#### Montana Department of Transportation Wetland Mitigation Monitoring Report

## FORSYTH – NORTHWEST MITIGATION SITES: FORSYTH WEST, MIDDLE, AND EAST

**Project Overview** 

MDT Project: STTP 14 (9)259, UPN #4059

Watershed: Watershed #14 – Middle Yellowstone

**Monitoring Year: 2024** 

Years Monitored: 12th year of monitoring

Corps Permit Number: NWO-2002-90-599 and NWO-2006-90676 MTB

Monitoring Conducted By: Confluence Consulting Inc. for MDT Dates Monitoring Was Conducted: June 10<sup>th</sup> – June 11<sup>th</sup>, 2024

#### **Purpose of the Approved Project:**

The Forsyth – Northwest (FNW) sites were developed to mitigate for a cumulative total of 8.98 acres of wetland impacts associated with two Montana Department of Transportation (MDT) highway construction projects: (1) the Volborg – North and South project, constructed in 2004, and (2) the FNW project, constructed in 2012. Four individual mitigation sites in close proximity to each other were constructed as part of this project and include the Treasure County Line, Forsyth West, Forsyth Middle, and Forsyth East. Monitoring at the Treasure County Line site was completed in 2017. This report encompasses the three remaining Forsyth sites monitored in 2024. Wetland compensatory mitigation ratios from the Montana Regulatory Program of the US Army Corps of Engineers, dated April 2005, were used to determine the anticipated mitigation credits outlined in the approved wetland mitigation plan, which indicated that the project could earn 11.79 acres of wetland mitigation credit for the three remaining sites.

#### **Site Locations:**

West site - Latitude: 46.33927, Longitude: -106.876743 Middle site - Latitude: 46.323159, Longitude: -106.843010 East site - Latitude: 46.31969, Longitude: -106.83657

County: Rosebud Nearest Town: Forsyth, MT

Map Included: Yes, Figure 1

Mitigation Site Construction Started: Spring 2012 Construction Ended: Fall 2012 Embankment repairs

made in Spring 2017

#### Dates of Any Recent Corrective or Maintenance Activities (since previous report):

**Activity:** Weed Control **Date:** Fall treatment on September 23, 2024, during low water periods to treat five-stamen tamarisk seedlings along edges of West site. Treatments also occurred on August 21 and October 5, 2024.

**Specific recommendations for corrective actions:** Continue to treat noxious weeds, especially at the Middle site. Evaluate ongoing wind-caused bank erosion observed along the outlet embankment in the SE corner of the West site.

**Anticipated Wetland Credit Acres: 11.79** 

**Wetland Credit Acres Generated to Date: 5.67** 

Wetland Acreage within the Project Area: 5.38

Mudflat Acreage within the Project Area: 0.0

Open Water Acreage within the Project Area: 6.56

## **Previous Monitoring Reports:**

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

**Monitoring Period:** 5 years from construction completion or until concurrence by the US Army Corps of Engineers (USACE). The monitoring period was extended because of adaptive management actions in 2017 to repair a failed dike structure at the FNW-West mitigation site.

<u>Requirements</u> (from approved mitigation plan, banking instrument, or Department of Army (DA) permit conditions)

**Summary of Performance Standards:** Formal performance standards were not developed as part of the mitigation plan for these sites. All three sites have developed wetland habitat as intended and contain wetland vegetation, hydric soils, and indicators of wetland hydrology. All of the sites are stable; the East and West sites have less than 5 percent total noxious weed cover, and the Middle site has less than 10 percent noxious weed cover. All three sites are functioning as designed, however, the West site lost wetland acreage credits due to changes in how the USACE is awarding credit for open water and mud flats.

#### **Summary Data: Combined West, Middle, and East Sites**

**Wetland Delineation** – The total wetland acreage delineated at the three FNW sites in 2024 was 5.38 acres of palustrine emergent (PEM) wetland. Additionally, 6.56-acres of open water were mapped at the FNW-West site. No open water or mud flats were identified at the FNW -Middle or FNW-East sites. Across the three sites, wetland area decreased by 0.29 acre in 2024. Open water acreage at the West site increased by 0.14 acre in 2024, and no mudflats were observed (Table 1; Figures A-3 and A-4, Appendix A).

The adaptive management strategies implemented in 2017 (repair of a breached earthen embankment to original design) at the FNW-West site has resulted in broader inundation across the site, and in response to the inundation, some areas that were previously delineated as wetland were delineated as open water in 2020-2024. All areas delineated as mudflat habitat in 2021 and 2022 were either inundated or had developed enough vegetation to be considered PEM wetland in 2024.

