble on Aerial (egetated Concavitions: Present?	: one requir Imagery (re Surface	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II Stunted of (B7) (B8)	ained Leave A 1, 2, 4A, at (B11) Invertebrate in Sulfide Of Reduction Reduction Reductor Stressed xplain in Reduction Reductio	res (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C-ion in Tille I Plants (Demarks)	Living Root A) d Soils (Control of the control of	Second S	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: DW Chror eatures li DROLOG etland Hydro imary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely Weld Observa	ma and high kely relict. Y plogy Indicators ors (minimum of atter (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) Vis ble on Aerial (egetated Concavitions: Present?	: one requir magery (e Surface yes	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II Stunted of (B7) (B8) No Depth (i	ained Leava A 1, 2, 4A, et (B11) en Sulfide O Rhizosphe e of Reduction Reduction Stressec (splain in Reduction Stressec (splai	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Root A) d Soils (Cot) 1) (LRR A	Second S	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
emarks: DW Chror eatures li EDROLOG etland Hydro imary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depos Algal Mat o Iron Depos Surface So Inundation Sparsely V eld Observa arface Water faturation Presence of the color of the col	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) oil Cracks (B6) vis ble on Aerial (egetated Concavitions: Present? esent? esent? esent? eary fringe)	: Imagery (re Surface Yes Yes	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II Stunted of (B7) (B8)	ained Leava A 1, 2, 4A, et (B11) Invertebrate on Sulfide O Rhizosphe of Reduction Reduction Stressed explain in References: Inches):	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Root 4) d Soils (Cot) (LRR A	Second Se	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
emarks: DW Chrore eatures li DROLOG Vetland Hydro rimary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of Iron Depose Surface So Inundation Sparsely W Vetland Observation Vetland Observation Vetland Presenctudes capillities Reconsidered	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) or Crust (B4) or Crust (B4) oil Cracks (B6) vis ble on Aerial (egetated Concavitions: Present? esent? esent? esent? eary fringe)	: Imagery (re Surface Yes Yes	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II Stunted of (B7) Other (E: (B8)	ained Leava A 1, 2, 4A, et (B11) Invertebrate on Sulfide O Rhizosphe of Reduction Reduction Stressed explain in References: Inches):	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Root 4) d Soils (Cot) (LRR A	Second Se	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
emarks: DW Chrore eatures li DROLOG Vetland Hydro rimary Indicat Surface W High Wate Saturation Water Mar Sediment I Drift Depose Algal Mat of Iron Depose Surface So Inundation Sparsely W Vetla Observa urface Water Vater Table Presenctudes capille escribe Reconservations emarks:	ma and high kely relict. Y plogy Indicators ors (minimum of ater (A1) or Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) orl Cracks (B6) Vis ble on Aerial regetated Concavitions: Present? sent? ary fringe) rded Data (stream	: one requir Imagery (re Surface Yes Yes Yes In gauge, r	red; check all that app Water-St MLRA Salt Crus Aquatic I Hydrogel Oxidized Presence Recent II Stunted of (B7) Other (E: (B8)	ained Leava A 1, 2, 4A, at (B11) nivertebrate in Sulfide Of Reduction Reduction Stressed explain in References):	ves (B9) (e and 4B) es (B13) dor (C1) eres along ed Iron (C- ion in Tille I Plants (Demarks)	Living Root 4) d Soils (Cot) (LRR A	Second Se	condary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: Schrieber Meadows	(City/Cou	_{inty:} Lincoln (County	Sampling Date: 2023-07-12
Applicant/Owner: MDT		-	=		Sampling Point: DP05W
				nge: S11 T27N R30W	
Landform (hillslope, terrace, etc.): Swale				_	_
, ,			,	,	Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poor				NWI classific	
Are climatic / hydrologic conditions on the site typical for t					
Are Vegetation, Soil, or Hydrology	-				resent? Yes No
Are Vegetation, Soil, or Hydrology				eded, explain any answe	
SUMMARY OF FINDINGS – Attach site maj					
	No			, , , , , , , , , , , , , , , , , , ,	<u> </u>
	No		s the Sampled		
Wetland Hydrology Present? Yes	No	w	ithin a Wetlar	nd? Yes	No
Remarks:					
Wetland sample point located betw	een exca	avate	ed wetlan	d cells 2A and 3	A.
VEGETATION – Use scientific names of pla	ints				
VEGETATION OSC SCIENTIFIC NAMES OF PIE		Domina	ant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size:)			s? Status	Number of Dominant Sp	pecies
1				That Are OBL, FACW, o	or FAC: 3 (A)
2				Total Number of Domin	•
3				Species Across All Stra	ta: <u>3</u> (B)
4	0	- Total	Cover	Percent of Dominant Sp	
Sapling/Shrub Stratum (Plot size:)	<u> </u>	- TOlai	Covei	That Are OBL, FACW, o	
1				Prevalence Index worl Total % Cover of:	
2					Multiply by: x 1 = 15
3				FACW species 15	
4					x 3 = 126
5	_				x 4 = 0
Herb Stratum (Plot size:)	0	= Total	Cover		x 5 = 0
1. Alopecurus arundinaceus	30	~	FAC	Column Totals: 72	(A) <u>171</u> (B)
2 Carex pellita	15	~	OBL	Prevalence Index	- P/A - 238
3. Phalaris arundinacea	15	~	FACW	Hydrophytic Vegetation	
4. Agrostis capillaris	10		FAC	1 - Rapid Test for H	
5. Juncus tenuis	2		<u>FAC</u>	✓ 2 - Dominance Tes	
6				✓ 3 - Prevalence Inde	ex is ≤3.0 ¹
7				4 - Morphological A	daptations ¹ (Provide supporting
8					s or on a separate sheet)
9				5 - Wetland Non-Va	
10					ohytic Vegetation¹ (Explain) and wetland hydrology must
11	70			be present, unless distu	
Woody Vine Stratum (Plot size:)	72	= Total (Cover		
1				Hydrophytic	
2				Vegetation	v
	_	= Total (Cover	Present? Yes	s No
% Bare Ground in Herb Stratum 28 Remarks:					
		_	• •		
A positive dominance test and a preva	lence ind	ex <3	provides	evidence for a hy	drophytic vegetation
community at this data point.					

US Army Corps of Engineers

SOIL Sampling Point: DP05W

Profile Desc	cription: (Describe	e to the dep	oth needed to docu	ment the	indicator	or contiri	m the absence	of indicators.)
Depth	Matrix		Redo	ox Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 4	10YR 6/2	80	10YR 6/6	20	<u>C</u>	М	Silt Loam	fine roots
4 - 13	2.5Y 3/1	97	7.5YR 6/6	3	С	М	Sandy Clay Loam	
13 - 18	10YR 7/1	99	7.5YR 6/6	1	С	М	Sandy Loam	
-	_							
_								
				_				
	-		-				·	
17			Deduced Metric O	0 0		1010	21 -	estion DI Deceliate M Metale
			=Reduced Matrix, C LRRs, unless other			d Sand G		cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ :
-		cable to all			ieu.)			
Histosol	pipedon (A2)		Sandy Redox (Stripped Matrix					n Muck (A10) I Parent Material (TF2)
	istic (A3)		Loamy Mucky		1) (excent	MIRA 1		y Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed			. IVILINA I		er (Explain in Remarks)
	d Below Dark Surfa	ice (A11)	✓ Depleted Matri		-,		0	or (Explain in Normanie)
	ark Surface (A12)	(7 (7 (7)	Redox Dark St	` ')		3Indicate	ors of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark					and hydrology must be present,
Sandy C	Gleyed Matrix (S4)		Redox Depres				unles	ss disturbed or problematic.
Restrictive	Layer (if present):		· · · · · · · · · · · · · · · · · · ·					•
Type:								
Depth (in	ches):						Hydric Soil	Present? Yes No
Remarks:								
Promine	nt redoximo	rphic co	oncentration	s com	mon in	the d	epleted n	natrix.
HYDROLO	GY							
Wetland Hy	drology Indicators	S:						
Primary Indi	cators (minimum of	one require	d; check all that app	ly)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ained Leav	ves (B9) (e	xcept	V	Vater-Stained Leaves (B9) (MLRA 1, 2,
High Wa	ater Table (A2)		MLRA	1, 2, 4A,	and 4B)			4A, and 4B)
Saturati			Salt Crus	t (B11)				Prainage Patterns (B10)
Water M	Marks (B1)		Aquatic Ir	vertebrate	es (B13)			Pry-Season Water Table (C2)
<u> </u>	nt Deposits (B2)		Hydrogen					saturation Visible on Aerial Imagery (C9)
	posits (B3)					Livina Ro		Geomorphic Position (D2)
	at or Crust (B4)				ed Iron (C4	-		shallow Aquitard (D3)
_							<u> </u>	mamori / iquitar a (20)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C						:6) 🗸 F	AC-Neutral Test (D5)	
-								AC-Neutral Test (D5)
Surface	Soil Cracks (B6)	I Imagany (P	Stunted o	r Stressed	d Plants (D		A) F	aised Ant Mounds (D6) (LRR A)
Surface	Soil Cracks (B6) ion Vis ble on Aeria		Stunted o	r Stressed	d Plants (D		A) F	
Surface Inundati Sparsel	Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Conca		Stunted o	r Stressed	d Plants (D		A) F	aised Ant Mounds (D6) (LRR A)
Surface Inundati Sparsel Field Obser	Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concarvations:	ve Surface (Stunted o 7) Other (Ex B8)	r Stressed plain in Ro	d Plants (D emarks)	1) (LRR A	A) F	aised Ant Mounds (D6) (LRR A)
Surface Inundati Sparsel	Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concarvations: ter Present?	ve Surface (Stunted of Other (Ex B8) No Depth (in	r Stressed plain in Ro nches):	d Plants (D emarks)	1) (LRR A	A) F	aised Ant Mounds (D6) (LRR A)
Surface Inundati Sparsel Field Obser Surface Wat Water Table	Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concarvations: ter Present?	ve Surface (Yes	Stunted of Other (Ex B8) No	r Stressed plain in Re nches): nches):	d Plants (D emarks)	1) (LRR A	A) F	taised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Surface Inundati Sparsel Field Obser Surface Wat Water Table Saturation P	Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concar vations: ter Present? Present?	ve Surface (Yes	Stunted of Other (Ex B8) No Depth (in	r Stressed plain in Re nches): nches):	d Plants (D emarks)	1) (LRR A	A) F	aised Ant Mounds (D6) (LRR A)
Surface Inundati Sparsel; Field Obser Surface Wat Water Table Saturation P (includes ca	Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concar vations: ter Present? Present? pillary fringe)	Yes Yes Yes	Stunted of Other (Ex B8) No	r Stressed plain in Ro nches): nches): nches):	d Plants (D emarks)	1) (LRR A	A) F	taised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Surface Inundati Sparsel; Field Obser Surface Wat Water Table Saturation P (includes ca	Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concar vations: ter Present? Present? pillary fringe)	Yes Yes Yes	Stunted of Other (Extended in Stunted of Other (Extended in State of State of Other (Extended in State of Other (E	r Stressed plain in Ro nches): nches): nches):	d Plants (D emarks)	1) (LRR A	A) F	taised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Surface Inundati Sparsel; Field Obser Surface Wat Water Table Saturation P (includes ca	Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concar vations: ter Present? Present? pillary fringe)	Yes Yes Yes	Stunted of Other (Extended in Stunted of Other (Extended in State of State of Other (Extended in State of Other (E	r Stressed plain in Ro nches): nches): nches):	d Plants (D emarks)	1) (LRR A	A) F	taised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Surface Inundati Sparsel: Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re	Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar vations: ter Present? Present? Present? pillary fringe) corded Data (strean	Yes Yes Yes Yes m gauge, ma	Stunted of Other (Ex 198) No	r Stressed plain in Ro nches): nches): photos, p	d Plants (D emarks)	1) (LRR A	A) F	taised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7) y Present? Yes No
Surface Inundati Sparsel! Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re Remarks: The geo	Soil Cracks (B6) ion Vis ble on Aeria y Vegetated Concar vations: ter Present? Present? Present? pillary fringe) ecorded Data (streat	Yes Yes Yes Yes m gauge, mo	Stunted of Other (Expense) No	r Stressed plain in Ro nches): nches): photos, p	d Plants (D emarks)	1) (LRR A	A) F	taised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7)
Surface Inundati Sparsel! Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re Remarks: The geo	Soil Cracks (B6) ion Vis ble on Aerial y Vegetated Concar vations: ter Present? Present? Present? pillary fringe) corded Data (strean	Yes Yes Yes Yes m gauge, mo	Stunted of Other (Expense) No	r Stressed plain in Ro nches): nches): photos, p	d Plants (D emarks)	1) (LRR A	A) F	taised Ant Mounds (D6) (LRR A) rost-Heave Hummocks (D7) y Present? Yes No

Project/Site: Schreiber Meadows	(City/County	: Lincoln (County Sampling Date: 2023-07-12
Applicant/Owner: MDT	_			State: Montana Sampling Point: DP06U
Investigator(s): M Hickey	;	Section, To	wnship, Rar	nge: S11 T27N R30W
Landform (hillslope, terrace, etc.): Terrace				_
, ,			•	Long: -115.4202439 Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly				
Are climatic / hydrologic conditions on the site typical for this			_	
Are Vegetation, Soil, or Hydrologys	-			Normal Circumstances" present? Yes No
	-			
Are Vegetation, Soil, or Hydrology r SUMMARY OF FINDINGS – Attach site map			•	eded, explain any answers in Remarks.) ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes N			<u> </u>	, , , , , , , , , , , , , , , , , , , ,
Hydric Soil Present? Yes N			e Sampled	
Wetland Hydrology Present? Yes N	o <u> </u>	with	in a Wetlan	nd? Yes No
Remarks:		•		
Upland sample point located at north	nwest e	nd of e	excavate	ed wetland cell 3A.
VEGETATION – Use scientific names of plan	ts.			
Tree Stratum (Plot size:)	Absolute % Cover	Dominant		Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4	_			Percent of Dominant Species
Sapling/Shrub Stratum (Plot size:)	0	= Total Co	ver	That Are OBL, FACW, or FAC: 50.00 (A/B)
1				Prevalence Index worksheet:
2.				Total % Cover of: Multiply by:
3				OBL species 0 $x 1 = 0$ FACW species 0 $x 2 = 0$
4				FAC species 24
5				FACU species 0 x 4 = 0
Herb Stratum (Plot size:)	0	= Total Co	ver	UPL species 58 x 5 = 290
1. Bromus inermis	58	~	UPL	Column Totals: 82 (A) 362 (B)
2 Alopecurus arundinaceus	22		FAC	
3. Cirsium arvense	2		FAC	Prevalence Index = B/A = 4.41 Hydrophytic Vegetation Indicators:
4.				1 - Rapid Test for Hydrophytic Vegetation
5				2 - Dominance Test is >50%
6				3 - Prevalence Index is ≤3.0 ¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹
10				Problematic Hydrophytic Vegetation ¹ (Explain)
11	00			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	82	= Total Cov	ver	
1				Hydrophytic
2.				Vegetation
	_	= Total Cov		Present? Yes No
% Bare Ground in Herb Stratum 12				
Remarks:				
No evidence of a hydrophytic vegeta	ation co	mmuni	ty obse	erved.

SOIL Sampling Point: DP06U

Profile Description: (Describe to the	aopiii iiooaoa to aooa		maicator	or commi	n the absence	e or indicators.)
Depth	Matrix		ox Feature		2		
	· · · · · · · · · · · · · · · · · · ·	6 Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
1-9 10YR 4			_ 1	<u>C</u>	М	Loam	Many fine roots
9 - 16 10YR 3	<u>99</u>	10YR 3/4	_ <u>1</u>	<u> </u>	М	Loam	
				_			
-							
				-			
					-	·	
	·					· -	
		 -				· 	
		, RM=Reduced Matrix, C			ed Sand G		cation: PL=Pore Lining, M=Matrix.
-	: (Applicable	to all LRRs, unless other		ted.)			ors for Problematic Hydric Soils ³ :
Histosol (A1)	0)	Sandy Redox					m Muck (A10)
Histic Epipedon (A	.2)	Stripped Matri	` ,	(1) (avaan	4 MI D A 1		d Parent Material (TF2)
Black Histic (A3) Hydrogen Sulfide ((44)	Loamy Mucky Loamy Gleyed			TWILKAT		y Shallow Dark Surface (TF12) er (Explain in Remarks)
Depleted Below Da			•	۷)		0	er (Explain in Nemarks)
Thick Dark Surface	•	Redox Dark S)		3Indicate	ors of hydrophytic vegetation and
Sandy Mucky Mine		Depleted Dark	•	•			and hydrology must be present,
Sandy Gleyed Mat		Redox Depres	sions (F8)	l		unle	ss disturbed or problematic.
Restrictive Layer (if p	resent):						
Туре:							
Depth (inches):						Hydric Soi	Present? Yes No
Remarks:							
Soils dry throu	ahout						
Jone ary times	gilout.						
HYDROLOGY							
	ndicators:						
HYDROLOGY Wetland Hydrology In		quired; check all that any	nlv)			Sam	ndary Indicators (2 or more required)
Wetland Hydrology In Primary Indicators (min	nimum of one re	quired; check all that app		/es (B0) (e	vcent		ndary Indicators (2 or more required)
Wetland Hydrology In Primary Indicators (min Surface Water (A1	nimum of one re)	Water-Sta	ained Lea	/es (B9) (e	except		Vater-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table	nimum of one re)	Water-Sta	ained Lea	, , ,	except		Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table Saturation (A3)	nimum of one re)	Water-Str MLRA Salt Crus	ained Lea 1, 2, 4A, it (B11)	and 4B)	except	(Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table Saturation (A3) Water Marks (B1)	nimum of one re) (A2)	Water-Standard MLRA Salt Crus Aquatic In	ained Lea 1, 2, 4A , it (B11) invertebrat	and 4B) es (B13)	except	\	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits	nimum of one re) (A2) s (B2)	Water-Standard MLRA Salt Crus Aquatic In Hydroger	ained Lea 1, 2, 4A, It (B11) Invertebrat In Sulfide C	and 4B) es (B13) odor (C1)	·		Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3)	nimum of one re) (A2) S (B2)	Water-Standard MLRA Salt Crus Aquatic In Hydroger Oxidized	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C	es (B13) dor (C1) eres along	Living Ro	[[5 ots (C3) (Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table of Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust	nimum of one re) (A2) S (B2) (B4)	Water-Standard MLRA Salt Crus Aquatic II Hydroger Oxidized Presence	ained Lear 1, 2, 4A, t (B11) nvertebrat Sulfide C Rhizosphe of Reduce	es (B13) odor (C1) eres along ed Iron (C	Living Ro	[[[5] ots (C3) 6	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3)	nimum of one re) (A2) S (B2) (B4)	Water-Standard Water-Standard Water-Standard Water-Standard Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizosphi It of Reduction Reduction	es (B13) odor (C1) eres along ed Iron (Cotion in Tille	Living Ro 4) d Soils (C	[[[5] ots (C3) (5]	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust Iron Deposits (B5)	s (B2) (B4) (S (B6)	Water-Standard Water-Standard Water-Standard Clus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted C	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizosphi It of Reduct It on Reduct It of Stressed	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Ro 4) d Soils (C	[[5 ots (C3) (5 6) F	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack	s (B2) (B4) (B6) (B7) (B8) (B9) (B9) (B9) (B9) (B9)	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizosphi It of Reduct It on Reduct It of Stressed	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Ro 4) d Soils (C	[[5 ots (C3) (5 6) F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble	s (B2) (B4) (B6) (B7) (B8) (B9) (B9) (B9) (B9) (B9)	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizosphi It of Reduct It on Reduct It of Stressed	es (B13) odor (C1) eres along ed Iron (C- tion in Tille d Plants (D	Living Ro 4) d Soils (C	[[5 ots (C3) (5 6) F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate	imum of one re) (A2) (B2) (B4) (S (B6) on Aerial Image d Concave Surf	Water-Sta MLRA Salt Crus Aquatic Ir Hydroger Oxidized Presence Recent Ir Stunted co	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizospho It of Reduct It on Reduct It of Stresse It on Reduct It of Reduct It	es (B13) dor (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C	[[5 ots (C3) (5 6) F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table of Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate	imum of one re) (A2) s (B2) (B4) ss (B6) on Aerial Image d Concave Surf ? Yes	Water-Sta MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted cery (B7) Other (Extended to the company of the cert (B8)	ained Lear A 1, 2, 4A, It (B11) Invertebrat In Sulfide C Rhizosphe It of Reduct It on Reduct It or Stresse It op Stresse It on Reduct It of Reduct I	es (B13) dor (C1) eres along ed Iron (C- tion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 1) (LRR A	[[5 ots (C3) (5 6) F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table of Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Field Observations: Surface Water Present	imum of one re) (A2) (B4) (B4) (S (B6) On Aerial Image d Concave Surf ? Yes Yes	Water-Standler MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent In Stunted co ery (B7) Other (Exercise) No Depth (iii	ained Lear A 1, 2, 4A, It (B11) Invertebrate In Sulfide C Rhizosphi It of Reduct It on Reduct It of Reduct It	and 4B) es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 11) (LRR A	ots (C3) 6) F	Vater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Field Observations: Surface Water Present Water Table Present? (includes capillary fring	imum of one re) (A2) (B4) (B4) (S (B6) On Aerial Image d Concave Surf ? Yes Yes Yes e)	Water-Sta MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of ory (B7) No Depth (ii No Depth (iii	ained Lear A 1, 2, 4A, It (B11) Invertebrate In Sulfide C Rhizosphi It of Reduct It on Reduct It of Reduct It	and 4B) es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 1) (LRR A		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Field Observations: Surface Water Present Water Table Present? (includes capillary fring	imum of one re) (A2) (B4) (B4) (S (B6) On Aerial Image d Concave Surf ? Yes Yes Yes e)	Water-Sta MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of ery (B7) No Depth (iii	ained Lear A 1, 2, 4A, It (B11) Invertebrate In Sulfide C Rhizosphi It of Reduct It on Reduct It of Reduct It	and 4B) es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 1) (LRR A		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology In Primary Indicators (min Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Field Observations: Surface Water Present Water Table Present? Saturation Present? (includes capillary fring Describe Recorded Da	imum of one re) (A2) (B4) (B4) (S (B6) On Aerial Image d Concave Surf ? Yes Yes Yes e)	Water-Sta MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of ory (B7) No Depth (ii No Depth (iii	ained Lear A 1, 2, 4A, It (B11) Invertebrate In Sulfide C Rhizosphi It of Reduct It on Reduct It of Reduct It	and 4B) es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 1) (LRR A		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Field Observations: Surface Water Present Water Table Present? Saturation Present? (includes capillary fring Describe Recorded Da	imum of one re) (A2) (B4) (B4) (S (B6) (B4) (Concave Surfaction (Water-Sta MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Other (Extended (B8)) No Depth (ii No Depth (ii Je, monitoring well, aerial	ained Lear A 1, 2, 4A, It (B11) Invertebrate In Sulfide C Rhizospho In Greduct In Stresse In Stresse In Stresse In Stresse Inches): Inches): Inches): Inches, p	and 4B) es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 1) (LRR A		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Field Observations: Surface Water Present Water Table Present? Saturation Present? (includes capillary fring Describe Recorded Da	imum of one re) (A2) (B4) (B4) (S (B6) (B4) (Concave Surfaction (Water-Sta MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of ory (B7) No Depth (ii No Depth (iii	ained Lear A 1, 2, 4A, It (B11) Invertebrate In Sulfide C Rhizospho In Greduct In Stresse In Stresse In Stresse In Stresse Inches): Inches): Inches): Inches, p	and 4B) es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 1) (LRR A		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology In Primary Indicators (mir Surface Water (A1 High Water Table (Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust Iron Deposits (B5) Surface Soil Crack Inundation Vis ble Sparsely Vegetate Field Observations: Surface Water Present Water Table Present? Saturation Present? (includes capillary fring Describe Recorded Da	imum of one re) (A2) (B4) (B4) (S (B6) (B4) (Concave Surfaction (Water-Sta MLRA Salt Crus Aquatic II Hydroger Oxidized Presence Recent Ir Stunted of Other (Extended (B8)) No Depth (ii No Depth (ii Je, monitoring well, aerial	ained Lear A 1, 2, 4A, It (B11) Invertebrate In Sulfide C Rhizospho In Greduct In Stresse In Stresse In Stresse In Stresse Inches): Inches): Inches): Inches, p	and 4B) es (B13) dor (C1) eres along ed Iron (C- cion in Tille d Plants (D- emarks)	Living Ro 4) d Soils (C 1) (LRR A		Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Orainage Patterns (B10) Ory-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)

Project/Site: Schrieber Meadows	C	city/County	: Lincoln	County	Sampling Date: <u>2023-07-12</u>
Applicant/Owner: MDT				State: Montana	Sampling Point: DP06W
Investigator(s): J Trilling	8	Section, To	wnship, Rai	nge: S11 T27N R30W	
Landform (hillslope, terrace, etc.): Depression					
Subregion (LRR): E 43A					
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly					
Are climatic / hydrologic conditions on the site typical for th					
	-				
Are Vegetation, Soil, or Hydrology					resent? Yes No
Are Vegetation, Soil, or Hydrology				eded, explain any answer	
SUMMARY OF FINDINGS – Attach site map		samplin	ig point i	ocations, transects,	, important features, etc.
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes Yes N		ls th	ne Sampled	Area	
Hydric Soil Present? Wetland Hydrology Present? Yes Yes Yes N			nin a Wetlan		No
Remarks:					
Wetland data point located at north	west eag	ge or e	excavate	ed wetland cell s	SA.
VEGETATION – Use scientific names of plar	nts.				
T 01 1 (D11)			Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size:) 1	% Cover		· ·	Number of Dominant Sp That Are OBL, FACW, o	
2.					
3.				Total Number of Domina Species Across All Strat	
4.				Percent of Dominant Sp	
Sapling/Shrub Stratum (Plot size:)	0	= Total Co	over	That Are OBL, FACW, of	
				Prevalence Index work	rsheet:
1			· ———	Total % Cover of:	
2			· ——	-	x 1 = 18
4				•	x 2 = 20
5					x 3 = 6
	0	= Total Co	over	· ·	x 4 = 0
Herb Stratum (Plot size:)					x 5 = 0
1. Carex nebrascensis	10			Column Totals: 30	(A) <u>44</u> (B)
2. Juncus nodosus	_ <u>5</u>		OBL	Prevalence Index	= B/A = <u>1.47</u>
3. Phalaris arundinacea	_ 5		FACW	Hydrophytic Vegetatio	n Indicators:
4. Eleocharis palustris	_ 3		OBL	<u>✓</u> 1 - Rapid Test for H	lydrophytic Vegetation
5. Epilobium ciliatum	_ 3		FACW	✓ 2 - Dominance Test	
Arnica chamissonis Populus balsamifera	$-\frac{2}{2}$		FACW FAC	✓ 3 - Prevalence Inde	
			FAC		daptations ¹ (Provide supporting or on a separate sheet)
8			·	5 - Wetland Non-Va	·
9					phytic Vegetation ¹ (Explain)
10.			· ———		and wetland hydrology must
11.	~~	= Total Co	vor	be present, unless distu	
Woody Vine Stratum (Plot size:)		- Total Co	VCI		
1				Hydrophytic	
2				Vegetation	s_ 🗸 No
W.D. 00 11 11 1 01 1 70	0 =	= Total Co	ver	Present? Yes	S No
% Bare Ground in Herb Stratum 70					
Remarks:		_	_		
A positive rapid test, positive dominant	-	-	/alence i	index below three	indicate a
hydrophytic vegetation community at t	his data p	ooint.			

Sampling Point: DP06W SOIL

		Rede	ox Feature				
Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
10YR 7/1	85	10YR 6/6	15	C	М	Sandy Loam	
10YR 6/2	75	7.5YR 6/8	25	С	<u> </u>	Sandy Loam	
		-					
				-		·	
				_			
ncentration, D=De	pletion, RN	M=Reduced Matrix, C	S=Covere	ed or Coate	ed Sand G	Grains. ² Location: F	PL=Pore Lining, M=Matrix.
dicators: (Appli	cable to a	II LRRs, unless othe	rwise no	ted.)		Indicators for P	roblematic Hydric Soils ³ :
A1)		Sandy Redox	(S5)			2 cm Muck (A10)
pedon (A2)		Stripped Matrix	k (S6)			Red Parent	Material (TF2)
tic (A3)		Loamy Mucky	Mineral (F	1) (excep	t MLRA 1) Very Shallov	v Dark Surface (TF12)
Sulfide (A4)		Loamy Gleyed	Matrix (F.	2)		Other (Expla	ain in Remarks)
Below Dark Surface	ce (A11)	✓ Depleted Matri	x (F3)				
	, ,			i)		3Indicators of hyd	drophytic vegetation and
, ,				•		,	plogy must be present,
			,			•	ped or problematic.
yer (if present):			0.0.10 (1.0)	<u>'</u>			, ou or prosioniduo.
nes):						Hydric Soil Presen	t? Yes <u>'</u> No
						•	
	ncentration, D=Dedicators: (Application (A2) tic (A3) Sulfide (A4) Below Dark Surfack Surface (A12) ticky Mineral (S1) teyed Matrix (S4) ayer (if present):	ncentration, D=Depletion, RN dicators: (Applicable to a A1) Deedon (A2) tic (A3) Sulfide (A4) Below Dark Surface (A11) k Surface (A12) acky Mineral (S1) eyed Matrix (S4) ayer (if present):	ncentration, D=Depletion, RM=Reduced Matrix, Codicators: (Applicable to all LRRs, unless other A1) Dedon (A2) Stripped Matrix Loamy Mucky Sulfide (A4) Below Dark Surface (A11) k Surface (A12) acky Mineral (S1) Eyed Matrix (S4) Redox Depres Sayer (if present):	ncentration, D=Depletion, RM=Reduced Matrix, CS=Covered dicators: (Applicable to all LRRs, unless otherwise noted (A1) Dedon (A2) Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F0) Sulfide (A4) Below Dark Surface (A11) k Surface (A12) Redox Dark Surface (F0) Except Mineral (S1) Depleted Dark Surface (F0) Except Mineral (S1) Except Matrix (S4) Redox Depressions (F8) Expert (if present):	ncentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coate dicators: (Applicable to all LRRs, unless otherwise noted.) A1) ————————————————————————————————	ncentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Galicators: (Applicable to all LRRs, unless otherwise noted.) A1) Sandy Redox (S5) Stripped Matrix (S6) Loamy Mucky Mineral (F1) (except MLRA 1 Sulfide (A4) Below Dark Surface (A11) K Surface (A12) Redox Dark Surface (F6) Locky Mineral (S1) Redox Depressions (F8) Every Matrix (S4) Redox Depressions (F8)	10YR 6/2 75 7.5YR 6/8 25 C Sandy Loam Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Coation: Findicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Part

Wetland Hydrology Indicato	rs:						
Primary Indicators (minimum	of one required; cl	neck all that apply)	Secondary Indicators (2 or more required)				
Surface Water (A1)		Water-Stained Leaves (B9) (exception)	water-Stained Leaves (B9) (MLRA 1, 2,				
High Water Table (A2)		MLRA 1, 2, 4A, and 4B)	4A, and 4B)				
✓ Saturation (A3)		Salt Crust (B11)	Drainage Patterns (B10)				
Water Marks (B1)		Aquatic Invertebrates (B13)	Dry-Season Water Table (C2)				
Sediment Deposits (B2)		Hydrogen Sulfide Odor (C1)	Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		Oxidized Rhizospheres along Livir	g Roots (C3) <u><!--</u--> Geomorphic Position (D2)</u>				
✓ Algal Mat or Crust (B4)		Presence of Reduced Iron (C4)	Shallow Aquitard (D3)				
Iron Deposits (B5)		Recent Iron Reduction in Tilled So	ils (C6) FAC-Neutral Test (D5)				
Surface Soil Cracks (B6)		Stunted or Stressed Plants (D1) (L	.RR A) Raised Ant Mounds (D6) (LRR A)				
✓ Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)							
Sparsely Vegetated Concave Surface (B8)							
Field Observations:							
Surface Water Present?	Yes No	Depth (inches):					
Water Table Present?	Yes No	Depth (inches):					
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches): 0	Wetland Hydrology Present? Yes No				
Describe Recorded Data (stre	am gauge, monito	oring well, aerial photos, previous inspect	ions), if available:				
Remarks:							
Snail shells observed	d in surface.	Saturation at the soil surface	ce, aquatic invertebrates, algal mats,				

oxidized rhizospheres along living roots, the geomorphic position of the point, a positive FAC-neutral test, and visible inundation on aerial imagery all provide evidence of wetland hydrology at this point.

Project/Site: Schreiber Meadows	(City/County:	Lincoln (County	Sampling Date: 2023-07-12
Applicant/Owner: MDT		-			Sampling Point: DP07U
• •				nge: S11 T27N R30W	· •
Landform (hillslope, terrace, etc.): Terrace Slope			•	<u> </u>	
, ,			,		Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly					
Are climatic / hydrologic conditions on the site typical for this					
•	•	·			oresent? Yes <u> </u>
Are Vegetation, Soil, or Hydrologys					
Are Vegetation, Soil, or Hydrology n SUMMARY OF FINDINGS – Attach site map			•	eded, explain any answer	,
Hydrophytic Vegetation Present? Yes No			<u> </u>		,
Hydric Soil Present? Yes V		Is th	e Sampled		.1
Wetland Hydrology Present? Yes No		with	in a Wetlan	d? Yes	No
Remarks:		I			
Upland sample point located in the northeas	st portion	of the S	crieber N	Meadows Wetland	Mitigation site.
VEGETATION – Use scientific names of plan	ts.				
Trans Otastana (Distriction	Absolute			Dominance Test work	sheet:
	% Cover			Number of Dominant Sp	
1				That Are OBL, FACW, o	or FAC: $\underline{0}$ (A)
2				Total Number of Domina	
3				Species Across All Stra	ta: <u>1</u> (B)
7.		= Total Co	ver	Percent of Dominant Sp That Are OBL, FACW, of	
Sapling/Shrub Stratum (Plot size:)		10101 00	VCI		()
1				Prevalence Index work Total % Cover of:	
2					x = 0
3					x 2 = 0
4					x 3 = 60
5	- · · · · · · · · · · · · · · · · · · ·			FACU species 12	x 4 = 48
Herb Stratum (Plot size:)	0	= Total Co	ver	UPL species 45	x 5 = 225
1. Bromus inermis	45	~	UPL	Column Totals: 77	(A) <u>333</u> (B)
2. Symphyotrichum spathulatum	10		FAC	Prevalence Index	- D/A - 1/32
3. Poa pratensis	7		FAC	Hydrophytic Vegetation	-
4. Carex microptera	5		FACU	1 - Rapid Test for H	
5. Taraxacum officinale	4		FACU	2 - Dominance Tes	
6. Agrostis capillaris	3		FAC	3 - Prevalence Inde	
7. Fragaria virginiana	3		FACU	4 - Morphological A	Adaptations ¹ (Provide supporting
8					s or on a separate sheet)
9				5 - Wetland Non-Va	
10					phytic Vegetation ¹ (Explain)
11				be present, unless distu	l and wetland hydrology must urbed or problematic.
Woody Vine Stratum (Plot size:)	77	= Total Cov	rer	, , , , , , , , , , , , , , , , , , , ,	
1				Hydrophytic	
2.				Vegetation	
	_	= Total Cov	er	Present? Yes	s No
% Bare Ground in Herb Stratum 23					
Remarks:					
No evidence of a hydrophytic vegeta	ation co	mmuni	ty obse	rved.	

SOIL Sampling Point: DP07U

Depth	Matrix			dox Features	. 2			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%Type ¹		exture	Remarks	
	10YR 3/3	100			Loa			
3 - 16	10YR 3/2	95	7.5YR 4/6	5	Loa	<u>ım</u>		
			- · -		<u> </u>			
-								
			-					
			-					
		_	-					
			-					
				CS=Covered or Coat			PL=Pore Lining, I	
•		cable to al	II LRRs, unless oth	•			Problematic Hyd	ric Soils":
Histosol (•		Sandy Redox			2 cm Muck	. ,	
Histic Epi	pedon (A2)		Stripped Matr	ıx (56) ⁄ Mineral (F1) (exce p	MIDA 1		Material (TF2) w Dark Surface (TE12\
	Sulfide (A4)		Loamy Gleye		N WILKA I)	-	ain in Remarks)	11 12)
	Below Dark Surfa	ce (A11)	Depleted Mat	, ,		Other (Expi	an in remarks,	
	k Surface (A12)	,	✓ Redox Dark S			3Indicators of hy	drophytic vegetat	ion and
	ucky Mineral (S1)			k Surface (F7)		•	ology must be pre	
Sandy Gle	eyed Matrix (S4)		Redox Depres	ssions (F8)		unless distur	bed or problemat	c.
Restrictive La	ayer (if present):							
Type:								
Depth (inch	nes):				Hyd	dric Soil Preser	nt? Yes 🔽	No
	orphic featu	ıres ma	ay be relict c	oncentration	ıs.			
Redoximo	•		ay be relict c	oncentration	s.			
HYDROLOG	SY rology Indicators	:	ay be relict c		ıs.	Secondary In	dicators (2 or mo	re required)
Redoximo IYDROLOG Wetland Hydi Primary Indica Surface W	orology Indicators ators (minimum of Water (A1)	:	ed; check all that ap Water-Si	ply) tained Leaves (B9) (Water-St	ained Leaves (B9	
Redoximo HYDROLOG Wetland Hydi Primary Indica Surface W High Wate	rology Indicators ators (minimum of Vater (A1) er Table (A2)	:	ed; check all that ap Water-Si	ply) tained Leaves (B9) (A 1, 2, 4A, and 4B)		Water-St	ained Leaves (B9	
Redoximo HYDROLOG Wetland Hydi Primary Indica Surface V High Wate Saturation	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3)	:	ed; check all that ap Water-Si MLR / Salt Crus	ply) tained Leaves (B9) (A 1, 2, 4A, and 4B) st (B11)		Water-St 4A, a Drainage	ained Leaves (B9 nd 4B) Patterns (B10)) (MLRA 1, 2,
Redoximo HYDROLOG Wetland Hydro Primary Indica Surface W High Wate Saturation Water Ma	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) urks (B1)	:	ed; check all that ap — Water-Si MLR/ — Salt Crus — Aquatic l	ply) tained Leaves (B9) (c A 1, 2, 4A, and 4B) st (B11) Invertebrates (B13)		Water-St 4A, a Drainage Dry-Seas	ained Leaves (B9 n d 4B) Patterns (B10) son Water Table ((MLRA 1, 2,
HYDROLOG Wetland Hydromay Indica Surface W High Water Saturation Water Ma Sediment	rology Indicators ators (minimum of Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2)	:	ed; check all that ap Water-Si MLR Salt Crus Aquatic I Hydroge	ply) tained Leaves (B9) (c A 1, 2, 4A, and 4B) st (B11) Invertebrates (B13) n Sulfide Odor (C1)	except	Water-St 4A, a Drainage Dry-Seas Saturatio	ained Leaves (B9 n d 4B) Patterns (B10) son Water Table (n Visible on Aeria	(MLRA 1, 2,
HYDROLOG Wetland Hydi Primary Indica Surface W High Wate Saturatior Water Ma Sediment Drift Depo	rology Indicators ators (minimum of a Vater (A1) er Table (A2) in (A3) irks (B1) Deposits (B2) osits (B3)	:	ed; check all that ap Water-Si MLR/ Salt Crus Aquatic I Hydroge Oxidized	ply) tained Leaves (B9) (c A 1, 2, 4A, and 4B) st (B11) Invertebrates (B13) n Sulfide Odor (C1) I Rhizospheres along	except J Living Roots (C3	Water-St 4A, a Drainage Dry-Seas Saturatio Geomorp	ained Leaves (B9 nd 4B) Patterns (B10) son Water Table (n Visible on Aeria phic Position (D2)	(MLRA 1, 2,
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Project/Site: Schrieber Meadows	,	City/County	Lincoln	County	Sampling Date: 2023-07-12	
Applicant/Owner: MDT		State: Montana Sampling Point: DP07W				
				nge: S11 T27N R30W	· · ·	
Landform (hillslope, terrace, etc.): Fringe						
Subregion (LRR): E 43A						
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly				NWI classific		
•					·	
Are climatic / hydrologic conditions on the site typical for this						
Are Vegetation, Soil, or Hydrologys					resent? Yes No	
Are Vegetation, Soil, or Hydrology r	naturally pro	blematic?	(If ne	eeded, explain any answer	s in Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing	samplin	g point l	ocations, transects	, important features, etc.	
Hydrophytic Vegetation Present? Yes N	lo	lo the	a Camplad	I Awar		
Hydric Soil Present? Yes N			e Sampled in a Wetlar		No	
Wetland Hydrology Present? Yes N Remarks:					<u> </u>	
		_				
Wetland sample point located in nor	th corne	er of pr	oject a	rea.		
VEGETATION – Use scientific names of plan	its.					
•	Absolute	Dominant	Indicator	Dominance Test works	sheet:	
Tree Stratum (Plot size:)		Species?		Number of Dominant Sp	pecies	
1				That Are OBL, FACW, o	or FAC: 2 (A)	
2				Total Number of Domina		
3				Species Across All Strat	ta: <u>2</u> (B)	
4	0	= Total Co		Percent of Dominant Sp		
Sapling/Shrub Stratum (Plot size:)		_ = Total Co	vei	That Are OBL, FACW, or Prevalence Index work	(112)	
1				Total % Cover of:		
2					x 1 = 65	
3					x 2 = 0	
4					x 3 = 6	
5					x 4 = 36	
Herb Stratum (Plot size:)	<u>U</u>	= Total Co	ver	UPL species 2	x 5 = 10	
1. Carex nebrascensis	40	~	OBL	Column Totals: 78	(A) <u>117</u> (B)	
2. Juncus nodosus	25	~	OBL	Prevalence Index	$= R/\Delta = 1.50$	
3. Leucanthemum vulgare	5		FACU	Hydrophytic Vegetatio		
4. Taraxacum officinale	3		FACU	✓ 1 - Rapid Test for H		
5. Hieracium aurantiacum	2		UPL	<u>✓</u> 2 - Dominance Test	t is >50%	
6. Populus balsamifera	2		FAC	✓ 3 - Prevalence Inde	ex is ≤3.0 ¹	
7. Pseudotsuga menziesii	_ 1		FACU		daptations ¹ (Provide supporting	
8					or on a separate sheet)	
9				5 - Wetland Non-Va		
10					ohytic Vegetation ¹ (Explain)	
11	70			be present, unless distu	and wetland hydrology must rbed or problematic.	
Woody Vine Stratum (Plot size:)	78	= Total Cov	er		·	
1				Hydrophytic		
2.				Vegetation	.	
	_	= Total Cov	ver	Present? Yes	S No	
% Bare Ground in Herb Stratum 22						
Remarks:						

15% of surface is covered in moss. Positive dominance and rapid tests, as well as a prevalence index below three, indicate wetland hydrology at this data point.