In 2020, the USACE 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" (Green, 2022). Options to assign credit acres for open water and mud flat habitats are still pending, and therefore wetland acreage credited to this site from 2020-2024 is significantly less than what was reported in 2019 and earlier.

2015 2022 (acres)			2023 (acres)			2024 (acres)				
Site	(acres)	Wetland	Open Water	Mud flat	Wetland	Open Water	Mud flat	Wetland	Open Water	Mud flat
FNW-West	6.01	1.86	8.26	0.51	4.25	6.42	0.00	4.01	6.56	0.00
FNW-Middle	0.49	0.58	-	-	0.58	-	-	0.55	-	-
FNW-East	0.46	0.74	-	-	0.84	-	-	0.82	-	-
Total	6.96	3.18	8.26	0.51	5.67	6.42	0.00	5.38	6.56	0.00

**Functional Assessment** – The FNW-East and FNW-Middle sites are considered Category III wetlands, and the FNW- West site is a Category II wetland (Table 2) that received MWAM scores of 53%, 44%, and 63% respectively. All three sites generated a combined total of 26.85 Functional Units in 2024 (Table 9).

**Photographs** — Photographs were taken at all three FNW sites in 2024 and are provided in Appendix C. The photographs taken at permanent photo points and transect endpoints are presented alongside photos from the first year of monitoring. Please refer to previous years' monitoring reports for photographs from all other years (https://www.mdt.mt.gov/publications/brochures/wetland-mitigation.aspx).

**Wildlife** — Wildlife species that were observed directly or indirectly at the three monitoring sites during the 2024 field surveys are listed in the Wetland Mitigation Site Monitoring forms for each site (Appendix B). In 2024, 23 bird species were observed at the three sites during the monitoring visit.

Table 2. 2024 Montana Wetland Assessment Method (MWAM) Functional Value Summary for the Forsyth Northwest Sites. Values shown are the actual functional points scored by each site.

Function and Value Parameters From the 2008 Montana Wetland Assessment Method	FNW- West	FNW- Middle	FNW- East
Listed/Proposed Threatened & Endangered (T&E) Species Habitat	Low (0.1)	Low (0.1)	Low (0.1)
Montana Natural Heritage Program (MTNHP) Species Habitat	High (0.9)	High (0.9)	High (0.9)
General Wildlife Habitat	High (0.9)	Mod (0.4)	Mod (0.4)
General Fish/Aquatic Habitat	Low (0.3)	N/A	N/A
Flood Attenuation	Mod (0.5)	Mod (0.5)	Mod (0.5)
Short- and Long-Term, Surface-Water Storage	High (0.9)	Low (0.3)	Mod (0.6)
Sediment/Nutrient/Toxicant Removal	Mod (0.7)	High (0.8)	High (1.0)
Sediment/Shoreline Stabilization	Mod (0.6)	NA	N/A
Production Export/Food Chain Support	Mod (0.7)	Low (0.3)	Mod (0.4)
Groundwater Discharge/Recharge	Mod (0.7)	N/A	Mod (0.7)
Uniqueness	Mod (0.4)	Low (0.2)	Low (0.2)
Recreation/Education Potential (bonus points)	High (0.2)	N/A	N/A
Actual Points/Possible Points	6.9/11	3.5/8	4.8/9
% of Possible Score Achieved	63%	44%	53%
Overall Category	П	III	III

<sup>(</sup>a) Assessment area included wetland and open water.

#### **Summary Data: Specific to the FNW-West Site**

**FNW-West Site Vegetation** — Nine vegetation communities, identified based on plant composition and dominance, were mapped on the FNW–West site in 2024. The vegetation communities have changed significantly over the last few years as a result of increased inundation across the site. Much of the vegetation that previously grew in the inundated areas has died off, including woody species such as cottonwood and willow, and the inundated areas have begun to develop emergent vegetation communities comprised of cattail and bullrush species.

Emergent wetland communities are found scattered throughout the inundated areas of the site and around the fringes of the inundated areas. Inundated areas with less than 5% cover of emergent vegetation are represented by Wetland Type 17 – Open Water/Aquatic Macrophytes. The Mudflat Community was created to classify previously inundated areas that were exposed in 2021 and 2022 and have less than 5% vegetative cover, however none of these areas were observed during the 2024 site visit due to the expansion of open water and vegetation communities with greater than 5% vegetative cover.