SOIL Sampling Point: DP07W

Depth	Matrix		rn needed to docur Redo	x Feature	S		abadilod (
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0 - 18	10YR 6/1	90	10YR 5/8	10	С	М	Silt Loam	
-								
-								
					·			
	-							
	-							
-								
1Type: C=C	oncentration D=De	nletion PM:	=Reduced Matrix, CS	S=Covere	d or Coate	ad Sand Gra	aine ² l oca	ation: PL=Pore Lining, M=Matrix.
, ·		•	LRRs, unless other			u Sanu Gra		s for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (,			Muck (A10)
	pipedon (A2)		Stripped Matrix					Parent Material (TF2)
	istic (A3)		Loamy Mucky N		1) (except	MLRA 1)		Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gleyed	Matrix (F2	2)		Other	r (Explain in Remarks)
	d Below Dark Surfa	ce (A11)	✓ Depleted Matrix				2	
	ark Surface (A12)		Redox Dark Su	, ,				s of hydrophytic vegetation and
	Mucky Mineral (S1)		Depleted Dark		-7)			d hydrology must be present, disturbed or problematic.
	Gleyed Matrix (S4) Layer (if present):		Redox Depress	ions (Fo)			I	disturbed of problematic.
Type:								
, , <u> </u>	ches):						Hydric Soil F	Present? Yes No
Remarks:	Crics).						Tiyane con i	163 <u>163</u> 163
Promine	nt redoximo	rphic co	oncentration	s com	mon w	ithin th	e deplete	ed matrix.
HYDROLO	GY							
	drology Indicators	:						
-			d; check all that appl	y)			Second	dary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ined Leav	es (B9) (e	xcept	Wa	ater-Stained Leaves (B9) (MLRA 1, 2,
High Wa	ater Table (A2)			1, 2, 4A, a		•	· · · · · · · · · · · · · · · · · · ·	4A, and 4B)
✓ Saturati	, ,		Salt Crust		,			ainage Patterns (B10)
Water N	farks (B1)		Aquatic In	vertebrate	s (B13)		Dr	y-Season Water Table (C2)
Sedime	nt Deposits (B2)		Hydrogen	Sulfide O	dor (C1)		Sa	turation Visible on Aerial Imagery (C9)
Drift De	posits (B3)		Oxidized F	Rhizosphe	res along	Living Root	ts (C3) 👱 Ge	eomorphic Position (D2)
Algal Ma	at or Crust (B4)		Presence	of Reduce	ed Iron (C	4)	Sh	allow Aquitard (D3)
Iron De	posits (B5)		Recent Iro	n Reducti	on in Tille	d Soils (C6)) <u>•</u> FA	C-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted or	Stressed	Plants (D	1) (LRR A)	Ra	ised Ant Mounds (D6) (LRR A)
Inundati	on Vis ble on Aerial	Imagery (B	7) Other (Exp	olain in Re	emarks)		Fro	ost-Heave Hummocks (D7)
	y Vegetated Concav	/e Surface (B8)					
Field Obser								
Surface Wat			No Depth (in					
Water Table			No Depth (in					,
Saturation P		Yes	No Depth (in	ches): <u>8</u>		Wetla	ınd Hydrology	Present? Yes No
(includes ca Describe Re	pillary fringe) corded Data (strear	m daude mo	onitoring well, aerial	ohotos pr	evious ins	pections) i	f available:	
2 3301130 110	zz. aca bata (otrodi	550, 1110		, pi	Jus ii ie	0000010 <i>)</i> , 1		
Remarks:								
	.	<u> </u>			• • •			
Saturati	on 8 inches	trom th	e soil surface	e, a po	sitive	FAC-ne	eutral test	t, and the geomorphic
position	of the point	provide	e evidence o	f wetla	and hv	droloav	٧.	
					y		,	

Project/Site: Schrieber Meadows	(City/County	Lincoln (County Sampling Date: 2023-07-11
Applicant/Owner: MDT				
• •				nge: S13 T27N R30W
Landform (hillslope, terrace, etc.): Valley Flat				
, ,			•	Long: -115.4140692 Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly				
Are climatic / hydrologic conditions on the site typical for this				
Are Vegetation, Soil, or Hydrologys	-			Normal Circumstances" present? Yes No
	-			
Are Vegetation, Soil, or Hydrology n SUMMARY OF FINDINGS – Attach site map				eded, explain any answers in Remarks.) ocations, transects, important features, etc.
	o	-		· · · · · · · · · · · · · · · · · · ·
Hydric Soil Present? Yes N			e Sampled	
Wetland Hydrology Present? Yes N		with	in a Wetlan	nd? Yes No
Remarks:				
Upland sample point located to the s	outh of	wetlar	nd cell 3	3.
VEGETATION – Use scientific names of plan	ts.			
Torra Obraham (Distrains	Absolute			Dominance Test worksheet:
Tree Stratum (Plot size:) 1	% Cover			Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2.				
3.				Total Number of Dominant Species Across All Strata: 2 (B)
4.				
		= Total Co	ver	Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species 0 x 1 = 0
3				FACW species <u>5</u> x 2 = <u>10</u>
4				FAC species 30 x 3 = 90
5	_	= Total Co	vor	FACU species <u>5</u> x 4 = <u>20</u>
Herb Stratum (Plot size:)		- 10tai 00	VCI	UPL species <u>50</u> x 5 = <u>250</u>
1. Bromus inermis	50		UPL	Column Totals: <u>90</u> (A) <u>370</u> (B)
2. Equisetum arvense	25		FAC	Prevalence Index = B/A = 4.11
3. Elymus lanceolatus	5		FACU	Hydrophytic Vegetation Indicators:
4. Phalaris arundinacea	5		FACW	1 - Rapid Test for Hydrophytic Vegetation
5. Poa pratensis	5		FAC	2 - Dominance Test is >50%
6				3 - Prevalence Index is ≤3.0 ¹
7				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
8				5 - Wetland Non-Vascular Plants ¹
9				Problematic Hydrophytic Vegetation¹ (Explain)
10.				¹Indicators of hydric soil and wetland hydrology must
11	~~	= Total Cov	/er	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		- Total Cov	CI	
1				Hydrophytic
2				Vegetation
0/ Poro Cround in Harts Street 10	0	= Total Cov	ver er	Present? Yes No
% Bare Ground in Herb Stratum 10 Remarks:				
	. •	-		
No evidence of a hydrophytic vegeta	ation co	mmuni	ty obse	ervea.

SOIL Sampling Point: DP08U

Profile Desc Depth	ription: (Describe Matrix	to the dep	oth needed to docui Redo	ment the i		or confirm	tne absence of	indicators.)
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0 - 13	10YR 5/1	98	10YR 5/6	2	С	M	Loam	
13 - 20	10YR 6/1						Sandy Loam	
			-					
			-		·			
	-			_				
-								
-								
			-	-		-		
¹Type: C=C	ncentration D=De	nletion RM	=Reduced Matrix, C	S=Covere	d or Coat	ed Sand Gra	ains ² l ocat	ion: PL=Pore Lining, M=Matrix.
			LRRs, unless othe			ica caria cre		for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (·			Muck (A10)
	pipedon (A2)		Stripped Matrix					arent Material (TF2)
Black Hi			Loamy Mucky I	Mineral (F	1) (excep	ot MLRA 1)	Very S	Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed	Matrix (F2	2)		Other	(Explain in Remarks)
	Below Dark Surfa	ce (A11)	<u>✓</u> Depleted Matrix				3	
	ark Surface (A12)		Redox Dark Su	, ,				of hydrophytic vegetation and
	flucky Mineral (S1) Gleyed Matrix (S4)		Depleted Dark Redox Depress		-7)			I hydrology must be present, disturbed or problematic.
	_ayer (if present):		Neuox Depress	סוטוס (רס)			unless (изиньей от ртовлетнице.
	-ayer (ii present).							
	ches):						Hydric Soil Pi	resent? Yes No
Remarks:							I I yan to don Fi	100
			soils the res					
HYDROLO								
_	drology Indicators		d, about all that ann				Cocondo	ary Indicators (2 or more required)
		one require	ed; check all that appl		(DO) (· · · · · · ·
	Water (A1)		Water-Sta			except		ter-Stained Leaves (B9) (MLRA 1, 2,
Saturatio	iter Table (A2)		Salt Crust	1, 2, 4A, a	and 46)			4A, and 4B) inage Patterns (B10)
Water M	` '		Aquatic In	,	e (B13)			-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen					uration Visible on Aerial Imagery (C9)
	posits (B3)					n Livina Root	·	pmorphic Position (D2)
	at or Crust (B4)		Presence		-	-		illow Aquitard (D3)
_	oosits (B5)				•	ed Soils (C6)		C-Neutral Test (D5)
	Soil Cracks (B6)					D1) (LRR A)		sed Ant Mounds (D6) (LRR A)
	on Vis ble on Aerial	Imagery (E				, , ,	·	st-Heave Hummocks (D7)
	Vegetated Concav				-,		_	` '
Field Obser			·					
Surface Wat	er Present?	Yes	No Depth (in	ches):				
Water Table			No Depth (in					
Saturation P	resent?	Yes	No Pepth (in	ches):		Wetla	ınd Hydrology F	Present? Yes No
(includes car	oillary fringe)							
Describe Re	corded Data (strear	ıı gauge, m	onitoring well, aerial	priotos, pr	evious in	spections), i	ı avalladle:	
Remarks:								
				_				
No evide	ence of wetl	and hy	drology obse	rved.				

-		-	-	County Sampling Date: 2023-07-11
Applicant/Owner: MDT				State: Montana Sampling Point: DP08W
Investigator(s): J Trilling	8	Section,	Township, Rar	nge: S13 T27N R30W
Landform (hillslope, terrace, etc.): Ephemeral Stream	l	Local re	elief (concave, d	convex, none): Concave Slope (%): 5
Subregion (LRR): E 43A	Lat: 48.1	10938	79	Long: -115.414084 Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorl				-
Are climatic / hydrologic conditions on the site typical for the			_	
Are Vegetation, Soil, or Hydrology	-			Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology				
SUMMARY OF FINDINGS – Attach site map				eded, explain any answers in Remarks.) cations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes		<u> </u>	J []	
Hydric Soil Present? Yes		Is	the Sampled	
Wetland Hydrology Present? Yes		w	ithin a Wetlan	nd? Yes No
Remarks:		<u>1</u>		
Wetland sample point located to the	south o	f we	tland cell	3
Wettaria sample point located to the		,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	tiaria cen	<u> </u>
VEGETATION – Use scientific names of pla	nts.			
Tree Stratum (Plot size:			ant Indicator	Dominance Test worksheet:
1	· · · · · · · · · · · · · · · · · · ·			Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2				Total Number of Dominant
3				Species Across All Strata: 1 (B)
4	0	= Total	Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
Sapling/Shrub Stratum (Plot size:)				Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species $0 \times 1 = 0$
3				FACW species <u>75</u> x 2 = <u>150</u>
4 5				FAC species 17 x 3 = 51
J	0	= Total	Cover	FACU species <u>0</u> x 4 = <u>0</u>
Herb Stratum (Plot size:)		- Total	OOVCI	UPL species $0 \times 5 = 0$
1. Phalaris arundinacea	75		FACW	Column Totals: <u>92</u> (A) <u>201</u> (B)
2. Alopecurus arundinaceus	<u> 15 </u>		FAC	Prevalence Index = B/A = 2.18
3. Equisetum arvense	_ 2		FAC	Hydrophytic Vegetation Indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
5				✓ 2 - Dominance Test is >50%
6				✓ 3 - Prevalence Index is ≤3.0¹
7				4 - Morphological Adaptations ¹ (Provide supporting
8				data in Remarks or on a separate sheet)
9				5 - Wetland Non-Vascular Plants ¹ Problematic Hydrophytic Vegetation ¹ (Explain)
10				Indicators of hydric soil and wetland hydrology must
11	00			be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	32 =	= Total (Cover	
1				Hydrophytic
2.				Vegetation
	^	= Total (Present? Yes No No
% Bare Ground in Herb Stratum 8				
Remarks:				
A positive rapid test, positive dominand	ce test, ar	nd pr	evalence i	ndex below three indicate the
presence of a hydrophytic vegetation of	communit	y.		

US Army Corps of Engineers

SOIL Sampling Point: DP08W

Inches Color (moist) % Color (moist) % Type Loc Texture Remarks
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.
ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.
Indicators (Problematic Hydric Soils: Histosol (A1)
Indicators (Problematic Hydric Soils: Histosol (A1)
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Secondary Microsof (A12) Pepleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F2) Sediment redoximorphic concentrations common within the depleted matrix. DROLOGY Path Matrix (F3) DROLOGY Saturation (A3) Salt Crust (B11) Surface Water (A1) Water Saturation (A3) Salt Crust (B11) Saturation (A3) Saturation (A3) Water Marks (B1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Red Parent Material (TF2) Red Parent Material (TF2) Pept Matrix (S6) Red Parent Material (TF2) Very Shallow Cuff2) Pept Pexpent Matrix (F3) Depleted Matrix (F2) Depleted Matrix (F2) Depleted Matrix (F3) Secondary Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Wetland Hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes V No Material (TF2) No Meter Marks (B1) Secondary Indicators (2 or more required Matrix (B1) Secondary Indicators (2 or more required Matrix (B1) Secondary Indicators (2 or more required Matrix (B1) Mater Marks (B1) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5)
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Secondary Microsof (A12) Pepleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F2) Sediment redoximorphic concentrations common within the depleted matrix. DROLOGY Path Matrix (F3) DROLOGY Saturation (A3) Salt Crust (B11) Surface Water (A1) Water Saturation (A3) Salt Crust (B11) Saturation (A3) Saturation (A3) Water Marks (B1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Red Parent Material (TF2) Red Parent Material (TF2) Pept Matrix (S6) Red Parent Material (TF2) Very Shallow Cuff2) Pept Pexpent Matrix (F3) Depleted Matrix (F2) Depleted Matrix (F2) Depleted Matrix (F3) Secondary Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Wetland Hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes V No Material (TF2) No Meter Marks (B1) Secondary Indicators (2 or more required Matrix (B1) Secondary Indicators (2 or more required Matrix (B1) Secondary Indicators (2 or more required Matrix (B1) Mater Marks (B1) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5)
dric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1) Sandy Redox (S5) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Secondary Microsof (A12) Pepleted Below Dark Surface (A11) Depleted Below Dark Surface (A11) Sandy Mucky Mineral (F2) Sediment redoximorphic concentrations common within the depleted matrix. DROLOGY Path Matrix (F3) DROLOGY Saturation (A3) Salt Crust (B11) Surface Water (A1) Water Saturation (A3) Salt Crust (B11) Saturation (A3) Saturation (A3) Water Marks (B1) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Algal Mat or Crust (B4) Indicators for Problematic Hydric Soils³: 2 cm Muck (A10) Red Parent Material (TF2) Red Parent Material (TF2) Pept Matrix (S6) Red Parent Material (TF2) Very Shallow Cuff2) Pept Pexpent Matrix (F3) Depleted Matrix (F2) Depleted Matrix (F2) Depleted Matrix (F3) Secondary Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Wetland Hydrology must be present, unless disturbed or problematic. Hydric Soil Present? Yes V No Material (TF2) No Meter Marks (B1) Secondary Indicators (2 or more required Matrix (B1) Secondary Indicators (2 or more required Matrix (B1) Secondary Indicators (2 or more required Matrix (B1) Mater Marks (B1) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Popleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No marks: Diminent redoximorphic concentrations common within the depleted matrix. DROLOGY Hand Hydrology Indicators: mark indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required water (A1) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery Drift Deposits (B3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)
Histic Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Pepleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No Mary No Mineral (S1) Secondary Indicators (S2) or more required: A4, and 4B) DROLOGY Surface Water (A1) Water-Stained Leaves (B9) (except High Water Table (A2) MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Shallow Aquitard (D3) First Deposits (B3) Presence of Reduced Iron (C4) Shallow Aquitard (D3) First Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) Stripped Matrix (F12) Very Shallow Dark Surface (F7) Other (Explain in Remarks) Other (Explain in Remarks) Pother (Explain in Remarks) 1 Other (Explain in Remarks) 1 Other (Explain in Remarks) 1 Other (Explain in Remarks) 1 Indicators of hydrophytic vegetation and wetland hydrology indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (F1) Wetland Hydrology Indicators (Present? Yes No Metland hydrology must be present, unless disturbed or problematic. Secondary Indicators (2 or more required: Secondary Indicators (2 or more required: Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) 4A, and 4B) 5Aturation (A3) Saturation (
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) Depleted Below Dark Surface (A12) Redox Dark Surface (F6) Thick Dark Surface (A12) Depleted Matrix (F3) Thick Dark Surface (A12) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if present): Type:
Depleted Below Dark Surface (A11)
Thick Dark Surface (A12)
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic. Strictive Layer (if present): Type:
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Strictive Layer (if present):
Type: Depth (inches): But (inches):
Type:
Depth (inches):
DROLOGY Itland Hydrology Indicators: mary Indicators (minimum of one required; check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) DROLOGY Water Table (A2) Mater Apply) Secondary Indicators (2 or more required) Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1) Water-Stained Leaves (B9) (MLRA 1) Al, and 4B) 4A, and 4B) Drainage Patterns (B10) Saturation Visible on Aerial Imagery Oxidized Rhizospheres along Living Roots (C3) FAC-Neutral Test (D5)
DROLOGY International Properties of the Common within the depleted matrix. DROLOGY International Properties of the Common within the depleted matrix. DROLOGY International Properties of the Common within the depleted matrix. DROLOGY International Properties of the Common within the depleted matrix. DROLOGY International Properties of the Common within the depleted matrix. DROLOGY International Properties of the Common within the depleted matrix. DROLOGY International Properties of the Common within the depleted matrix. DROLOGY International Properties of the Common within the depleted matrix. Secondary Indicators (2 or more required water of the Common within the depleted matrix. Depleted matrix. Secondary Indicators (2 or more required water of the Common within the depleted matrix. International Properties of the Common within the depleted matrix. Secondary Indicators (2 or more required water of the Common within the depleted matrix. International Properties of the Common within the depleted matrix. International Properties of the Common within the depleted matrix. International Properties of the Common within the Common
Surface Water (A1) Water-Stained Leaves (B9) (except Water-Stained Leaves (B9) (MLRA 1 1 2 4 4 3 4 4 3 4 4 4 5 4 4 5 4 4 5 4 4 5 4 4 5 4 6 4 6
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Inon Deposits (B5) MLRA 1, 2, 4A, and 4B) Aquatic Invertebrates (B13) Aquatic Invertebr
Saturation (A3) Saturation (A3) Saturation (A3) Saturation (A3) Mater Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Saturation (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery Coxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Drainage Patterns (B10) Saturation Visible on Aerial Imagery Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Water Marks (B1) Aquatic Invertebrates (B13) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)
Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)
Drift Deposits (B3) ✓ Oxidized Rhizospheres along Living Roots (C3) ✓ Geomorphic Position (D2) Algal Mat or Crust (B4) — Presence of Reduced Iron (C4) — Shallow Aquitard (D3) Iron Deposits (B5) — Recent Iron Reduction in Tilled Soils (C6) ✓ FAC-Neutral Test (D5)
Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)
Claimed of Circles Carried of Carried of Circles Carried of
Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Surface (B8)
eld Observations:
rface Water Present? Yes No _ V Depth (inches):
ater Table Present? Yes No Depth (inches):
100 100
turation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No cludes capillary fringe)
turation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No cludes capillary fringe)

Project/Site: Schrieber Meadows	(City/Co	_{unty:} Lincoln	County	Sampling Date: 2023-07-11
Applicant/Owner: MDT		-	-	State: Montana	·
Investigator(s): J Trilling		Section	, Township, Ra	nge: S13 T27N R30W	
Landform (hillslope, terrace, etc.): Valley Floor			•		
· · ·			,	,	Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorl					
Are climatic / hydrologic conditions on the site typical for the			_		
Are Vegetation, Soil, or Hydrology	-				resent? Yes <u> </u>
	-				
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS - Attach site map				eeded, explain any answers ocations, transects,	,
Hydrophytic Vegetation Present? Yes			<u> </u>		· ·
Hydric Soil Present? Yes			s the Sampled		
Wetland Hydrology Present? Yes	No	'	within a Wetlar	nd? Yes	No
Remarks:					
Upland sample point located between	southwe	st ed	ge of wetla	and cell 3 and proj	ect boundary.
VEGETATION – Use scientific names of pla					
Tree Stratum (Plot size:)			nant Indicator es? Status	Dominance Test works	
1				Number of Dominant Sp That Are OBL, FACW, o	
2.					
3.				Total Number of Domina Species Across All Strate	
4					
	0	= Tota	l Cover	Percent of Dominant Spo That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size:)				Prevalence Index work	sheet:
1				Total % Cover of:	Multiply by:
2				1	x 1 = 0
3				· ·	x 2 = 0
5					x 3 = 0
<u> </u>	0	= Tota	l Cover	FACU species 0	
Herb Stratum (Plot size:)		_		UPL species 85	x 5 = 425
1. Bromus inermis	<u>85</u>		<u>UPL</u>	Column Totals: 85	(A) <u>425</u> (B)
2. Alopecurus arundinaceus	15			Prevalence Index	= B/A = 5.00
3				Hydrophytic Vegetation	
4				1 - Rapid Test for H	
5				2 - Dominance Test	
6				3 - Prevalence Index	
7 8					daptations ¹ (Provide supporting or on a separate sheet)
9.				5 - Wetland Non-Va	· · · · · · · · · · · · · · · · · · ·
10					hytic Vegetation ¹ (Explain)
11.				¹ Indicators of hydric soil	and wetland hydrology must
	400	= Total	Cover	be present, unless distur	bed or problematic.
Woody Vine Stratum (Plot size:)					
1				Hydrophytic	
2				Vegetation Present? Yes	s No
% Bare Ground in Herb Stratum 0		_= Total			
Remarks:				l	
No evidence of a hydrophytic veget	tation co	mmı	unity obse	erved.	
					,

SOIL Sampling Point: DP09U

Profile Desc	ription: (Describe	e to the dept	th needed to docur	nent the i	ndicator	or confirn	n the absence o	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	<u>Texture</u>	Remarks
0 - 18	10YR 3/2	100					Loam	
-								
	-			-			 -	
	-							
-								
				-				
17 0-0.		mlatian DM-	-Dadwaad Matrix C	S-Causana			21	stices DI - Dave Lining M-Matrix
			Reduced Matrix, CS			ed Sand G		ation: PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
-		Cable to all			eu.,			•
Histosol	oipedon (A2)		Sandy Redox (3 Stripped Matrix					Muck (A10) Parent Material (TF2)
Black Hi			Loamy Mucky N		1) (except	t MLRA 1)		Shallow Dark Surface (TF12)
	n Sulfide (A4)		Loamy Gleyed			,	-	(Explain in Remarks)
	d Below Dark Surfa	ce (A11)	Depleted Matrix		,			
Thick Da	ark Surface (A12)	, ,	Redox Dark Su				³ Indicators	s of hydrophytic vegetation and
-	lucky Mineral (S1)		Depleted Dark	Surface (F	7)		wetland	d hydrology must be present,
-	Bleyed Matrix (S4)		Redox Depress	ions (F8)			unless	disturbed or problematic.
Restrictive I	_ayer (if present):							
Type:								
Depth (inc	ches):						Hydric Soil P	Present? Yes No
Remarks:							•	
HYDROLO								
_	drology Indicators							
		one required	l; check all that appl		(DO) (dary Indicators (2 or more required)
	Water (A1)		Water-Sta		, , ,	xcept		ater-Stained Leaves (B9) (MLRA 1, 2,
_	iter Table (A2)			1, 2, 4A, a	and 4B)			4A, and 4B)
Saturatio	• •		Salt Crust	` '	- (D42)		· 	ainage Patterns (B10)
Water M			Aquatic In					y-Season Water Table (C2)
	nt Deposits (B2)		Hydrogen			Livina Boo		turation Visible on Aerial Imagery (C9)
	oosits (B3)		Oxidized F		_	-		eomorphic Position (D2)
	at or Crust (B4)		Recent Iro		•	•		allow Aquitard (D3)
	oosits (B5) Soil Cracks (B6)		Stunted or			,		C-Neutral Test (D5) ised Ant Mounds (D6) (LRR A)
	on Vis ble on Aerial	Imagery (R7				(I) (LKK A		ost-Heave Hummocks (D7)
	Vegetated Conca			Jani III IXC	iliaiks)		110	ost-rieave ridiffillocks (D1)
Field Observ		ve Suriace (L	50)					
		Voo N	via 🗸 Donth (in	oboo\:				
Surface Wate			No Depth (in					
Water Table			No Depth (in					
Saturation Proceed (includes cape		Yes N	No Depth (in	ches):		Wetl	and Hydrology	Present? Yes No
		m gauge, mo	nitoring well, aerial	photos, pr	evious ins	spections),	if available:	
Remarks:								
		المصال		اء میں				
INO EVIDE	ence of wetl	and nyd	Irology obse	rved.				

Project/Site: Schrieber Meadows		Citv/County: Lincoln	a County Sampling Date: 2023-07-11
Applicant/Owner: MDT			State: Montana Sampling Point: DP09W
			ange: S13 T27N R30W
Landform (hillslope, terrace, etc.): Swale			
			Long: -115.4157624 Datum: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poor			
Are climatic / hydrologic conditions on the site typical for t		_	
Are Vegetation, Soil, or Hydrology	-		e "Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology			needed, explain any answers in Remarks.)
			locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes	_		
Hydric Soil Present? Yes	No	Is the Sample	
Wetland Hydrology Present? Yes		within a Wetla	and? Yes Vo No
Remarks:		1	
Wetland sample point located between	n southwe	est edge of we	tland cell 3 and project boundary.
VEGETATION – Use scientific names of pla			
Tree Stratum (Plot size:)		Dominant Indicator Species? Status	
1			Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
2.			-
3.			Total Number of Dominant Species Across All Strata: 1 (B)
4			
	0	= Total Cover	Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
Sapling/Shrub Stratum (Plot size:)			Prevalence Index worksheet:
1			Total % Cover of: Multiply by:
2			OBL species 0 x 1 = 0
3			FACW species 100 x 2 = 200
4 5			FAC species $0 \times 3 = 0$
0.		= Total Cover	FACU species $0 \times 4 = 0$
Herb Stratum (Plot size:)			UPL species $0 \times 5 = 0$
1. Phalaris arundinacea	100	<u> ✓ FACW</u>	Column Totals: 100 (A) 200 (B)
2			Prevalence Index = B/A = $\frac{2.00}{}$
3			Hydrophytic Vegetation Indicators:
4			1 - Rapid Test for Hydrophytic Vegetation
5			2 - Dominance Test is >50%
6			_ <u>✓</u> 3 - Prevalence Index is ≤3.0 ¹
7			 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
8 9			5 - Wetland Non-Vascular Plants ¹
10			Problematic Hydrophytic Vegetation ¹ (Explain)
11.			¹ Indicators of hydric soil and wetland hydrology must
	400	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)			
1			Hydrophytic
2			Vegetation Present? Yes No
% Bare Ground in Herb Stratum 0	0	= Total Cover	133
Remarks:			

A positive rapid test, positive dominance test, and prevalence index below three provide evidence for a hydrophytic vegetation community at this data point.

SOIL Sampling Point: DP09W

Profile Desc	ription: (Describe	to the dep	oth needed to docur	nent the	indicator	or confirm	m the absence	of indicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	_Loc ²	<u>Texture</u>	Remarks
0 - 4	10YR 2/1	100		_			Loam	fine roots
4 - 14	10YR 2/1	98	7.5YR 4/6	2	<u>C</u>	M	Loam	
14 - 20	10YR 6/1	97	7.5YR 4/6	3	С		Sandy Loam	
-								
-								
_					-			
1Type: C=C	ncentration D=Den	letion RM	=Reduced Matrix, CS	S=Covere	ed or Coat	ed Sand G	Grains ² Lo	cation: PL=Pore Lining, M=Matrix.
			I LRRs, unless other			eu Sanu G		ors for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (•			m Muck (A10)
	oipedon (A2)		Stripped Matrix	•			·	Parent Material (TF2)
Black Hi			Loamy Mucky N		1) (evcen	+ MIRA 1		y Shallow Dark Surface (TF12)
	en Sulfide (A4)		Loamy Gleyed			T WILLYA I		er (Explain in Remarks)
	d Below Dark Surfac	Δ (Δ11)	Depleted Matrix	•	۷)		0111	er (Explain in Nemarks)
	ark Surface (A12)	C (A11)	Redox Dark Su		١		3Indicate	ors of hydrophytic vegetation and
	fucky Mineral (S1)		Depleted Dark	,	,			and hydrology must be present,
-	Gleyed Matrix (S4)		Redox Depress		•			es disturbed or problematic.
	Layer (if present):		Nedox Depress	510113 (1 0)	'		dilics	so disturbed or problematic.
Type:	zayor (ii proconty.							
Depth (inc	ches):						Hydric Soil	Present? Yes V No No
Remarks:							,	
HYDROLO		priic c	oncentrations	S COIII	mon v	VICIIIII C	ne dark s	инасе науен.
Wetland Hyd	drology Indicators:							
Primary Indic	cators (minimum of c	ne require	ed; check all that appl	y)			Seco	ndary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ined Leav	ves (B9) (except	V	Vater-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)			1, 2, 4A,		•		4A, and 4B)
Saturation			Salt Crust				Г	Orainage Patterns (B10)
Water M			Aquatic In	` '	oc (P13)			Ory-Season Water Table (C2)
	nt Deposits (B2)							
			Hydrogen					Saturation Visible on Aerial Imagery (C9)
	posits (B3)		Oxidized F		_	_		Geomorphic Position (D2)
	at or Crust (B4)		Presence					Shallow Aquitard (D3)
	oosits (B5)		Recent Iro			•		AC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted or	Stressed	d Plants (E	01) (LRR A	4) F	Raised Ant Mounds (D6) (LRR A)
Inundation	on Vis ble on Aerial I	lmagery (E	37) Other (Exp	olain in R	emarks)		F	rost-Heave Hummocks (D7)
Sparsely	Vegetated Concave	e Surface	(B8)					
Field Observ	vations:							
Surface Water	er Present? Y	'es	No Depth (in	ches):				
Water Table			No Depth (in					
Saturation Pr	resent? Y	'es	No Depth (in	ches):		Wet	land Hydrolog	y Present? Yes <u> </u>
(includes cap				-11			16	
Describe Red	corded Data (stream	i gauge, m	onitoring well, aerial	pnotos, p	revious in	spections)	, if available:	
Domarka:								
Remarks:								
A positiv	e FAC-neutr	al test	and the geor	morph	nic pos	sition o	of the poin	nt indicate wetland
•	gy at this loc		J =	1	•	_		
Tiyarolog	y at this loca	auon.						

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Section Township Range S12 T27N R30W Section Township Range S12 T27N R30W Slope (%): 15	Project/Site: Schrieber Meadows		City/Cou	_{unty:} Lincoln	County	Sampling Date: 2023-07-11
androrm (hillslope, terrace etc.): Hillslope Local relief (concave, convex, none): Linear Slope (%); 15 Lat: 48.1114396 Long: -115.4170984 Datum: WGS 84 of May Duth Name: 105 - Aquic Udifluvents, poorly drained not Map Unit Name: 105 - Aquic Udifluvents, poorly drained re climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) re Vegetation Soil or Hydrology significantly disturbed?	Applicant/Owner: MDT		-	-		· · ·
androrm (hillslope, terrace etc.): Hillslope Local relief (concave, convex, none): Linear Slope (%); 15 Lat: 48.1114396 Long: -115.4170984 Datum: WGS 84 of May Duth Name: 105 - Aquic Udifluvents, poorly drained not Map Unit Name: 105 - Aquic Udifluvents, poorly drained re climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) re Vegetation Soil or Hydrology significantly disturbed?	Investigator(s): J Trilling		Section	_ , Township, Ra	nge: S12 T27N R30W	<u> </u>
oil Map Unit Name: 105 - Aquic Udiffuvents, poorly drained						
oil Map Unit Name: 105 - Aquic Udiffuvents, poorly drained	Subregion (LRR): E 43A	Lat: 48.	.111439	96	_ Long: <u>-115.4170984</u>	Datum: WGS 84
re climate / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.) re Vegetation Soil or Hydrology significantly disturbed?						
re Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No No Normal Circumstances" present? Yes No Normal Circumstances" present? Yes Normal Circumstances" present? Yes Normal Circumstances" present? Yes Normal Circumstances Normal Circumstances Present? Yes Normal Circumstances Normal Circumstances Present? Yes Normal Circumstances Normal Circumstances Present. Normal Circumstances Present? Yes Normal Circumstances Normal Circumstances Normal Circumstances Normal Normal Circumstances Normal No						
Soli	Are Vegetation, Soil, or Hydrology	_ significantly	disturbe	ed? Are "	'Normal Circumstances" p	oresent? Yes No
#Windows Start Control of Stratum (Plot size:	Are Vegetation, Soil, or Hydrology	_ naturally pro	blematio			
Substitution South Seemin Substitution South Substitution Substitut					ocations, transects	, important features, etc.
Step Sampled Area within a Wetland? Yes No V within a Wetland? Yes No Yes Yes Yes No Yes Yes No Yes	Hydrophytic Vegetation Present? Yes	No				
Tree Stratum (Plot size:	Hydric Soil Present? Yes	No		•		No. V
Species Spec		No	V	vitnin a wetiar	10? Yes	NO
Absolute	Upland sample point located at we	st corner	of w	etland ce	ell 8.	
Number of Dominant Species Number of Dominant Species That Are OBL, FACW, or FAC: O (A)	VEGETATION – Use scientific names of pla	ants.				
1.	Troe Stretum (Diet eine				Dominance Test work	sheet:
2						
3.						(//
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)						ant ta: 2 (B)
That Are OBL, FACW, or FAC: 0.00 (A/B)						
Prevalence Index worksheet: Total % Cover of:		0	= Total	l Cover		
2.					Prevalence Index wor	ksheet:
Sels species Sels						
4						
Fact species Statum Stratum Stratum Stratum Stratum Clot size: Statum Stratum Clot size: Statum Stratum Clot size: Statum Stratum Clot size: Statum Stratum Stratum Clot size: Statum Stratum Stratum Clot size: Statum Stratum						
Herb Stratum (Plot size:)						
1. Bromus inermis 2. Pascopyrum smithii 2. Alopecurus arundinaceus 3. Alopecurus arundinaceus 4.		0	= Total	l Cover		
2. Pascopyrum smithii 2. Alopecurus arundinaceus 15 FAC Hydrophytic Vegetation Indicators: 1. Rapid Test for Hydrophytic Vegetation 2. Dominance Test is >50% 6. 2. 3. Prevalence Index is ≤3.0¹ 7. 4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) 9. 5. Wetland Non-Vascular Plants¹ 10. 11. Problematic Hydrophytic Vegetation 1 Problematic Hydrophytic Vegetation¹ (Explain) 1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Woody Vine Stratum (Plot size:) 1. 2		45	~	LIDI		
3. Alopecurus arundinaceus 15						
4	3 Alopecurus arundinaceus					
5	4.				' ' '	
6					•	
8						
9	7				4 - Morphological A	Adaptations ¹ (Provide supporting
10 Problematic Hydrophytic Vegetation¹ (Explain) 11						. ,
11						
B0						
Woody Vine Stratum (Plot size:) 1	11. <u> </u>	00	- Total	Cover		
2	Woody Vine Stratum (Plot size:)		10tai	Covei		
% Bare Ground in Herb Stratum 20 Present? Yes No	1					
% Bare Ground in Herb Stratum 20 = Total Cover	2				Vegetation Present? Ye	s No V
	% Rare Ground in Herb Stratum 20	0	= Total	Cover	Tresent: Te	3
	Remarks:					
No evidence of a hydrophytic vegetation community observed, as sampling pit could only get to a		ion comm	unity	obcorved	ac campling pit	sould only got to a
depth of 10" due to cobbles in the substrate.	, , , ,		unity	observed,	, as sampling pit t	Jould offly get to a