The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring forms (Appendix B), and the community boundaries are shown on Figure A-3 (Appendix A). The following vegetation community types were identified at the FNW-West mitigation site in 2024:

- Upland Type 1 Bromus tectorum/Sarcobatus vermiculatus
- Upland Type 6 Pascopyrum smithii/Bromus tectorum
- Upland Type 20 Thlaspi arvense/Lepidium perfoliatum
- Upland Type 23 Symphoricarpos albus/Elymus repens
- Wetland Type 8 Typha latifolia/Eleocharis palustris
- Wetland Type 16 Alopecurus arundinaceus/Hordeum jubatum
- Wetland Type 17 Open Water/Aquatic Macrophytes.
- Wetland Type 21 Schoenoplectus sp./Open Water
- Wetland Type 22 Eleocharis palustris/Bare ground

Vegetation cover was measured along two transects in 2024, on foot for the terrestrial portions and by kayak for the aquatic portions (Tables 3 & 4; Figure A-2, Appendix A). Table 3 summarizes the data for T-1 which is 282 feet long and intersects Upland Type 6 and aquatic community 17 (Open Water). The amount of open water along T-1 increased slightly from 89% to 90% between 2023 and 2024. The total amount of vegetation stayed consistent at 13% (Table 3).

Table 3. Data Summary for T-1 From 2017 Through 2024 at the FNW-West Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	282	282	282	282	282	282	282	282
Vegetation Community Transitions Along Transect	5	1	1	2	3	2	3	2
Vegetation Communities Along Transect	5	1	1	2	3	2	4	2
Hydrophytic Vegetation Communities Along Transect	2	0	1	1	1	1	1	0
Total Vegetative Species	18	5	4	9	7	8	13	14
Total Hydrophytic Species	4	0	1	3	1	1	1	5
Total Upland Species	14	5	4	6	6	7	12	9
Estimated % Total Vegetative Cover	46	5	10	3	3	4	13	13
Estimated % Unvegetated	54	95	65	97	97	96	87	87
% Transect Length Comprising Hydrophytic Vegetation Communities	34	0	30	3	4	3	6	0
% Transect Length Comprising Upland Vegetation Communities	66	5	5	5	5	5	5	10
% Transect Length Comprising Unvegetated Open Water	0	95	65	92	89	88	89	90
% Transect Length Comprising of Mudflat	0	0	0	0	2	4	0	0

T-2 is 261 feet long and intersects aquatic community 17 (Open Water), and Upland Types 6 and 23. Open water comprised of 88% of the transect. Total vegetative cover along the transect stayed consistent at 11% (Table 4).

Detailed data collected along each transect are provided in the Wetland Mitigation Site Monitoring form in Appendix B. Photographs of the transect end points are provided in Appendix C.

In 2024, 23 noxious weed patches were mapped at FNW-West, which is an increase of seven patches since 2023. All noxious weed patches were comprised of four Priority 2B species. Canada thistle (*Cirsium* 

arvense) was observed in trace, low, and moderate cover classes at eight locations. Leafy spurge (*Euphorbia esula*) increased significantly in 2024 from two patches to six patches ranging from low to high cover. One five-stamen tamarisk (*Tamarix chinensis*) individual was observed along the southwest boundary of the project area (Figure A-3; Appendix A). Field bindweed (*Convolvulus arvensis*) continues to increase within UT6 in the northeast portion of the site. Across all plant communities, a total of 61 plant species have been identified at FNW-West from 2013 to 2024 (Table B-1; Appendix B).

Table 4. Data Summary for T-2 From 2017 Through 2024 at the FNW-West Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	261	261	261	261	261	261	261	261
Vegetation Community Transitions Along Transect	3	2	2	3	3	3	2	2
Vegetation Communities Along Transect	4	3	3	3	2	2	3	3
Hydrophytic Vegetation Communities Along Transect	2	1	1	1	1	0	0	0
Total Vegetative Species	19	13	15	19	20	21	19	16
Total Hydrophytic Species	9	4	5	6	7	6	5	5
Total Upland Species	10	9	10	13	13	15	14	11
Estimated % Total Vegetative Cover	92	20	20	3	3	5	11	11
Estimated % Unvegetated	8	80	80	97	97	95	89	89
% Transect Length Comprising Hydrophytic Vegetation Communities	87	90	90	2	3	0	0	0
% Transect Length Comprising Upland Vegetation Communities	13	10	10	7	7	10	13	12
% Transect Length Comprising Unvegetated Open Water	0	0	0	91	87	85	87	88
% Transect Length Comprising of Mudflat	0	0	0	0	5	5	0	0

**FNW-West Site Hydrology** – The main source of hydrology at the FNW-West site is surface runoff from precipitation events in the East Spring Coulee, which flows directly into the site. Additional hydrology is provided by a seasonally high groundwater table and flood flows from nearby Big Porcupine Creek. During the 2024 monitoring the site was sufficiently inundated, likely due to heavy runoff from Big Porcupine Creek and East Spring Coulee. Indicators of wetland hydrology observed at the FNW-West site included surface water, high water table, soil saturation, algal mat or crust, drift deposits, geomorphic position, and oxidized rhizospheres on living roots.

**FNW-West Site Soils** – Soil test pits were excavated at six locations (DP01-03w and DP01-03u; Figure A-4, Appendix A). All test pits were located in areas originally mapped as the Marvan silty clay soil series (NRCS, 2024b). Soil textures ranged from silty clay to loamy sand. The two hydric soil indicators observed were sandy gleyed matrix and depleted matrix within wetland sampling points. No hydric soil indicators were observed in the upland sample pits.

## **Summary Data: Specific to FNW-Middle Site**

**FNW-Middle Site Vegetation** — Vegetation communities were identified based on plant composition and dominance. The following vegetation community types were identified at FNW-Middle in 2024:

- Upland Type 6 Pascopyrum smithii/Convolvulus arvensis
- Wetland Type 5 Hordeum jubatum/Eleocharis palustris

The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring form (Appendix B), and the community boundaries are shown in Figure A-6 (Appendix A). In 2024, 25 occurrences of Priority 2B noxious weeds, Canada thistle and field bindweed, were observed at the site. Cover classes of the weed infestations ranged from trace to high (Figure A-6, Appendix A) with previously observed patches increasing in cover. Field bindweed cover continued to

increase notably between 2023 and 2024, and infestations now range from low to high. Canada thistle also continued to expand with two new mapped patches and two patches increasing in cover class. A total of 63 plant species were identified on the site from 2013 through 2024 (for a comprehensive plant list, see Table B-2; Appendix B).

Vegetation cover was measured along one transect (T-1) at FNW-Middle in 2024 (Figure A-5, Appendix A). T-1 is 50 feet long and intersects Upland Type 6 and Wetland Type 5. In 2024, 36% of the transect crossed wetland habitat, an increase of 8% over the previous two years. The total number of vegetative species observed along T-1 in 2024 was 15, both wetland and upland species decreased since 2023. However, the total amount of vegetative cover remained the same as in 2023 at 87% (Table 5). Detailed data collected along T-1 are provided in the Wetland Mitigation Site Monitoring form in Appendix B. Photographs of the transect end points are provided in Appendix C.

Table 5. Data Summary for T-1 From 2017 Through 2024 at the FNW-Middle Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	50	50	50	50	50	50	50	50
Vegetation Community Transitions Along Transect	2	2	2	2	2	2	2	2
Vegetation Communities Along Transect	2	2	2	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	1	1	1	1	1	1
Total Vegetative Species	17	17	16	24	22	23	21	15
Total Hydrophytic Species	4	5	4	11	6	7	6	5
Total Upland Species	13	12	12	13	16	16	15	10
Estimated % Total Vegetative Cover	83	85	85	85	85	87	87	87
Estimated % Unvegetated	17	15	15	15	15	13	13	13
% Transect Length Comprising Hydrophytic Vegetation Communities	38	38	38	24	24	28	28	36
% Transect Length Comprising Upland Vegetation Communities	62	62	62	76	76	72	72	64
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0	0	0	0

**FNW-Middle Site Hydrology** – This site is situated near an abandoned meander bend that is associated with Big Porcupine Creek. The site may experience occasional flooding during high flows in Big Porcupine Creek but is not intended to exhibit perennial inundation because of its proximity to Montana Highway 12. The excavated depression was inundated during the 2024 monitoring visit. Hydrologic indicators that were observed at this site included water-stained leaves, surface water, soil saturation, hydrogen sulfide odor, geomorphic position, and a high water table.

**FNW-Middle Site Soils** — Soil test pits were examined at four locations (DP01-02w and DP01-02u; Figure A-7, Appendix A), and all locations were within what was originally mapped as the Harlem silty clay soil series by the NRCS (2024b). DP01w and DP02w were located within Wetland Type 5, Hordeum jubatum/Eleocharis palustris while DP01u and DP02u were in Upland Type 6 — Pascopyrum smithii/Convolvulus arvensis. Soil textures were clay, muck, or silty clay. In the wetland sample pits, hydric soil indicators were hydrogen sulfide and depleted matrix. No hydric soil indicators were observed within either upland sample pit.