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SOIL Sampling Point: DP10U

Profile Desc	cription: (Descri	be to the dept	h needed to docu	ment the i	ndicator	or confirm	the absence	e of indicators.)
Depth	Matrix	(Redo	ox Feature:				
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	<u>Remarks</u>
0 - 10	10YR 3/1	100					Loam	cobbles
-								
		·						
	-							
	-							
-								
¹Type: C=C	oncentration D=F	enletion RM=	Reduced Matrix, C	S=Covered	d or Coate	nd Sand Gr	raine ² Lo	cation: PL=Pore Lining, M=Matrix.
			LRRs, unless othe			d Sand Oi		ors for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (,			m Muck (A10)
	pipedon (A2)	•	Stripped Matrix	,			·	d Parent Material (TF2)
	istic (A3)		Loamy Mucky		1) (except	MLRA 1)		ry Shallow Dark Surface (TF12)
Hydroge	en Sulfide (A4)		Loamy Gleyed			,		ner (Explain in Remarks)
Deplete	d Below Dark Sur	face (A11)	Depleted Matri	x (F3)				
	ark Surface (A12)		Redox Dark Su	` ,				ors of hydrophytic vegetation and
-	Mucky Mineral (S1		Depleted Dark		7)			and hydrology must be present,
-	Gleyed Matrix (S4)		Redox Depres	sions (F8)			unle	ss disturbed or problematic.
	Layer (if present):						
Type: Co								
	ches): 10						Hydric Soi	I Present? Yes No
Remarks:								
No evide	ence of hyd	lric soils o	observed.					
	,							
HYDROLO	GY							
Wetland Hy	drology Indicato	rs:						
			; check all that app	ly)			Seco	andary Indicators (2 or more required)
Surface	Water (A1)		Water-Sta	ained Leave	es (B9) (e	xcept		Water-Stained Leaves (B9) (MLRA 1, 2,
	ater Table (A2)			1, 2, 4A, a				4A, and 4B)
Saturati			Salt Crus		,		Г	Drainage Patterns (B10)
	larks (B1)			vertebrate	s (B13)			Dry-Season Water Table (C2)
	nt Deposits (B2)			Sulfide O	, ,			Saturation Visible on Aerial Imagery (C9)
Drift De	posits (B3)					Living Roo	ots (C3) (Geomorphic Position (D2)
	at or Crust (B4)			of Reduce	_	-		Shallow Aquitard (D3)
Iron Dep	posits (B5)		Recent Ire	on Reducti	on in Tille	d Soils (C6	S) F	FAC-Neutral Test (D5)
Surface	Soil Cracks (B6)		Stunted o	r Stressed	Plants (D	1) (LRR A) F	Raised Ant Mounds (D6) (LRR A)
Inundati	on Vis ble on Aeri	al Imagery (B7) Other (Ex	plain in Re	emarks)		F	Frost-Heave Hummocks (D7)
Sparsel	y Vegetated Conc	ave Surface (E	38)					
Field Obser	vations:							
Surface Wat	er Present?	Yes N	No <u> </u>	nches):				
Water Table	Present?		No <u> </u>					
Saturation P	resent?		No Pepth (ir				and Hydrolog	gy Present? Yes No 🔽
(includes ca	pillary fringe)			•				
Describe Re	corded Data (stre	am gauge, mo	nitoring well, aerial	photos, pr	evious ins	pections),	ıt available:	
Remarks:								
No evide	ence of we	tland hvd	rology obse	rved.				
		· · · · ·						

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Schrieber Meadows	(City/Cou	_{unty:} I	Lincoln C	ounty	Sampling Date:	2023-07-11
Applicant/Owner: MDT	<u> </u>	•			State: Montana		
Investigator(s): J Trilling	;	Section,	, Towi	nship, Ran	ge: S12 T27N R30W		
Landform (hillslope, terrace, etc.): Toeslope							pe (%): 2
Subregion (LRR): E 43A	Lat: 48.	111419	95		Long: -115.4170587	Datu	m: WGS 84
Soil Map Unit Name: 105 - Aquic Udifluvents, poorly							
Are climatic / hydrologic conditions on the site typical for this			_				
Are Vegetation, Soil, or Hydrology si	-				Iormal Circumstances" p		′ No
Are Vegetation, Soil, or Hydrologyn					eded, explain any answer		
SUMMARY OF FINDINGS – Attach site map							atures, etc.
Hydrophytic Vegetation Present? Yes No	o						
	o			Sampled a Wetland		No	
	o		VILIIIII	a wellall	J: 165		
Remarks:							
Wetland sample point located at wes	st corne	er of v	wet	land co	ell 8.		
VEGETATION – Use scientific names of plant	ts.						
Trac Stratum (Diet eine	Absolute				Dominance Test works	sheet:	
Tree Stratum (Plot size:) 1	% Cover				Number of Dominant Sp. That Are OBL, FACW, of		(A)
2.							(A)
3.					Total Number of Domina Species Across All Strat		(B)
4					·		
Ocalica (Obrah Otsahan (Dishaira)	0	= Total	l Cove	er	Percent of Dominant Sp That Are OBL, FACW, of		0 (A/B)
Sapling/Shrub Stratum (Plot size:)				-	Prevalence Index work	sheet:	
1				_	Total % Cover of:		y by:
3				-		x 1 = 0	
4					FACW species 65		<u>'</u>
5							
Harb Otrature (Distrator	0	= Total	l Cove	er		x 5 = 0	
Herb Stratum (Plot size:) 1. Phalaris arundinacea	65		ı	FACW	Column Totals: 65	(A) 130) (B)
2							
3					Prevalence Index Hydrophytic Vegetation		
4					✓ 1 - Rapid Test for H		ation
5					✓ 2 - Dominance Test		
6					✓ 3 - Prevalence Inde		
7					4 - Morphological A data in Remarks	daptations ¹ (Prov or on a separate	ide supporting sheet)
9.					5 - Wetland Non-Va	•	,
10					Problematic Hydrop		(Explain)
11.					¹ Indicators of hydric soil		
	~-	= Total	Cove	r .	be present, unless distu	rbed or problema	tic.
Woody Vine Stratum (Plot size:)							
1					Hydrophytic Vegetation		
2	_	= Total	Cove		Present? Yes	s No	
% Bare Ground in Herb Stratum 35				· 			
Remarks:							
A positive rapid test, positive dominance	e test, a	nd pr	eva	lence i	ndex below three	indicate hy	drophytic

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vegetation at this data point.

SOIL Sampling Point: DP10W

Profile Desc	ription: (Describe	to the depth	needed to document the indicator or o	confirm th	e absence	of indicators.)
Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist) % Type ¹ I	Loc ²	Texture	Remarks
0 - 16	10YR 2/1	100	Color (moist) 70 Type I			fine roots
16 - 20	10YR 4/2	100			oam	
10 20	1011(4/2			<u>-</u>	<u>oum</u>	<u> </u>
-						
-						_
1Type: C=C	noontration D=Do	plotion DM=D	educed Matrix, CS=Covered or Coated S	Cond Croin	21.00	cation: PL=Pore Lining, M=Matrix.
			RRs, unless otherwise noted.)	banu Grain		rs for Problematic Hydric Soils ³ :
Histosol			Sandy Redox (S5)			n Muck (A10)
	pipedon (A2)		Stripped Matrix (S6)			Parent Material (TF2)
Black Hi		_	Loamy Mucky Mineral (F1) (except MI	LRA 1)		/ Shallow Dark Surface (TF12)
	n Sulfide (A4)		_ Loamy Gleyed Matrix (F2)		Othe	er (Explain in Remarks)
	Below Dark Surfa	ce (A11)	_ Depleted Matrix (F3)		3, ,, ,	
l ——	ark Surface (A12)		Redox Dark Surface (F6) Depleted Dark Surface (F7)			rs of hydrophytic vegetation and nd hydrology must be present,
-	Mucky Mineral (S1) Gleyed Matrix (S4)		Redox Depressions (F8)			s disturbed or problematic.
	_ayer (if present):		_ redux popressions (i e)		411100	o dictarbod of problematic.
Type:	, , ,					
Depth (inc	ches):		_		Hydric Soil	Present? Yes V No No
Remarks:	,				<u> </u>	
Aquic co	nditions pre	esent at th	nis point.			
LIV/DD 01 0						
HYDROLO						
_	drology Indicators				_	
-	•	one required; o	check all that apply)			ndary Indicators (2 or more required)
	Water (A1)		Water-Stained Leaves (B9) (exce	ept	W	/ater-Stained Leaves (B9) (MLRA 1, 2,
-	iter Table (A2)		MLRA 1, 2, 4A, and 4B)		5	4A, and 4B)
Saturatio			Salt Crust (B11)			rainage Patterns (B10)
	arks (B1) nt Deposits (B2)		Aquatic Invertebrates (B13)Hydrogen Sulfide Odor (C1)			ry-Season Water Table (C2) aturation Visible on Aerial Imagery (C9)
	posits (B3)		Oxidized Rhizospheres along Livi	ina Poots /		
	at or Crust (B4)		Presence of Reduced Iron (C4)	ing recots (—	hallow Aquitard (D3)
Iron Dep			Recent Iron Reduction in Tilled S	oils (C6)		AC-Neutral Test (D5)
-	Soil Cracks (B6)		Stunted or Stressed Plants (D1) (aised Ant Mounds (D6) (LRR A)
	on Vis ble on Aerial	Imagery (B7)	Other (Explain in Remarks)	,	·	rost-Heave Hummocks (D7)
Sparsely	Vegetated Conca	ve Surface (B8)				
Field Obser	vations:					
Surface Water	er Present?	Yes No	Depth (inches):			
Water Table	Present?	Yes 🔽 No	Depth (inches): 18			
Saturation Procession (includes cap		Yes No	Depth (inches):	Wetland	d Hydrolog	y Present? Yes No
		n gauge, monit	oring well, aerial photos, previous inspec	ctions), if a	vailable:	
Remarks:						
The geo	morphic pos	sition of tl	he point and a positive FA	AC-neu	ıtral tes	st provide evidence of
_	hydrology a		•			,

MDT Montana Wetland Assessment Form (revised March 2008)

8. Wetland size:

9. Assessment area (AA):

1. Project Name: Schrieber Meadows 2. MDT Project #: NH 27 (021) Control #: 1027001

3. Evaluation Date: 09/11/2023 4. Evaluator(s): J Trilling 5. Wetlands/Site #(s): Creation

6. Wetland Location(s): i. Legal: T27N,R30W,11,12,13 Latitude/Longitude: 48.112259, -115.416325 : Center of AA

ii. Approx. Stationing or Mileposts:

iii. Watershed: 1

Watershed Name, County: Kootenai, Lincoln

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

1. Wetlands potentially affected by MDT project

2. Mitigation wetlands; pre-construction

3. X Mitigation wetlands; post-construction

4. Other:

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	AB	E	PP	10.00
D	EM	E	PP	35.00
S	EM	NA	SI	20.00
S	EM	NA	PP	35.00

Abbreviations: (see manual for definitions)

HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF); Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)

23.440 acres (measured)

23.440 acres (measured)

Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A)

(PD), Farmed (F), Artificial (A)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) COMMON

12. General condition of AA:

 i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) list)

	Predomin	ant conditions adjacent to (within 500 t	feet of) AA
Conditions within AA	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is >=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <= 30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <= 15%.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Highway 2 and USFS roads are adjacent to the AA, land is not cultivated, and low disturbance. Ox-eye daisy continues to increase in cover in the NW portion of the site, continuing a trend observed in 2022.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Cirsium arvense, Leucanthemum vulgare, Hieracium aurantiacum iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes constructed wetland depressions and adjacent wetland habitat that has been created by the plugging of existing ditches and channels, creation of a new stream channel and subsidence of the histosol soil

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 above)

elevations over time. The surrounding land is currently managed in a natural state. USFS land surrounds the majority of the site.

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management existence of additional	Modified Rating	
>= 3 (or 2 if 1 is forested) classes	Н	NA	NA	NA
2 (or 1 if forested) classes		NA	NA	NA
1 class, but not a monoculture		< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Emergent and aquatic bed classes are present

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)

Secondary habitat (list species)

Grizzly Bear(D)

Canada Lynx(S)

Canada Lynx(S)
North American Wolverine(S)

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	.9H	.8M	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): USFWS database, MTNHP, MDT observations and reports from FWP, USFWS, and FS on use.

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)

Secondary habitat (list species)

Incidental habitat (list species)

Western toad (S2)(D) - S2S3

ii. Kating (use the conclusions no	iii i above and tii	e matrix below to	arrive at [Circle]	trie furictional por	ilis and rating)		
Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: Functional Points and Rating	1H	.8H	.7M	.6M	.2L	.1L	0L
S2 and S3 Species: Functional	.9Н	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP and documented breeding on site by MDT and USFS personnel.

14C. General Wildlife Habitat Rating:

Points and Rating

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]): X observations of abundant wildlife #s or high species diversity (during any period) X abundant wildlife sign such as scat, tracks, nest structures, game trails, etc. presence of extremely limiting habitat features not available in the surrounding area interviews with local biologists with knowledge of the AA	Minimal (based on any of the following [check]): few or no wildlife observations during peak use periods little to no wildlife sign sparse adjacent upland food sources interviews with local biologists with knowledge of the AA
Moderate (based on any of the following [check]): observations of scattered wildlife groups or individuals or relatively few species during common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, and adequate adjacent upland food sources interviews with local biologists with knowledge of the AA	

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)		High							Moderate							Low				
Class cover distribution (all vegetated classes)	Even			Uneven			Even			Uneven				Even						
Duration of surface water in >=10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA (see #12i)	Е	E	Е	Н	Е	E	Н	Н	Ε	Н	Н	М	Е	Н	М	М	Е	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating)

Friday - Friday - C	Wildlife habitat features rating (ii)									
Evidence of wildlife use (i)	Exceptional	High	Moderate	Moderate						
Substantial	1E	.9H	.8H	.7M						
Moderate	.9H	.7M	.5M	.3L						
Minimal	.6M	.4M	.2L	.1L						

Comments: Observed waterfowl, wildlife, and wildlife tracks/scat during the 2023 site visit.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark

NA and proceed to 14E.)

Type of Fishery: Cold Water (CW) X Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating)

Duration of surface water in AA		Permanent / Perennial						Sea	sonal /	Intermi	Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Optimal		Adequate		Poor		Optimal		Adequate		Po	or	Opt	imal	Adec	luate	Po	oor				
Thermal cover optimal / suboptimal	0	S	0	S	0	Ø	0	S	0	S	0	S	0	S	0	Ø	0	S				
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.2L				
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L				
FWP Tier III or Introduced Game fish	.8H	.7M	.6M	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L				
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L				

Sources used for identifying fish sp. potentially found in AA: Visual observations.

ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)

a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? ____ If yes, reduce score in i above by 0.1.

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? If yes, add 0.1 to the adjusted score in i or iia.

iii. Final Score and Rating:

Comments:

Pumpkinseed and brook trout were observed by MDT and monitoring crews in open water in 2019 and previous years. Likely largemouth bass and brook trout were observed in 2023

14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark **NA** and proceed to 14F.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	, ,	entrenche stream typ			ely entrene stream type		Entrenched-A, F, G stream types		
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L
AA contains unrestricted outlet	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

35 /	5 =	7.00
Flood-prone width	Bankfull width	Entrenchment ratio (ER)



SI	ightly Entrenche ER = >2.2	d	Moderately Entrenched ER = 1.41 – 2.2		Entrenched ER = 1.0 - 1.4	
C stream type	D stream type	E stream type	B stream type	A stream type	G stream type	

ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? ___ Comments: Highway adjacent to the site, minimal trees or shrubs present.

- **14F. Short and Long Term Surface Water Storage:** (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, mark **NA** and proceed to 14G.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>:	5 acre fe	et	1.11	to 5 acre	feet	<=1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond >= 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L

Comments: Extensive areas of perennial inundation greater than 2 feet deep were observed in 2023.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, mark

NA and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

						• • •		
Sediment, nutrient, and toxicant input levels within AA	potential to or compour are no sedimentat	deliver levels nds at levels ot substantia ion, sources	ounding land s of sediment such that oth illy impaired. of nutrients of phication pres	s, nutrients, er functions Minor or toxicants,	developmen nutrients, or t use with po nutrients, o substantially	t for "probable of toxicants or AA otential to delive r compounds so impaired. Majo	waterbodies in r causes" related receives or surrer high levels of uch that other fu or sedimentation ns of eutrophica	to sediment, rounding land sediments, unctions are n, sources of
% cover of wetland vegetation in AA	>= 7	70%	< 7	0%	>= 7	70%	< 7	0%
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains no or restricted outlet	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L
AA contains unrestricted outlet	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L

Comments: AA dominated by >70% reed canarygrass, presence of flooding/ponding, unrestricted outlet flows into Schrieber Lake.

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, mark **NA** and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of <u>wetland</u> streambank or	Duration	Duration of surface water adjacent to rooted vegetation								
shoreline by species with stability ratings of >=6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral							
>= 65%	1H	.9H	.7M							
35-64%	.7M	.6M	.5M							
35%	.3L	.2L	.1L							

Comments: Perennial hydrologic regime in estimated 80% of the AA. Species with high stability ratings are established on the perimeters of excavated areas

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General V	Vildlife Habitat Rating	j (14C.iii.)
Rating (14D.iii.)	E/H	M	L
E/H	Н	Н	M
M	Н	M	M
L	M	M	L
N/A	Н	M	L

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14!.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α		Vegetat	ed comp	onent >	5 acres		Vegetated component 1-5 acres						Vegetated component < 1 acre					
В	Hi	gh	Mode	erate	Low		High		Moderate		Low		High		Moderate		Low	
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with >= 30% plant cover, = 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference?

X If yes, add 0.1 to the score in ii above.

iv. Final Score and Rating: 1.00H Comments: High level of biological activity, veg component > 5 ac, perennial, has surface and subsurface outlets.

i. Discharge Indicators				ii	i. Recharge l	Indicators						
The AA is a slope wetland					-		ent without u	inderlying imp	eding layer			
X Springs or seeps are known				V	Vetland conta	ains inlet but	no outlet					
Vegetation growing during do	ormant seas	on/drought		s	Stream is a kr	nown 'losing'	stream; disc	charge volume	e decreases			
Wetland occurs at the toe of		•			Other:							
X AA permanently flooded duri		periods										
Wetland contains an outlet, b			,									
X Shallow water table and the			тасе									
X Other: large spring located r	near the mid	die of the AA										
ii. Rating (use the information from i	and ii above							_				
			of saturation									
		<u>DISCH.</u>	<u>ARGE OR W</u>				THE					
	GROUNDWATER SYSTEM											
Criteria		P/P 1H		S/I .7M	T 4M		None .1L	4				
Groundwater Discharge or Recha	rge	In		N/			.IL	4				
Insufficient Data/Information Comments: AA with perennial inund	ation/saturat	tion to the sur	face	11//				_				
4K. Uniqueness:												
. Rating (working from top to bottom,	use the mat	trix below to a	rrive at [circle	e] the functio	nal points an	d rating)	1					
	AA contair	ns fen, bog, w	arm springs		t contain pre		AA does n	ot contain pre	viously cited			
Replacement potential	or matu	re (>80 yr-old)) forested		and structur high or conta		rare typ	es or associat	tions and			
Replacement potential		r plant associ			on listed as "		structural diversity (#13) is low- moderate					
	as .	S1" by the MT	NHP		MTNHP	•		moderate				
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant			
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L			
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L			
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L			
Comments: Structural diversity not e	•						tn (2-3π).					
. Is the AA a known or potential red							k NA a	and proceed to	the			
overall summary and rating pa		· — ·										
i. Check categories that apply to th	e AA: X	Educational/s	scientific stud	ly; X Con	sumptive rec	.; X Non-c	onsumptive	rec.;				
		Other :				<u>—</u>						
ii. Rating:		-										
Known or Potential Recreation or Ed	lucation Are	 а					Known	Potential	7			
Public ownership or public easem	ent with ge	neral public	access (no p	permission	required)		.2H	.15H	7			
Private ownership with general pu	ıblic access	(no permiss	sion required	d)			.15H	.1M				
Private or public ownership witho	ut general p	oublic access	s, or requirin	ng permissio	on for public	access	.1M	.05L				
Comments: Known recreation site.									_			
General Site Notes												

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Creation

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	М	0.80	1	18.75	
B. MT Natural Heritage Program Species Habitat	Н	0.90	1	21.10	
C. General Wildlife Habitat	Е	1.00	1	23.44	*
D. General Fish Habitat	М	0.60	1	14.06	
E. Flood Attenuation	М	0.50	1	11.72	
F. Short and Long Term Surface Water Storage	Н	1.00	1	23.44	*
G. Sediment/Nutrient/Toxicant Removal	Н	0.90	1	21.10	
H. Sediment/Shoreline Stabilization	Н	1.00	1	23.44	
I. Production Export/Food Chain Support	Н	1.00	1	23.44	*
J. Groundwater Discharge/Recharge	Н	1.00	1	23.44	*
K. Uniqueness	М	0.40	1	9.38	
L. Recreation/Education Potential (bonus points)	Н	0.20	1	4.69	
Totals: Percent of Possible Score		9.30	11.00 85%	218.00	

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II)
Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
Score of 1 functional point for Uniqueness; or
Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
X Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or X Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)
"Low" rating for Uniqueness; and Vegetated wetland component 1 acre (do not include upland vegetated buffer); and Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: I

Summary Comments: Overall a highly productive AA.

MDT Montana Wetland Assessment Form (revised March 2008)

8. Wetland size:

9. Assessment area (AA):

1. Project Name: Schrieber Meadows 2. MDT Project #: NH 27 (021) Control #: 1027001

3. Evaluation Date: 09/11/2023 4. Evaluator(s): J Trilling 5. Wetlands/Site #(s): Enhancement

6. Wetland Location(s): i. Legal: T27N,R30W,11,12,13 Latitude/Longitude: 48.111022, -115.41427 : Center of AA

ii. Approx. Stationing or Mileposts:

iii. Watershed: 1

Watershed Name, County: Kootenai, Lincoln

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

1. Wetlands potentially affected by MDT project

2. Mitigation wetlands; pre-construction

3. X Mitigation wetlands; post-construction

4. Other:

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
S	AB	NA	PP	22.00
S	EM	NA	SI	20.00
S	EM	NA	PP	58.00

Abbreviations: (see manual for definitions)

HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF); Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)

6.770 acres (measured)

6.770 acres (measured)

Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained

(PD), Farmed (F), Artificial (A)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) COMMON

12. General condition of AA:

 i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) list)

	Predomin	ant conditions adjacent to (within 500 t	feet of) AA
Conditions within AA	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is >=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <= 30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <= 15%.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Highway 2 and USFS roads are adjacent to the AA, land is not cultivated, minimal noxious weeds, and low disturbance.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Cirsium arvense

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes existing wetlands located between stream mitigation area and US Hwy 2. The emergent wetland is dominated by reed canary grass and Alopecurus spp. Restoration efforts and beaver activity south of Schrieber Lake have resulted in increased inundation, resulting in some of the emergent wetland transitioning to aquatic bed. Adjacent land use is forest and the highway.

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 above)

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management existence of additional		Modified Rating
>= 3 (or 2 if 1 is forested) classes	Н	NA	NA	NA
2 (or 1 if forested) classes	M	NA	NA	NA
1 class, but not a monoculture	М	< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	Ĺ	NA	NA	NA

Comments: Aquatic bed, and emergent wetland dominated by primarily reed canary grass.

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (list species) Secondary habitat (list species) Incidental habi

Grizzly Bear(D)

Incidental habitat (list species)

Canada Lynx(S)

North American Wolverine(S)

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	.9H	.8M	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): USFWS database, MTNHP, MDT observations and reports of use from FWP, USFS, and USFWS.

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)

Secondary habitat (list species)

Incidental habitat (list species)

Western toad (S2)(D) - S2S3

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: Functional Points and Rating	1H	.8H	.7M	.6M	.2L	.1L	0L
S2 and S3 Species: Functional Points and Rating	.9H	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP and documented breeding on site by MDT and USFS personnel.

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]): X observations of abundant wildlife #s or high species diversity (during any period) X abundant wildlife sign such as scat, tracks, nest structures, game trails, etc. presence of extremely limiting habitat features not available in the surrounding area interviews with local biologists with knowledge of the AA	Minimal (based on any of the following [check]): few or no wildlife observations during peak use periods little to no wildlife sign sparse adjacent upland food sources interviews with local biologists with knowledge of the AA
Moderate (based on any of the following [check]): observations of scattered wildlife groups or individuals or relatively few species during	peak periods
common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, and adequate adjacent upland food sources interviews with local biologists with knowledge of the AA	etc.

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)		High							Moderate							Low				
Class cover distribution (all vegetated classes)		Ev	en			Une	even			Ev	en			Une	even			Ev	en	
Duration of surface water in >=10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α
Low disturbance at AA (see #12i)	Е	E	Е	Н	Е	E	Н	Н	Е	Н	Н	М	Е	Н	М	М	Е	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating)

Fuidance of wildlife use (i)		Wildlife habitat fe	eatures rating (ii)	_
Evidence of wildlife use (i)	Exceptional	High	Moderate	Moderate
Substantial	1E	.9H	.8H	.7M
Moderate	.9H	.7M	.5M	.3L
Minimal	.6M	.4M	.2L	.1L

Comments: Substantial wildlife use within the AA; however, US Highway 2 abuts this area and precludes wildlife usage at various times of the day due traffic.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark

NA and proceed to 14E.)

Type of Fishery: Cold Water (CW) X Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating)

Duration of surface water in AA	Permanent / Perennial							Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Opt	imal	Adec	luate	Po	oor	Opt	imal	Adec	quate	Po	or	Opt	imal	Adec	luate	Po	oor	
Thermal cover optimal / suboptimal	0	S	0	S	0	Ø	0	S	0	S	0	Ø	0	S	0	Ø	0	S	
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.2L	
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L	
FWP Tier III or Introduced Game fish	.8H	.7M	.6M	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L	
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L	

Sources used for identifying fish sp. potentially found in AA: Visual observations.

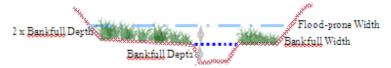
- ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
- a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? ____ If yes, reduce score in i above by 0.1.
- b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? If yes, add 0.1 to the adjusted score in i or iia.
- iii. Final Score and Rating: 0.2L Comments: Minimal fish habitat present, no fish have been observed in AA.
- **14E. Flood Attenuation:** (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ____ **NA** and proceed to 14F.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	, ,	entrenche stream typ	, ,		ely entrend stream type		Entrench	ned-A, F, C	3 stream
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L
AA contains unrestricted outlet	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

35 /	5 =	7.00
Flood-prone	Bankfull	Entrenchment ratio
width	width	(ER)



Slightly Entrenched ER = >2.2			Moderately Entrenched ER = 1.41 – 2.2		Entrenched ER = 1.0 - 1.4	
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type

ii. Are ≥10 acres of wetland in the AA subject to flooding **AND** are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)? Comments: Unrestricted outlet, minimal trees or shrubs present.

- **14F. Short and Long Term Surface Water Storage:** (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, mark **NA** and proceed to 14G.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			1.11	o 5 acre	feet	<=1 acre foot		
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E
Wetlands in AA flood or pond >= 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L

Comments: AA includes constructed wetland depressions and adjacent wetland habitat that has been created by inundation from restoration efforts. These efforts include plugging of existing ditches and channels and creation of a new stream channel.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, mark **NA** and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

Sediment, nutrient, and toxicant input levels within AA	potential to or compour are no sedimentat	deliver levels ds at levels ot substantia ion, sources	unding land is of sediment such that oth lly impaired. of nutrients othication pres	s, nutrients, er functions Minor or toxicants,	Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				
% cover of wetland vegetation in AA	>= 7	70%	< 7	0%	>= 7	70%	< 7	0%	
Evidence of flooding / ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No	
AA contains no or restricted outlet	1H	.8H	.7M	.5M	.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9H	.7M	.6M	.4M	.4M	.3L	.2L	.1L	

Comments: AA vegetated primarily with reed canarygrass, presence of flooding/ponding, restricted outlet.

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, mark **NA** and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

% Cover of <u>wetland</u> streambank or	Duration of surface water adjacent to rooted vegetation								
shoreline by species with stability ratings of >=6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral						
>= 65%	1H	.9H	.7M						
35-64%	.7M	.6M	.5M						
35%	.3L	.2L	.1L						

Comments: Open water areas subject to wave action, well vegetated with near monoculture of reed canarygrass.

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)						
Rating (14D.iii.)	E/H	M	L				
E/H	Н	Н	M				
M	Н	M	M				
L	M	M	L				
N/A	Н	M	L				

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14l.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α	Vegetated component >5 acres						,	Vegetated component 1-5 acres				Vegetated component < 1 acre						
В	Hi	gh	Mode	erate	Lo)W	Hi	gh	Mode	erate	Lo)W	Hi	gh	Mode	erate	Lo	w
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with >= 30% plant cover, = 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference?

X If yes, add 0.1 to the score in ii above.

iv. Final Score and Rating: 0.90H

Comments: Low fish habitat rating, vegetation component >5 ac, moderate biological activity, perennial hydrology with restricted outlet.

The AA is a slope wetland Springs or seeps are known or observed Vegetation growing during dormant season/drought Vegetation growing during dormant season/drought Vegetation growing during dormant season/drought Wetland cocurs at the toe of a natural slope AA permanently flooded during drought periods Wetland contains an outlet, but no inlet X Shallow water table and the site is saturated to the surface X Other: Seeps are present at the wetland edge Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM P/P	i. Discharge Indicators					i Rochardo I	Indicators				
Springs or seeps are known or observed Vegetation growing during dormant season/drought Vegetation growing during dormant season/drought Wetland occurs at the toe of a natural slope AA permanently flooded during drought periods Wetland contains an outlet, but no inite X. Shallow water table and the site is saturated to the surface View of their seeps are present at the wetland edge III. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating) Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM PIP SI T None Criteria PIP SI T None Groundwater Discharge or Recharge III. MAIN JAM III. AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association is and association is plant association is and association is an association is an association is an association is plant association is an association association is an association association is an association association is an association association association as a "S2" by the MTNHP Estimated relative abundance (#11)						-		ent without u	nderlyina imr	neding laver	
Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases Wetland occurs at the toe of a natural slope Other: O	·	or observed							indenying imp	cuilig layer	
Wetland occurs at the toe of a natural slope Other:			on/drought						harge volum	e decreases	
AA permanently flooded during drought periods Wetland contains an outlet, but no linet X Shallow water table and the site is saturated to the surface X Other: Seeps are present at the wetland edge III. Rating (use the information from I and III above and the table below to arrive at [circle] the functional points and rating) Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM PIP SIJ T None Groundwater Discharge or Recharge 1H 7M A4M 1.1L Insufficient Data/Information N/A A contains fen, bog, warm springs or mature (>80 y-roll) forested wetland or plant association listed as "St" by the MTNHP Replacement potential AA contains fen, bog, warm springs or mature (>80 y-roll) forested wetland or plant association listed as "St" by the MTNHP Estimated relative abundance (#11) rare common abundant rare common abundant rare common abundant low disturbance at AA (#12) 1H 9H 8H 8H 8H 6M 5M 5M 4M 3J 100 derate Estimated relative abundance (#12) 8H 7M 6M 6M 6M 5M 5M 4M 3J 12L Insufficient Data/Information Sundance and moderate disturbance due to adjacent road. **A with common relative abundance and moderate disturbance due to adjacent road. **Lectoration/Education Potential" (affords "bonus" points if AA provides recreation or education opportunity) Is the AA a known or potential rec./ed. site: (circle) **X** [if" ("Fes" continue with the evaluation; if "No" then mark overall summary and rating page) II. Check categories that apply to the AA: X** Educational/scientific study; X** Consumptive rec.; X** Non-consumptive rec.; Comments in An or Potential Recreation or Education Area Comments: Known ecreation site. Comments Co							iown looning	ou ourn, dioc	margo volum	0 00010000	
Wetland contains an outlet, but no inlet			•			o					
X Shallow water table and the site is saturated to the surface X Other: Seeps are present at the wetland edge			0.1000								
Citieria Duration of saturation at AA Westlands FROM GROUNDWATER DISCHARGE OR WITH WATER FLAT IS RECHARGING THE GROUNDWATER DISCHARGE OR WITH WATER FLAT IS RECHARGING THE GROUNDWATER SYSTEM PiP Sil T None			ted to the sur	face							
ii. Rating (use the information from i and ii above and the table below to arrive at [circle] the functional points and rating) Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM P/P											
Duration of saturation at AA Wetlands FROM GROUNDWATER DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM P/P S/I T None Insufficient Data/Information N/A Comments: AA with shallow water table and perennial surface water (2-3 feet). 14K. Uniqueness: Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP Are placement potential AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP Estimated relative abundance (#11) rare common abundant rare common abundant rare common abundant look of the plant is supported by the moderate of the plant is supported by the plant is support		tilo wotana	ougo								
DISCHARGE OR WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM	ii. Rating (use the information from i	and ii above					•		_		
Criteria P/P S/I T None											
Groundwater Discharge or Recharge 1H .7M .4M .1L Insufficient Data/Information N/A Comments: AA with shallow water table and perennial surface water (2-3 feet). IRAL Uniqueness: Reting (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MTNHP AA does not contain previously cited rare types and structural diversity (#13) is low-moderate Estimated relative abundance (#11) rare common abundant rare			<u>DISCH</u>					THE			
Insufficient Data/Information N/A Insufficient N	Criteria					T		None]		
AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "\$2" by the MTNHP Estimated relative abundance (#11) rare common abundant lang high for contains plant association listed as "\$2" by the MTNHP Estimated relative abundance (#11) rare common abundant lang high for contains plant association listed as "\$2" by the MTNHP Estimated relative abundance (#11) rare common abundant lang high for contains plant association listed as "\$2" by the MTNHP Estimated relative abundance (#11) rare common abundant lang high for contains plant association listed as "\$2" by the MTNHP Estimated relative abundance (#11) rare common abundant lang high for contains plant association listed as "\$2" by the MTNHP Estimated relative abundance (#11) rare common abundant lang that a sociation listed as "\$2" by the MTNHP lang high disturbance at AA (#12i) lang high rare lang high	Groundwater Discharge or Rechar	ge	1H					.1L			
AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP Estimated relative abundance (#11) 1H 9H 8H 8H 8H 8H 8M 3L 3L 2L 1L Comments: AA with common relative abundance at AA (#12i) 8H p of siturbance at AA (#12i) 8H p or more relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance at AA (#12i) 8H p or solution relative abundance and moderate disturbance at AA with common relative abundance and moderate disturbance due to adjacent road. 14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. Is the AA a known or potential rec./ed. site: (circle) X (if "Yes' continue with the evaluation; if "No" then mark NA and proceed to the overall summary and rating page) ii. Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; X Non-consumptive rec.; Other: Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; X Non-consumptive rec.; ISH 15H 15H 15H 15H 15H 15H 15H 15H 15H 15						Ά	-				
AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP as "S1" by the MTNHP association listed as "S2" by the MTNHP association listed as	Comments: AA with shallow water ta	ible and per	ennial surface	e water (2-3 fe	eet).						
AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP as "S1" by the MTNHP association listed as "S2" by the MTNHP association listed as	14K Uniqueness:										
AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "\$1" by the MTNHP with association listed as "\$2"	-	use the mat	rix below to a	rrive at [circle	el the functio	nal points an	d rating)				
Accordance (>80 yr-old) forested wetland or plant association listed as "S1" by the MTNHP Estimated relative abundance (#17) rare common abundant rare common abundant rare (>80 yr-old) forested wetland or plant association listed as "S2" by the MTNHP Estimated relative abundance (#17) rare common abundant rare common rare types or associations and structural diversity (#13) is low-moderate disturbance at AA (#12i) 9. H .8. H .7. M .5. M .5. M .5. M .5. M .4. M .3. L .2. L .1. L .2. L .3. L .2. L .3. L .2. L .3. L .2. L .3. L .3. L .2. L .3.	rating (working from top to bettern,	acc the mat	1000000	invo at joiroid							
Accomment potential Of mature (>0 yr-old) lotested wetland or plant association listed as "S2" by the work association listed as "S2" by the MTNHP Estimated relative abundance (#11) rare common abundant abundant rare common abundant rare common abundant abundant salt common abundant rare common abundant salt common abundant r								AA does not contain previously cite			
## Association listed as "S2" by the MTNHP association abundant rare common abundant pabulants is should be association labundant rare common abundant rare common abundant rare common abundant pabulants is low-moderate disturbance due to AM	Replacement potential		or mature (>80 yr-old) forested (#1								
Estimated relative abundance (#11) rare common abundant rare common rative abundance at AA (#12i) 1.0 yet	·		s "S1" by the MTNHP association list					Structura	, ,	13) IS IOW-	
Low disturbance at AA (#12i) 1H 1H 19H 18H 18H 17M 17M 17M 17M 18H 18H 18H 18H 18H 18H 18H 18		as	- Dy the lvi i			MTNHP			moderate	_	
Moderate disturbance at AA (#12i) .9H .8H .7M .7M .5M .4M .4M .3L .2L .1L .1L .2L .1High disturbance at AA (#12i) .8H .7M .6M .6M .4M .3L .3L .2L .1L .2L .1L .2L .1L .2L .1L .2L .1L .2L .1L .2L .3L .2L .1L .2L .1L .2L .3L .3L .2L .3L .2L .1L .2L .3L .3L .3L .2L .3L .3L .3L .3L .3L .3L .3L .3L .3L .3	Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant	
High disturbance at AA (#12i) 8H .7M .6M .6M .4M .3L .3L .2L .1L Comments: AA with common relative abundance and moderate disturbance due to adjacent road. 14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. Is the AA a known or potential rec./ed. site: (circle) X (if 'Yes' continue with the evaluation; if 'No' then mark NA and proceed to the overall summary and rating page) ii. Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; X Non-consumptive rec.; Other: Known or Potential Recreation or Education Area	Low disturbance at AA (#12i)	1H			.8H	.6M	.5M	.5M			
Comments: AA with common relative abundance and moderate disturbance due to adjacent road. 14L. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) i. Is the AA a known or potential rec./ed. site: (circle) X (if 'Yes' continue with the evaluation; if 'No' then mark	, ,			.7M	.7M	.5M	.4M	.4M	.3L	.2L	
MAL. Recreation/Education Potential: (affords "bonus" points if AA provides recreation or education opportunity) Is the AA a known or potential rec./ed. site: (circle) X (if 'Yes' continue with the evaluation; if 'No' then mark NA and proceed to the overall summary and rating page) Is Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; X Non-consumptive rec.; Other: Known or Potential Recreation or Education Area Known Potential Public ownership or public easement with general public access (no permission required) .15H .1M Private ownership with general public access, or requiring permission for public access .1M .05L Comments: Known recreation site.							.3L	.3L	.2L	.1L	
i. Is the AA a known or potential rec./ed. site: (circle) X (if 'Yes' continue with the evaluation; if 'No' then mark overall summary and rating page) ii. Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; X Non-consumptive rec.; Other: Known or Potential Recreation or Education Area Known Potential Public ownership or public easement with general public access (no permission required) .2H .15H Private ownership with general public access (no permission for public access .1M .05L Comments: Known recreation site.	Comments: AA with common relative	e abundance	and modera	ite disturbanc	e due to adj	acent road.					
i. Is the AA a known or potential rec./ed. site: (circle) X (if 'Yes' continue with the evaluation; if 'No' then mark overall summary and rating page) ii. Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; X Non-consumptive rec.; Other: Known or Potential Recreation or Education Area Known Potential Public ownership or public easement with general public access (no permission required) .2H .15H Private ownership with general public access (no permission for public access .1M .05L Comments: Known recreation site.	141 Bearestian/Education Batantia	l. (affarda "h	onuo" nointo	if A A provide	roorootion	or advantion	annortunitu)				
overall summary and rating page) ii. Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; Other: Other:								√ NA α	and procood t	o tho	
ii. Check categories that apply to the AA: X Educational/scientific study; X Consumptive rec.; X Non-consumptive rec.; Other: Known or Potential Recreation or Education Area Rublic ownership or public easement with general public access (no permission required) Private ownership with general public access (no permission required) Private or public ownership without general public access, or requiring permission for public access Shown Potential 15H 1M Private or public ownership without general public access, or requiring permission for public access Shown recreation site.			.ii Cie) (i	ii i es contin	ue willi lile t	evaluation, ii	NO then mai	NA a	ina proceed t	o tile	
Other: Iii. Rating: Known or Potential Recreation or Education Area Known Potential	•			:	V Can		. Y Nam a				
Known or Potential Recreation or Education Area Public ownership or public easement with general public access (no permission required) Private ownership with general public access (no permission required) Private or public ownership without general public access, or requiring permission for public access 11M O5L General Site Notes	ii. Check categories that apply to th	e AA: X	-	scientific stud	y; X Con	sumptive rec	.; <u> </u>	onsumptive	rec.;		
Known or Potential Recreation or Education Area Public ownership or public easement with general public access (no permission required) Private ownership with general public access (no permission required) Private or public ownership without general public access, or requiring permission for public access 1M OSL General Site Notes			Other:								
Public ownership or public easement with general public access (no permission required) Private ownership with general public access (no permission required) 15H 1M Private or public ownership without general public access, or requiring permission for public access 1M 05L General Site Notes									_	_	
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Private or public ownership without general public access, or requiring permission for public access .1M .05L Comments: Known recreation site. General Site Notes						required)				_	
Comments: Known recreation site. General Site Notes										_	
General Site Notes		ut general p	ublic access	s, or requirin	g permissi	on for public	access	.1M	.05L		
	Comments: Known recreation site.										
	0										
Overall productive AA.											
	Overall productive AA.										