## **Summary Data: Specific to FNW-East Site**

**FNW-East Site Vegetation** – Vegetation communities were identified based on plant composition and dominance. The following vegetation community types were identified in 2024:

- Upland Type 3 Pascopyrum smithii/Elymus spp.
- Wetland Type 6 *Eleocharis palustris/Alopecurus spp.*

The community type name for the wetland areas was updated from Wetland Type 5 (*Hordeum jubatum/Alopecurus spp.*) to Wetland Type 6 (*Eleocharis palustris/Alopecurus spp.*) in 2024, as this name is more reflective of the current plant species composition. The community composition for each community type is provided in full detail on the Wetland Mitigation Site Monitoring form (Appendix B), and community boundaries are shown on Figure A-9 (Appendix A).

A total of 62 plant species were identified on the site from 2013 through 2024 (for a comprehensive plant list, see Table B-3; Appendix B). Infestations of three Priority 2B noxious weeds, field bindweed (*Convolvulus arvensis*), Canada thistle (*Cirsium arvense*), and five-stamen tamarisk (*Tamarix chinensis*) were mapped in ten locations (Figure A-9, Appendix A). Five-stamen tamarisk appeared to have been eradicated in 2022, but one individual was observed in the southeast corner of the site in 2024. Three new field bindweed patches were mapped as high cover, and one field bindweed patch increased from low to moderate cover. No woody plants were installed at the FNW-East site. However, mature cottonwoods and willows adjacent to the site appear to be acting as a source population for the cottonwood and willow seedlings that continue to establish on the site.

Vegetation cover was measured along two transects (T-1 and T-2) at FNW-East in 2024 (Figure A-8, Appendix A). T-1 is 125 feet long and intersects Upland Type 3 and Wetland Type 6. Within the transect, 46% was comprised of wetland habitat, a decrease of 6% from previous years likely due to shifts in plant species in response to changing inundation levels. The total vegetative cover was 97%, similar to the previous year. The number of vegetative species increased by four and the number of hydrophytic species also increased since 2023 (Table 6). Detailed data collected along each transect are provided in the Wetland Mitigation Site Monitoring form in Appendix B. Photographs of the transect end points are provided in Appendix C.

T-2 is 181 feet long and intersects Upland Type 3 and Wetland Type 6. In 2024, 49.2% of the transect crossed wetland habitat. The number of hydrophytic species observed along the transect increased by two since 2023, and the total number of upland species observed decreased by one. Total vegetative cover has remained constant at 98 percent since 2017 (Table 7).

Table 6. Data Summary for T-1 From 2017 Through 2024 at the FNW-East Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	125	125	125	125	125	125	125	125
Vegetation Community Transitions Along Transect	2	2	2	2	2	2	2	2
Vegetation Communities Along Transect	2	2	2	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	1	1	1	1	1	1
Total Vegetative Species	17	17	16	16	14	15	14	18
Total Hydrophytic Species	7	7	7	4	2	2	2	5
Total Upland Species	10	10	9	12	12	13	12	13
Estimated % Total Vegetative Cover	95	95	95	95	95	96	97	97
Estimated % Unvegetated	5	5	5	5	5	4	3	3
% Transect Length Comprising Hydrophytic Vegetation Communities	50	52	52	52	52	52	52	46
% Transect Length Comprising Upland Vegetation Communities		48	48	48	48	48	48	54
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0	0	0	0

Table 7. Data Summary for T-2 From 2017 Through 2024 at the FNW-East Site

Monitoring Year	2017	2018	2019	2020	2021	2022	2023	2024
Transect Length (feet)	181	181	181	181	181	181	181	181
Vegetation Community Transitions Along Transect	2	2	2	2	2	2	2	2
Vegetation Communities Along Transect	2	2	2	2	2	2	2	2
Hydrophytic Vegetation Communities Along Transect	1	1	1	1	1	1	1	1
Total Vegetative Species	11	14	15	10	12	15	15	16
Total Hydrophytic Species	4	6	6	2	3	4	5	7
Total Upland Species	7	8	9	8	9	11	10	9
Estimated % Total Vegetative Cover	98	98	98	98	98	98	98	98
Estimated % Unvegetated	2	2	2	2	2	2	2	2
% Transect Length Comprising Hydrophytic Vegetation Communities	55	55	55	55	60	60	61	49
% Transect Length Comprising Upland Vegetation Communities	45	45	45	45	40	40	39	51
% Transect Length Comprising Unvegetated Open Water	0	0	0	0	0	0	0	0
% Transect Length Comprising of Mudflat	0	0	0	0	0	0	0	0

**FNW-East Site Hydrology** — The FNW-East site is very similar to the FNW-Middle site. The main sources of hydrology at the FNW-East site are shallow groundwater, direct precipitation, surface runoff from adjacent uplands, and overland flooding from nearby Big Porcupine Creek. Old meander scars of Big Porcupine Creek with relict and contemporary wetland characteristics are located directly adjacent to the site. The excavated depression was only inundated on the west end of the site during monitoring. Hydrologic indicators that were observed at this site included sulfidic odor, soil saturation, surface water, geomorphic position, and a high water table.