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Enhancement

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	М	0.80	1	5.42	*
B. MT Natural Heritage Program Species Habitat	Н	0.90	1	6.09	
C. General Wildlife Habitat	Е	1.00	1	6.77	
D. General Fish Habitat	L	0.20	1	1.35	
E. Flood Attenuation	М	0.50	1	3.39	
F. Short and Long Term Surface Water Storage	Н	1.00	1	6.77	*
G. Sediment/Nutrient/Toxicant Removal	Н	1.00	1	6.77	*
H. Sediment/Shoreline Stabilization	Н	1.00	1	6.77	
I. Production Export/Food Chain Support	Н	0.90	1	6.09	*
J. Groundwater Discharge/Recharge	Н	1.00	1	6.77	
K. Uniqueness	М	0.40	1	2.71	
L. Recreation/Education Potential (bonus points)	Н	0.20	1	1.35	
Totals: Percent of Possible Score		8.90	11.00 81%	60.25	

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II) Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or Score of 1 functional point for Uniqueness; or Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or X Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or X Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III) "Low" rating for Uniqueness; and Vegetated wetland component 1 acre (do not include upland vegetated buffer); and Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: I

Summary Comments: Most of AA is inundated by water. Emergent vegetation has been increasing in recent years.

MDT Montana Wetland Assessment Form (revised March 2008)

8. Wetland size:

9. Assessment area (AA):

1. Project Name: Schrieber Meadows 2. MDT Project #: NH 27 (021) Control #: 1027001

3. Evaluation Date: 11/28/2022 4. Evaluator(s): J Trilling 5. Wetlands/Site #(s): Restoration

6. Wetland Location(s): i. Legal: T27N,R30W,11,12,13 **Latitude/Longitude:** 48.111359, -115.415081 : Center of AA

ii. Approx. Stationing or Mileposts:

iii. Watershed: 1

Watershed Name, County: Kootenai, Lincoln

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

Wetlands potentially affected by MDT project

2. Mitigation wetlands; pre-construction

3. X Mitigation wetlands; post-construction

4. Other:

10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	AB	Е	PP	35.00
D	EM	Е	SI	30.00
D	EM	Е	PP	35.00

Abbreviations: (see manual for definitions)

HGM Classes: Riverine (R), Depressional (D), Slope (S), Mineral Soil Flats (MSF), Organic Soil Flats (OSF), Lacustrine Fringe (LF); Cowardin Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)

2.350 acres (measured)

2.350 acres (measured)

Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A)

Water Regimes: Permanent / Perennial (**PP**), Seasonal / Intermittent (**SI**), Temporary / Ephemeral (**TE**)

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions) COMMON

12. General condition of AA:

 i. Disturbance: (use matrix below to determine [circle] appropriate response – see instructions for Montana-listed noxious weed and aquatic nuisance vegetation species (ANVS) list)

	Predomin	ant conditions adjacent to (within 500 t	feet of) AA	
Conditions within AA	Managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings; and noxious weed or ANVS cover is >=15%.	Land not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings; noxious weed or ANVS cover is <= 30%.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cove is > 30%.	
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings; and noxious weed or ANVS cover is <= 15%.	low disturbance	low disturbance	moderate disturbance	
AA not cultivated, but may be moderately grazed or hayed or selectively logged; or has been subject to relatively minor clearing, fill placement, or hydrological alteration; contains few roads or buildings; noxious weed or ANVS cover is <=	moderate disturbance	moderate disturbance	high disturbance	
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density; or noxious weed or ANVS cover is > 30%.	high disturbance	high disturbance	high disturbance	

Comments: (types of disturbance, intensity, season, etc.): Highway 2 and USFS roads are adjacent to the AA, land is not cultivated, minimal noxious weeds, and low disturbance.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Cirsium arvense, Leucanthemum vulgare, isolated Hieracium aurantiacum

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: The AA includes pre-existing wetlands identified within the project area that were modified by excavation to increase the groundwater availability and provide a greater diversity of wetland habitat and hydrophytes.

13. Structural Diversity: (based on number of "Cowardin" vegetated classes present [do not include unvegetated classes], see #10 above)

Existing # of "Cowardin" Vegetated Classes in AA	Initial Rating	Is current management existence of additional		Modified Rating
>= 3 (or 2 if 1 is forested) classes	Н	NA	NA	NA
2 (or 1 if forested) classes		NA	NA	NA
1 class, but not a monoculture	М	< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Emergent and aquatic bed classes.

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

14A. Habitat for Federally Listed or Proposed Threatened or Endangered Plants or Animals:

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (list species)

Grizzly Bear(D)

Secondary habitat (list species)

Grizzly Bear(D)

North American Wolverine(S)

Canada Lynx(S)

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
Functional Points and Rating	1H	.9H	.8M	.7M	.3L	.1L	0L

Sources for documented use (e.g. observations, records, etc): USFWS database, MTNHP, MDT observations

14B. Habitat for plant or animals rated S1, S2, or S3 by the Montana Natural Heritage Program: (not including species listed in14A above)

i. AA is Documented (D) or Suspected (S) to contain (circle one based on definitions contained in instructions):

Primary or critical habitat (list species) Secondary habitat (list species) Incidental habitat (list species)
Western toad (S2)(D) - S2S3

ii. Rating (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating)

Highest Habitat Level	doc/primary	sus/primary	doc/secondary	sus/secondary	doc/incidental	sus/incidental	None
S1 Species: Functional Points and Rating	1H	.8H	.7M	.6M	.2L	.1L	0L
S2 and S3 Species: Functional Points and Rating	.9Н	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP and documented breeding on site by MDT and USFS personnel.

14C. General Wildlife Habitat Rating:

i. Evidence of overall wildlife use in the AA (circle substantial, moderate, or low based on supporting evidence):

Substantial (based on any of the following [check]):	Minimal (based on any of the following [check]):
 X observations of abundant wildlife #s or high species diversity (during any period) X abundant wildlife sign such as scat, tracks, nest structures, game trails, etc. presence of extremely limiting habitat features not available in the surrounding area 	few or no wildlife observations during peak use periods little to no wildlife sign sparse adjacent upland food sources
interviews with local biologists with knowledge of the AA	interviews with local biologists with knowledge of the AA
Moderate (based on any of the following [check]): observations of scattered wildlife groups or individuals or relatively few species during common occurrence of wildlife sign such as scat, tracks, nest structures, game trails.	•
adequate adjacent upland food sources interviews with local biologists with knowledge of the AA	

ii. Wildlife habitat features (Working from top to bottom, circle appropriate AA attributes in matrix to arrive at rating. Structural diversity is from #13. For class cover to be considered evenly distributed, the most and least prevalent vegetated classes must be within 20% of each other interms of their percent composition of the AA (see #10). Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; T/E = temporary/ephemeral; and A = absent [see instructions for further definitions of these terms])

Structural diversity (see #13)		High							Mode	erate					Even P/P S/I T/E					
Class cover distribution (all vegetated classes)		Ev	en		Uneven				Ev	en			Uneven				Even			
Duration of surface water in >=10% of AA	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	Α	P/P	S/I	T/E	А
Low disturbance at AA (see #12i)	Е	Е	Е	Н	Е	Е	Н	Н	Е	Н	Н	М	E	Ι	М	М	Е	Н	М	М
Moderate disturbance at AA (see #12i)	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	М	Н	М	М	L	Н	М	L	L
High disturbance at AA (see #12i)	М	М	М	L	М	М	L	L	М	М	L	L	М	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating)

Evidence of wildlife use (i)	Wildlife habitat features rating (ii)									
Evidence of wildlife use (i)	Exceptional	High	Moderate	Moderate						
Substantial	1E	.9H	.8H	.7M						
Moderate	.9H	.7M	.5M	.3L						
Minimal	.6M	.4M	.2L	.1L						

Comments: Good habitat diversity with substantial evidence of wildlife.

14D. General Fish Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not used by fish, fish use is not restorable due to habitat constraints, or is not desired from a management perspective [such as fish entrapped in a canal], then mark **X NA** and proceed to 14E.)

Type of Fishery: Cold Water (CW) Warm Water (WW) Use the CW or WW guidelines in the user manual to complete the matrix

i. Habitat Quality and Known / Suspected Fish Species in AA (use matrix to arrive at [circle] the functional points and rating)

Duration of surface water in AA		Permanent / Perennial						Sea	asonal / Intermittent				Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Opti	imal	Adeo	luate	Po	or	Opt	imal	Adec	quate	Po	or	Opt	imal	Adec	luate	Po	oor
Thermal cover optimal / suboptimal	0	S	0	S	0	S	0	S	0	S	0	Ø	0	S	0	Ø	0	S
FWP Tier I fish species	1E	.9H	.8H	.7M	.6M	.5M	.9H	.8H	.7M	.6M	.5M	.4M	.7M	.6M	.5M	.4M	.3L	.2L
FWP Tier II or Native Game fish species	.9H	.8H	.7M	.6M	.5M	.5M	.8H	.7M	.6M	.5M	.4M	.4M	.6M	.5M	.4M	.3L	.2L	.2L
FWP Tier III or Introduced Game fish	.8H	.7M	.6M	.5M	.5M	.4M	.7M	.6M	.5M	.4M	.4M	.3L	.5M	.4M	.3L	.2L	.2L	.1L
FWP Non-Game Tier IV or No fish species	.5M	.5M	.5M	.4M	.4M	.3L	.4M	.4M	.4M	.3L	.3L	.2L	.2L	.2L	.2L	.1L	.1L	.1L

Sources used for identifying fish sp. potentially found in AA:

- ii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1)
- a) Is fish use of the AA significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the current final MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support, or do aquatic nuisance plant or animal species (see Appendix E) occur in fish habitat? ____ If yes, reduce score in i above by 0.1.
- b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area, etc.- specify in comments) for native fish or introduced game fish? If yes, add 0.1 to the adjusted score in i or iia.
- iii. Final Score and Rating: NA Comments: No fish habitat identified within restoration AA

14E. Flood Attenuation: (Applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, mark ____ **NA** and proceed to 14F.)

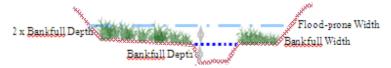
i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)		entrenche stream typ	, ,		ely entrend stream type		Entrenched-A, F, G stream types		
% of flooded wetland classified as forested and/or scrub/shrub	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains no outlet or restricted outlet	1H	.9H	.6M	.8H	.7M	.5M	.4M	.3L	.2L
AA contains unrestricted outlet	.9H	.8H	.5M	.7M	.6M	.4M	.3L	.2L	.1L

Entrenchment ratio (ER) estimation – see User's Manual for additional guidance. Entrenchment ratio = (flood-prone width)/(bankfull width) Flood-prone width = estimated horizontal projection of where 2 x maximum bankfull depth elevation intersects the floodplain on each side of the stream.

 35 /
 5 =
 7.00

 Flood-prone width
 Bankfull build build



Slightly Entrenched ER = >2.2			Moderately Entrenched ER = 1.41 – 2.2	Entrenched ER = 1.0 – 1.4					
C stream type	D stream type	E stream type	B stream type	A stream type	F stream type	G stream type			

ii. Are ≥10 acres of wetland in the AA subject to flooding AND are man-made features which may be significantly damaged by floods located within 0.5 mile downstream of the AA (circle)?
 Comments: All wetland cells subject to flooding from Coyote Creek.

- **14F. Short and Long Term Surface Water Storage:** (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, mark **NA** and proceed to 14G.)
- i. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding		5 acre fe					<=1 acre foot			
Duration of surface water at wetlands within the AA	P/P	S/I	T/E	P/P	S/I	T/E	P/P	S/I	T/E	
Wetlands in AA flood or pond >= 5 out of 10 years	1H	.9H	.8H	.8H	.6M	.5M	.4M	.3L	.2L	
Wetlands in AA flood or pond < 5 out of 10 years	.9H	.8H	.7M	.7M	.5M	.4M	.3L	.2L	.1L	

Comments: AA with evidence of frequent flooding.

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive sediments, nutrients, or toxicants through influx of surface or ground water or direct input. If no wetlands in the AA are subject to such input, mark

NA and proceed to 14H.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H=high, M=moderate, or L=low])

					<u>'</u>	01 0		
Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver levels of sediments, nutrients, or compounds at levels such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				developmen nutrients, or t use with po nutrients, o substantially	t for "probable of coxicants or AA otential to delive or compounds so or impaired. Majo	waterbodies in reauses" related receives or surrer high levels of uch that other fuor sedimentations of eutrophical	to sediment, rounding land sediments, unctions are n, sources of
% cover of wetland vegetation in AA	>= 7	70%	< 7	0%	>=	70%	< 7	0%
Evidence of flooding / ponding in AA	Yes No Yes No			Yes	No	Yes	No	
AA contains no or restricted outlet	1H .8H .7M .5M			.5M	.4M	.3L	.2L	
AA contains unrestricted outlet	.9H .7M .6M .4M			.4M	.3L	.2L	.1L	

Comments: AA receives periodic overflow from Coyote Creek.

14H Sediment/Shoreline Stabilization: (Applies only if AA occurs on or within the banks or a river, stream, or other natural or man-made drainage, or on the shoreline of a standing water body which is subject to wave action. If 14H does not apply, mark **NA** and proceed to 14I.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)

0/ Cover of westland streamhank or	Duration of surface water adjacent to rooted vegetation									
% Cover of <u>wetland</u> streambank or	Duration	or surrace water adjacent to rooted ve	egetation							
shoreline by species with stability ratings of >=6 (see Appendix F).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral							
>= 65%	1H	.9H	.7M							
35-64%	.7M	.6M	.5M							
35%	.3L	.2L	.1L							

Comments: Deeprooted vegetation such as reed canary grass surrounds open water.

14I. Production Export/Food Chain Support:

i. Level of Biological Activity (synthesis of wildlife and fish habitat ratings [circle])

General Fish Habitat	General Wildlife Habitat Rating (14C.iii.)							
Rating (14D.iii.)	E/H	L						
E/H	Н	Н	M					
M	Н	M	M					
L	M	M	L					
N/A	Н	M	L					

ii. Rating (Working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating. Factor A = acreage of vegetated wetland component in the AA; Factor B = level of biological activity rating from above (14!.i.); Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P, S/I, and T/E are as previously defined, and A = "absent" [see instructions for further definitions of these terms].)

Α		Vegetat	ed com	onent >	5 acres		Vegetated component 1-5 acres				Vegetated component < 1 a				< 1 acre			
В	Hi	gh	Mod	erate	Lo	W	Hi	gh	Mode	erate	Lo)W	Hi	gh	Mode	erate	Lo	W
С	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
P/P	1H	.7M	.8H	.5M	.6M	.4M	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.6M	.6M	.4M	.3L	.2L
S/I	.9H	.6M	.7M	.4M	.5M	.3L	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.5M	.6M	.3L	.4M	.2L	.7M	.4M	.5M	.2L	.3L	.1L	.6M	.4M	.4M	.2L	.2L	.1L

iii. Modified Rating (NOTE: Modified score cannot exceed 1 or be less than 0.1.) Vegetated Upland Buffer (VUB): Area with >= 30% plant cover, = 15% noxious weed or ANVS cover, and that is not subjected to periodic mechanical mowing or clearing (unless for weed control).

a) Is there an average >= 50 foot-wide vegetated upland buffer around >= 75% of the AA circumference?

X If yes, add 0.1 to the score in ii

iv. Final Score and Rating: 1.00H Comments: No fish habitat, high biological activity, well-vegetated buffer, unrestricted outlet to creek.

i. Discharge Indicators ii. Recharge Indicators										
The AA is a slope wetland					_		ent without u	nderlying imn	eding laver	
Springs or seeps are known	or observed				Permeable substrate present without underlying impeding layer Wetland contains inlet but no outlet					
Vegetation growing during do					vvetiand contains inlet but no outlet Stream is a known 'losing' stream; discharge volume decreases					
Wetland occurs at the toe of							o deoledaco			
AA permanently flooded duri				`	J. 1.01.					
Wetland contains an outlet, b		0.1000								
X Shallow water table and the		ted to the sur	face							
X Other: Seeps are present at										
other. deeps are present at	the wettand	cugo								
i. Rating (use the information from i	and ii above	and the table	below to arr	ive at [circle]	the functiona	al points and	rating)			
					tlands <i>FROI</i>			7		
		<u>DISCH.</u>			R THAT IS RE TER SYSTEM		<u>THE</u>			
Criteria		P/P		S/I	Т		None	1		
Groundwater Discharge or Rechar	ge	1H		.7M	.4M		.1L			
Insufficient Data/Information				N/A	A	•]		
comments: Perennial spring located	near AA.							_		
41/ Haimmanaan										
4K. Uniqueness:				-1 4b - £4i-		al				
Rating (working from top to bottom,	use the mati	ix below to a	rrive at [Circle	 						
		s fen, bog, w			ot contain pre		AA does not contain previousl		viously cited	
Replacement potential		or mature (>80 yr-old) forested wetland or plant association listed		30 yr-old) forested rare types and structural diversity				es or associa		
replacement potential				associatio	association listed as "S2" by the		structura	diversity (#13) is low-		
	as "S	S1" by the MT	NHP		MTNHP	,	moderate			
Estimated relative abundance (#11)	rare	common	abundant	rare	common	abundant	rare	common	abundant	
Low disturbance at AA (#12i)	1H	.9H	.8H	.8H	.6M	.5M	.5M	.4M	.3L	
Moderate disturbance at AA (#12i)	.9H	.8H	.7M	.7M	.5M	.4M	.4M	.3L	.2L	
High disturbance at AA (#12i)	.8H	.7M	.6M	.6M	.4M	.3L	.3L	.2L	.1L	
comments: Site was moderately dis	turbed before	e and after co	nstruction bu	ut has low dis	sturbance at	this time.		-	•	
4L. Recreation/Education Potentia Is the AA a known or potential rec overall summary and rating pa . Check categories that apply to th	./ed. site: (c age)	ircle) X (i	f 'Yes' contin	ue with the e		No' then mar		nd proceed to	o the	
i. Rating:	_	Other :								
		•				Т	Known	Potential	٦	
i. Rating:	lucation Area	7	access (no _I	permission	required)		Known .2H	Potential .15H	7	
i. Rating: Known or Potential Recreation or Ed	ucation Area	neral public			required)	-]	
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem	ucation Area ent with ger blic access	neral public (no permiss	ion required	d)		access	.2H	.15H		
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem Private ownership with general pu	ucation Area ent with ger blic access	neral public (no permiss	ion required	d)		access	.2H .15H	.15H .1M		
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem Private ownership with general pu Private or public ownership witho comments: Known recreation site	ucation Area ent with ger blic access	neral public (no permiss	ion required	d)		access	.2H .15H	.15H .1M		
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem Private ownership with general pu Private or public ownership witho comments: Known recreation site General Site Notes	lucation Area ent with ger blic access ut general p	neral public (no permiss	ion required	d)		access	.2H .15H	.15H .1M		
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem Private ownership with general pu Private or public ownership witho comments: Known recreation site	lucation Area ent with ger blic access ut general p	neral public (no permiss	ion required	d)		access	.2H .15H	.15H .1M		
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem Private ownership with general pu Private or public ownership witho comments: Known recreation site General Site Notes	lucation Area ent with ger blic access ut general p	neral public (no permiss	ion required	d)		access	.2H .15H	.15H .1M		
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem Private ownership with general pu Private or public ownership witho comments: Known recreation site General Site Notes	lucation Area ent with ger blic access ut general p	neral public (no permiss	ion required	d)		access	.2H .15H	.15H .1M		
i. Rating: Known or Potential Recreation or Ed Public ownership or public easem Private ownership with general pu Private or public ownership witho comments: Known recreation site General Site Notes	lucation Area ent with ger blic access ut general p	neral public (no permiss	ion required	d)		access	.2H .15H	.15H .1M		

FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Restoration

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units: (Actual Points x Wetland Acreage)	Indicate the four most prominent functions with an asterisk (*)
A. Listed/Proposed T&E Species Habitat	М	0.80	1	1.88	
B. MT Natural Heritage Program Species Habitat	Н	0.90	1	2.12	
C. General Wildlife Habitat	E	1.00	1	2.35	*
D. General Fish Habitat	NA				
E. Flood Attenuation	М	0.50	1	1.18	
F. Short and Long Term Surface Water Storage	Н	0.80	1	1.88	
G. Sediment/Nutrient/Toxicant Removal	М	0.60	1	1.41	
H. Sediment/Shoreline Stabilization	Н	1.00	1	2.35	*
I. Production Export/Food Chain Support	Н	1.00	1	2.35	*
J. Groundwater Discharge/Recharge	Н	1.00	1	2.35	*
K. Uniqueness	М	0.40	1	0.94	
L. Recreation/Education Potential (bonus points)	Н	0.20	1	0.47	_
Totals:		8.20	10.00	19.28	
Percent of Possible Score			82%		

Category I Wetland: (must satisfy one of the following criteria; otherwise go to Category II)
Score of 1 functional point for Listed/Proposed Threatened or Endangered Species; or
Score of 1 functional point for Uniqueness; or
Score of 1 functional point for Flood Attenuation and answer to Question 14E.ii is "yes"; or
X Percent of possible score > 80% (round to nearest whole #).
Category II Wetland: (Criteria for Category I not satisfied and meets any one of the following criteria; otherwise go to Category IV) Score of 1 functional point for MT Natural Heritage Program Species Habitat; or Score of .9 or 1 functional point for General Wildlife Habitat; or Score of .9 or 1 functional point for General Fish Habitat; or "High" to "Exceptional" ratings for both General Wildlife Habitat and General Fish/Aquatic Habitat; or Score of .9 functional point for Uniqueness; or X Percent of possible score > 65% (round to nearest whole #).
Category III Wetland: (Criteria for Categories I, II, or IV not satisfied)
Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; otherwise go to Category III)
"Low" rating for Uniqueness; and Vegetated wetland component 1 acre (do not include upland vegetated buffer); and Percent of possible score 35% (round to nearest whole #).