**FNW-East Site Soils** – Soil test pits were examined in six locations (DP01-03w and DP01-03u; Figure A-10, Appendix A), and all locations were within what was originally mapped as the Harlem silty clay soil series (NRCS, 2024b). Wetland soils had textures ranging from silty clay to mucky loam/clay. Hydric soil

indicators observed across wetland soil pits included hydrogen sulfide, 1 cm muck, and loamy gleyed matrix. No hydric soil indicators were observed in the upland sample pits.

## **Mitigation Credit Summary: All Sites**

The three FNW sites produced 5.67 credit acres combined in 2024. However, the number of credit acres earned does not include any credits for the open water that is present at the FNW-West site. Once credit ratios are determined for this habitat type, the site will likely receive additional credit acres. Options to include open water and mudflats in the mitigation crediting scheme require approval from USACE, which is currently pending.

Table 8. 2024 Credit/Debit Summary for the Forsyth - Northwest Project

Project Site	Actual Acres	Mitigation Credit Type	Debit Ratio	Credit Acres
	2.72	Establishment (Creation) (all wetland minus preservation)	1:1	2.72
West Site	1.29	Preservation	4:1	0.32
(Site 1)	3.16	Upland Buffer	5:1	0.63
	6.56	Open Water <sup>a</sup>	TBD	TBD
	0.0	Mud Flat <sup>a</sup>	TBD	TBD
Middle Site	0.55	Establishment (Creation)	1:1	0.55
(Site 2)	1.25	Upland Buffer	5:1	0.25
East Site	0.82	Establishment (Creation)	1:1	0.82
(Site 3)	1.92	Upland Buffer	5:1	0.38
Total	18.27	To	otal Credits	5.67

<sup>(</sup>a) Open water and mud flat credit ratio and associated credit acreage are to be determined (TBD).

#### **Functional Unit Credit Summary: All Sites**

The 2024 functional unit credits summary is summarized in Table 9. A total of 26.85 functional unit credits were generated at the Forsyth NW site after applying the appropriate mitigation ratios to the 2024 wetland acreage and multiplying that value by the points generated from the 2024 MWAM Assessment.

**Table 9. Functional Unit Credits Summary for Forsyth NW** 

Project Site	Mitigation Credit Type	2024 Delineated acres	Ratio	2024 Mitigation Credit Acres	MWAM Actual Points	Functional Unit Credits
West Site	Establishment (Creation) (all wetland minus preservation)	2.72	1:1	2.72	6.90	18.77
(Site 1)	Preservation	1.29	4:1	0.32	6.90	2.21
	Open Water	6.56	TBD	TBD	TBD	TBD
	Mud Flat	0.0	TBD	TBD	TBD	TBD
Middle Site (Site 2)	Establishment (Creation)	0.55	1:1	0.55	3.5	1.93
East Site (Site 3)	Establishment (Creation)	0.82	1:1	0.82	4.8	3.94
	Total	11.94	-	4.41	-	26.85

### **Conclusions**

Formal performance standards were not developed as part of the mitigation plan for the FNW sites. All three sites have developed wetland habitat as intended and positive indicators of wetland vegetation, hydric soils, and wetland hydrology have been consistently observed across all monitoring years. All sites are stable and have appropriate amounts of vegetative cover. Noxious weed cover increased slightly between the 2023 and 2024 monitoring events, but all three sites still have less than 10 percent total noxious weed cover. Weed management actions were conducted by MDT's weed contractor on August 21, and again October 5, 2024, to treat five-stamen tamarisk, after the monitoring visit by CCI. Canada thistle, five-stamen tamarisk, leafy spurge, and Russian thistle were all treated. The late season spraying was to treat five-stamen tamarisk (*Tamarix chinensis*) seedlings along the edges of the West wetland.

The Forsyth NW sites were inundated to a similar degree during the monitoring site visit in 2024 as in 2023. Wetland acreage decreased across the three sites by a total of 0.29 acre in 2024. These changes are likely the result of consistent inundation and natural wetland boundary changes. The FNW-West site contained more open water in 2024 than in 2023 due to consistent flooding from the Big Porcupine Creek channel and changes in vegetation communities. All of the habitat mapped as mudflat in 2021 and 2022 was again mapped as open water in 2024 largely owing to increased inundation at the site.