OVERALL ANALYSIS AREA RATING: I

Summary Comments: This AA is highly productive, as evidenced by abundant wildlife and vegetative cover.

Table B-1. Schrieber Meadows Wetland Mitigation Site. Comprehensive vegetation species list 2015-2023

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Achillea millefolium	Common Yarrow	FACU
Achnatherum nelsonii	Nelson's Rice Grass	UPL
Agastache urticifolia	Nettle-Leaf Giant-Hyssop	FACU
Agropyron cristatum	Crested Wheatgrass	UPL
<i>Agropyron</i> sp.	Wheatgrass	N/A
Agrostis capillaris	Colonial Bent	FAC
Agrostis exarata	Spiked Bent	FACW
Agrostis gigantea	Black Bent	FAC
Agrostis scabra	Rough Bent	FAC
Agrostis stolonifera	Spreading Bent	FACW
Algae, brown	Algae, brown	N/A
Algae, green	Algae, green	N/A
Alisma gramineum	Narrow-Leaf Water-Plaintain	OBL
Alisma triviale	Northern Water-Plantain	OBL
Alnus incana	Speckled Alder	FACW
Alopecurus aequalis	Short-Awn Meadow-Foxtail	OBL
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FAC
Alopecurus pratensis	Field Meadow-Foxtail	FAC
Amelanchier alnifolia	Saskatoon Service-Berry	FACU
Arctium minus	Lesser Burrdock	UPL
Arnica chamissonis	Leafy Leopardbane	FACW
<i>Aster</i> sp.	Aster	N/A
Beckmannia syzigachne	American Slough Grass	OBL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	FAC
Calamagrostis canadensis	Bluejoint	FACW
Carex aquatilis	Leafy Tussock Sedge	OBL
Carex athrostachya	Slender-Beak Sedge	FACW
Carex bebbii	Bebb's Sedge	OBL
Carex lasiocarpa	Woolly-Fruit Sedge	OBL
Carex microptera	Small-Wing Sedge	FACU
Carex nebrascensis	Nebraska Sedge	OBL
Carex pachystachya	Thick-Head Sedge	FAC
Carex pellita	Woolly Sedge	OBL
Carex scoparia	Pointed Broom Sedge	FACW
Carex sp.	Sedge	N/A

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Carex stipata	Stalk-Grain Sedge	OBL
Carex utriculata	Northwest Territory Sedge	OBL
Centaurea stoebe	Spotted Knapweed	UPL
Cerastium arvense	Field Mouse-Ear Chickweed	FACU
Cerastium fontanum	Common Mouse-Ear Chickweed	FACU
Ceratophyllum demersum	Coon's-Tail	OBL
<i>Chara</i> sp.	Muskgrass	N/A
Cirsium arvense	Canadian Thistle	FAC
Cirsium vulgare	Bull Thistle	FACU
Collomia linearis	Narrow-Leaf Mountain-Trumpet	FACU
Cynoglossum officinale	Gypsy-Flower	FACU
Dactylis glomerata	Orchard Grass	FACU
Deschampsia cespitosa	Tufted Hairgrass	FACW
Eleocharis flavescens	Yellow Spike-Rush	OBL
Eleocharis palustris	Common Spike-Rush	OBL
Eleocharis quinqueflora	Few-Flower Spike-Rush	OBL
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FAC
Elymus trachycaulus	Slender Wild Rye	FAC
Epilobium ciliatum	Fringed Willowherb	FACW
<i>Epilobium</i> sp.	Willowherb	N/A
Equisetum arvense	Field Horsetail	FAC
Equisetum hyemale	Tall Scouring-Rush	FACW
Erysimum cheiranthoides	Worm-Seed Wallflower	FACU
Festuca rubra	Red Fescue	FAC
Fragaria virginiana	Virginia Strawberry	FACU
Galium mexicanum	Mexican Bedstraw	FAC
Galium trifidum	Three-Petal Bedstraw	FACW
Geum macrophyllum	Large-Leaf Avens	FAC
Glyceria elata	Tall Manna Grass	FACW
Glyceria grandis	American Manna Grass	OBL
<i>Glyceria</i> sp.	Manna Grass	N/A
Glyceria striata	Fowl Manna Grass	OBL
Gnaphalium palustre	Western Marsh Cudweed	FACW
Hieracium aurantiacum	Orange Hawkweed	UPL
Hippuris vulgaris	Common Mare's-Tail	OBL
Juncus articulatus	Joint-Leaf Rush	OBL
Juncus bufonius	Toad Rush	FACW

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Juncus confusus	Colorado Rush	FAC
Juncus ensifolius	Dagger-Leaf Rush	FACW
Juncus nodosus	Knotted Rush	OBL
Juncus tenuis	Lesser Poverty Rush	FAC
Lemna minor	Common Duckweed	OBL
<i>Lepidium</i> sp.	Pepperwort	N/A
Leucanthemum vulgare	Ox-Eye Daisy	FACU
Marsilea vestita	Hairy Water-Clover	OBL
Matricaria discoidea	Pineapple-Weed	FACU
Medicago lupulina	Black Medick	FACU
Mentha arvensis	American Wild Mint	FACW
Mimulus guttatus	Seep Monkey-Flower	OBL
Myriophyllum sibiricum	Siberian Water-Milfoil	OBL
Pascopyrum smithii	Western-Wheat Grass	FACU
Pedicularis groenlandica	Bull Elephant-Head	OBL
Penstemon confertus	Yellow Beardtongue	UPL
Peritoma serrulata	Rocky Mountain Bee Plant	FACU
Persicaria amphibia	Water Smartweed	OBL
Persicaria lapathifolia	Dock-Leaf Smartweed	FACW
Persicaria maculosa	Spotted Lady's-Thumb	FACW
Phalaris arundinacea	Reed Canary Grass	FACW
Phleum pratense	Common Timothy	FACU
Pinus contorta	Lodgepole Pine	FAC
Pinus ponderosa	Ponderosa Pine	FACU
Plantago major	Great Plantain	FAC
Poa palustris	Fowl Blue Grass	FAC
Poa pratensis	Kentucky Blue Grass	FAC
<i>Poa</i> sp.	Blue Grass	N/A
Polygonum douglasii	Douglas' Knotweed	FACU
Polypogon monspeliensis	Annual Rabbit's-Foot Grass	FACW
Populus balsamifera	Balsam Poplar	FAC
Potamogeton foliosus	Leafy Pondweed	OBL
Potamogeton natans	Broad-Leaf Pondweed	OBL
Potentilla gracilis	Graceful Cinquefoil	FAC
Potentilla norvegica	Norwegian Cinquefoil	FAC
Prunella vulgaris	Common Selfheal	FACU
Pseudotsuga menziesii	Douglas-Fir	FACU
Ranunculus aquatilis	Whitewater Crowfoot	OBL

Scientific Names	Common Names	WMVC Indicator Status ^(a)
Ranunculus sceleratus	Cursed Buttercup	OBL
Rosa woodsii	Woods' Rose	FACU
Rumex acetosella	Common Sheep Sorrel	FACU
Rumex crispus	Curly Dock	FAC
Salix bebbiana	Gray Willow	FACW
Salix candida	Sage Willow	OBL
Salix drummondiana	Drummond's Willow	FACW
Scirpus cyperinus	Cottongrass Bulrush	OBL
Scirpus microcarpus	Red-Tinge Bulrush	OBL
Senecio hydrophiloides	Stout Meadow Ragwort	FACW
Sisymbrium altissimum	Tall Hedge-Mustard	FACU
Solidago canadensis	Canadian Goldenrod	FACU
Sparganium emersum	European Burr-Reed	OBL
Sparganium natans	Arctic Burr-Reed	OBL
Spiranthes romanzoffiana	Hooded Ladies'-Tresses	FACW
Stuckenia pectinata	Sago False Pondweed	OBL
Suaeda calceoliformis	Paiuteweed	FACW
Symphoricarpos albus	Common Snowberry	FACU
Symphyotrichum spathulatum	Mountain American-Aster	FAC
Taraxacum officinale	Common Dandelion	FACU
Thlaspi arvense	Field Pennycress	UPL
Trifolium arvense	Rabbit-foot Clover	UPL
Trifolium hybridum	Alsike Clover	FAC
Trifolium pratense	Red Clover	FACU
Trifolium repens	White Clover	FAC
Triglochin maritima	Seaside Arrow-Grass	OBL
Typha latifolia	Broad-Leaf Cat-Tail	OBL
Verbascum thapsus	Great Mullein	FACU
Veronica americana	American-Brooklime	OBL
Veronica anagallis-aquatica	Blue Water Speedwell	OBL
Veronica peregrina	Neckweed	OBL
Veronica serpyllifolia	Thyme-Leaf Speedwell	FAC

^a 2020 NWPL (USACE 2020)

APPENDIX C PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana



Photo Point 1 – Panorama; Location: SW Corner of site; Bearing 270 degrees; Year 2012



Photo Point 1 – Panorama; Location: SW Corner of site; Bearing 270 degrees; Year 2023



Photo Point 3; Location: Cell 2 (Constructed in 2007); Bearing 90 degrees; Year 2010



Photo Point 3; Location: Cell 2 (Constructed in 2007); Bearing 90 degrees; Year 2023



Photo Point 4; Location: Cell 2 (Constructed in 2007); Bearing 180 degrees; Year 2010



Photo Point 4; Location: Cell 2 (Constructed in 2007); Bearing 180 degrees; Year 2023



Photo Point 5; Location: Cell 2 (Constructed in 2007); Bearing 300 degrees; Year 2010



Photo Point 5; Location: Cell 2 (Constructed in 2007); Bearing 300 degrees; Year 2023



Photo Point 6; Location: Cell 2 (Constructed in 2007); Bearing 40 degrees; Year 2010



Photo Point 6; Location: Cell 2 (Constructed in 2007); Bearing 40 degrees; Year 2023



Photo Point 7; Location: Lower Coyote Creek; Bearing 0 degrees; Year 2012



Photo Point 7; Location: Lower Coyote Creek; Bearing 0 degrees; Year 2023



Photo Point 10; Location: Cell 3; Bearing 0 degrees; Year 2010



Photo Point 10; Location: Cell 3; Bearing 0 degrees; Year 2023



Photo Point 11; Location: Cell 2B; Bearing 190 degrees; Year 2012



Photo Point 11; Location: Cell 2B; Bearing 190 degrees; Year 2023



Photo Point 12; Location: Cell 1 (Constructed in 2011); Bearing 180 degrees; Year 2012



Photo Point 12; Location: Cell 1 (Constructed in 2011); Bearing 180 degrees; Year 2023



Photo Point 13; Cell 3A (Constructed in 2011); Bearing 280 degrees; Year 2012



Photo Point 13; Cell 3A (Constructed in 2011); Bearing 280 degrees; Year 2023



Photo Point 14; Location: Cell 4C (Constructed in 2011); Bearing 230 degrees; Year 2012



Photo Point 14; Location: Cell 4C (Constructed in 2011); Bearing 230 degrees; Year 2023



Photo Point 15; Location: Cell 5A (Constructed in 2011); Bearing 180 degrees; Year 2012



Photo Point 15; Location: Cell 5A (Constructed in 2011); Bearing 180 degrees; Year 2023



Photo Point 16; Cell 6 (Constructed in 2011); Bearing 70 degrees; Year 2012



Photo Point 16; Cell 6 (Constructed in 2011); Bearing 70 degrees; Year 2023



Photo Point 17; Location: Cell 6 (Constructed in 2011); Bearing 270 degrees; Year 2012



Photo Point 17; Location: Cell 6 (Constructed in 2011); Bearing 270 degrees; Year 2023



Photo Point 2 Bearing: 150 degrees

Location: Cell 7 (Created in 2007) Year: 2010



Photo Point 2 Bearing: 150 degrees

Location: Cell 7 (Created in 2007)

Year: 2023





Photo Point 8 Location: Cell 3 (Constructed in 2007)

Year: 2010 Bearing: 190 degrees

Photo Point 8 Location: Cell 3 (Constructed in 2007) Year: 2023 Bearing: 190 degrees





Photo Point 9 Bearing: 280 degrees

Location: Cell 3 **Year:** 2010

Photo Point 9 Bearing: 280 degrees

Location: Cell 3 Year: 2023



Photo Point 16 Bearing: 290 degrees





Photo Point 16 Bearing: 290 degrees

Location: Cell 5A Year: 2023



Photo Point 18 Bearing: 90 degrees

Location: Cell 3 (Constructed 2007) **Year:** 2012



Photo Point 18 Location: Cell 3 (Constructed 2007) Bearing: 90 degrees Year: 2023



Photo Point 19 Bearing: 10 degrees

Location: West Boundary

Year: 2012



Photo Point 19 Bearing: 10 degrees

Location: West Boundary



Photo Point 19 Bearing: 100 degrees

Location: West Boundary

Year: 2012



Photo Point 19 Bearing: 100 degrees

Location: West Boundary

Schrieber Meadows: Vegetation Transect Photographs



Transect 1: Start Bearing: 115 degrees

Location: T-1 Year: 2010



Transect 1: Start Bearing: 115 degrees

Location: T-1 Year: 2023

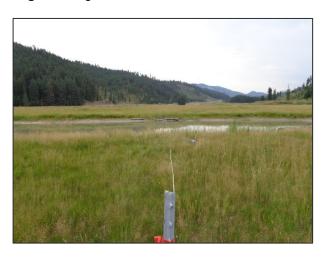


Transect 1: End Bearing: 295 degrees

Location: T-1 Year: 2010



Transect 1: End Location: T-1 Bearing: 295 degrees Year: 2023



Transect 2: Start Bearing: 100 degrees

Location: T-2 Year: 2013



Transect 2: Start Bearing: 100 degrees

Location: T-2 Year: 2023

Schrieber Meadows: Vegetation Transect Photographs



Transect 2: End Bearing 280: degrees



Location: T-2 Year: 2013



Transect 2: End Bearing 280: degrees



Location: T-2 Year: 2023



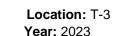
Transect 3: Start Bearing: 45 degrees



Location: T-3 Year: 2012



Transect 3: Start Bearing: 45 degrees





Transect 3: End Bearing: 225 degrees





Transect 3: End Bearing: 225 degrees

Location: T-3 Year: 2023



Data Point: DP01w Year: 2023

Location: Veg Com 3



Data Point: DP01u Year: 2023

Location: Veg Com 9



Data Point: DP02w Year: 2023





Data Point: DP02u Year: 2023

Location: Veg Com 8



Data Point: DP03w

Location: Veg Com 16



Data Point: DP03u

Location: Veg Com 9

Year: 2023



Data Point: DP04w Year: 2023

Location: Veg Com 3



Data Point: DP04u Year: 2023

Location: Veg Com 9



Data Point: DP05w Year: 2023

Location: Veg Com 14



Data Point: DP05u Year: 2023

Location: Veg Com 9



Data Point: DP06w

Location: Veg Com 16



Data Point: DP06u

Location: Veg Com 9

Year: 2023



Data Point: DP07w Year: 2023

Location: Veg Com 16



Data Point: DP07u

Location: Veg Com 9

Year: 2023



Data Point: DP08w Year: 2023

Location: Veg Com 3



Data Point: DP08u

Location: Veg Com 9

Year: 2023



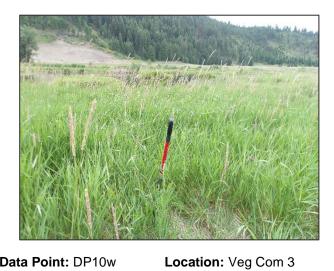
Data Point: DP09w Year: 2023

Location: Veg Com 3



Data Point: DP09u

Location: Veg Com 9



Data Point: DP10w

Year: 2023



Data Point: DP10u

Location: Veg Com 9



Cross-Section: XS-1 Bearing: 280 degrees



Location: Upper Coyote Creek **Year:** 2012



Cross-Section: XS-1 Bearing: 280 degrees





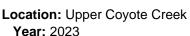
Cross-Section: XS-2 Bearing: 320 degrees



Location: Upper Coyote Creek Year: 2012



Cross-Section: XS-2 Bearing: 320 degrees









Cross-Section: XS-3 Location: Coyote Creek Spring Area

Bearing: 320 degrees Year: 2023



Cross-Section: XS-4 Bearing: 290 degrees



Location: Middle Coyote Creek Year: 2012



Cross-Section: XS-4 Bearing: 290 degrees

Location: Middle Coyote Creek Year: 2023



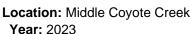
Cross-Section: XS-5 Bearing: 150 degrees



Location: Middle Coyote Creek Year: 2012



Cross-Section: XS-5 Bearing: 150 degrees



Cross-Section: XS-6 Bearing: 90 degrees



Location: Perennial Spring Creek Year: 2012



Cross-Section: XS-6 Bearing: 90 degrees

Location: Perennial Spring Creek



Cross-Section: XS-7 Bearing: 90 degrees

Location: Middle Coyote Creek
Year: 2012



Cross-Section: XS-7
Bearing: 220 degrees

Location: Middle Coyote Creek Year: 2023



Cross-Section: XS-8
Bearing: 170 degrees

Location: Middle Coyote Creek Year: 2012



Cross-Section: XS-8
Bearing: 170 degrees

Location: Middle Coyote Creek **Year:** 2023



Cross-Section: XS-9 Location: Middle Coyote
Crk/Schrieber Crk **Bearing:** 130 degrees **Year:** 2012



Cross-Section: XS-9 Location: Middle Coyote

Crk/Schrieber Crks **Bearing:** 130 degrees **Year:** 2023



Cross-Section: XS-10 Location: Middle Coyote Crk/Schrieber Crks **Bearing:** 140 degrees **Year:** 2012



Cross-Section: XS-10 Location: Middle Coyote
Crk/Schrieber Crks **Bearing:** 270 degrees **Year:** 2023



Cross-Section: XS-11 Location: Middle Coyote
Crk/Schrieber Crks **Bearing:** 100 degrees **Year:** 2012



Cross-Section: XS-11 Location: Middle Coyote
Crk/Schrieber Crks Bearing: 100 degrees Year: 2023

APPENDIX D Surveyed Stream Cross Sections

MDT Wetland Mitigation Monitoring Schrieber Meadows Lincoln County, Montana