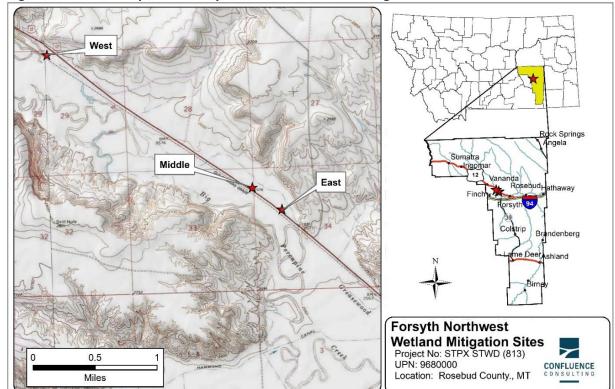


Figure 1. Location map of the Forsyth Northwest wetland mitigation sites.

**Project Area Maps/Figures:** See Appendix A.

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

**Photos:** See Appendix C.

**Plans:** See Appendix D of 2013 Forsyth Northwest Monitoring Report located on the MDT website at this

link:

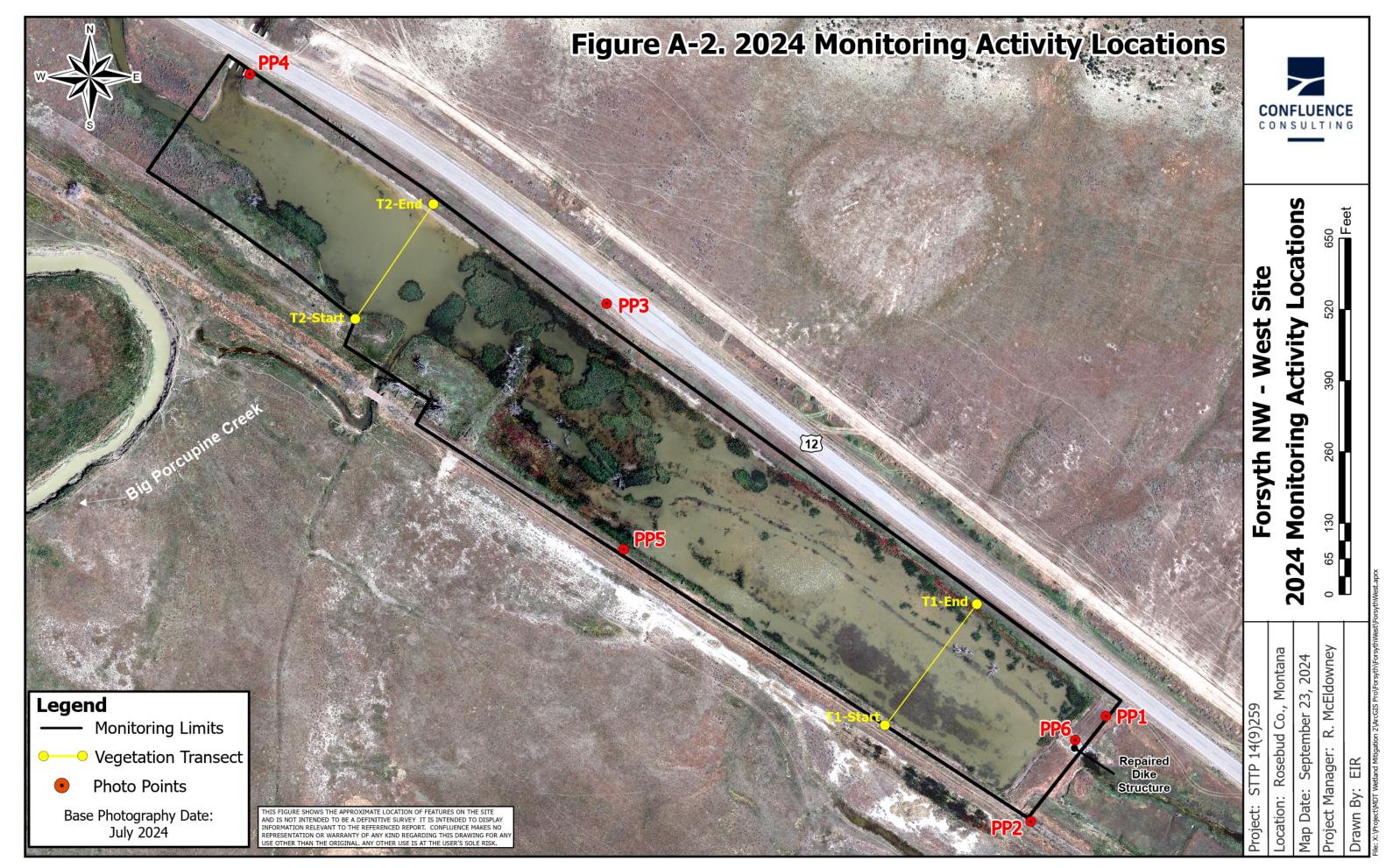
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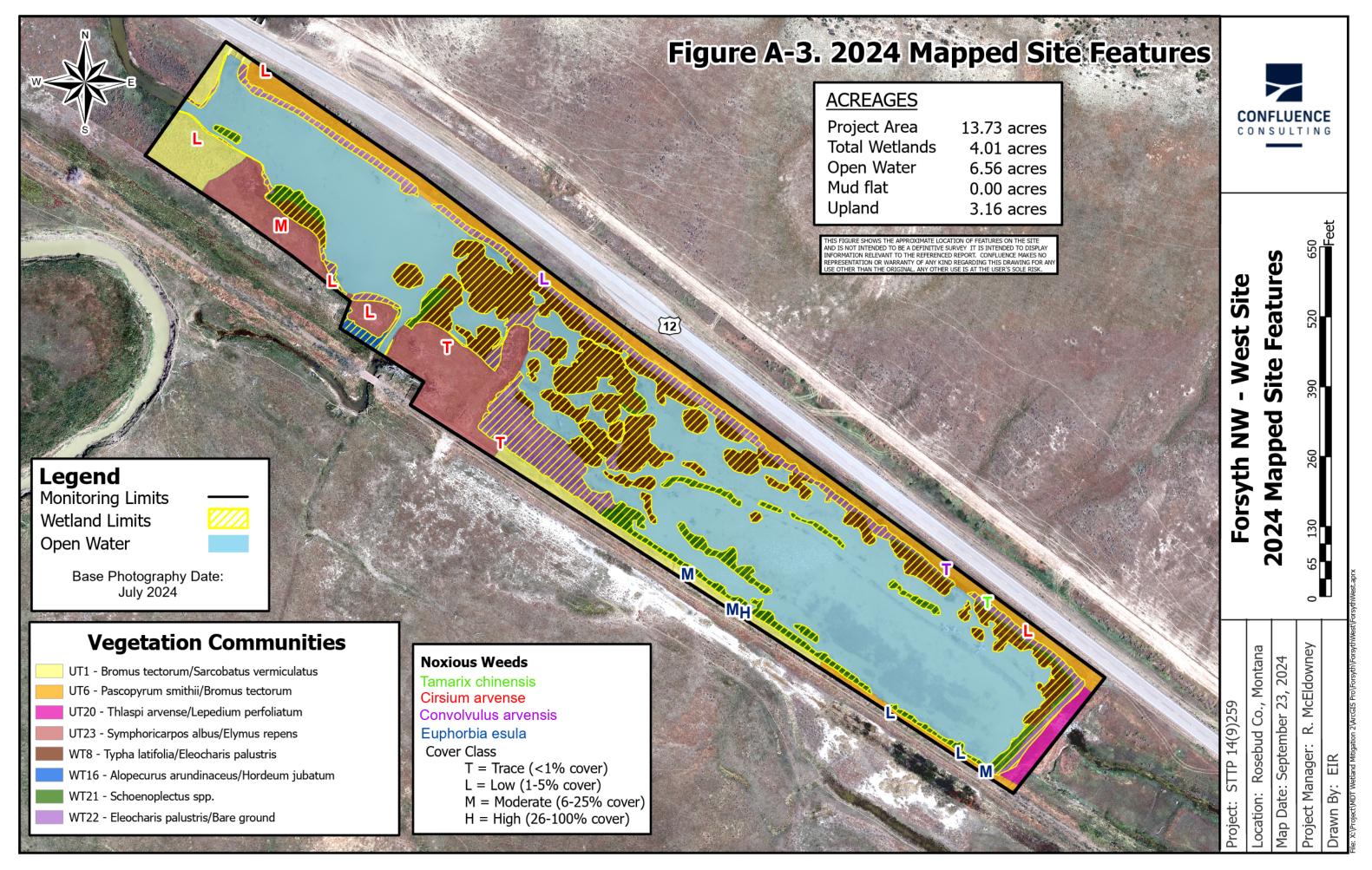
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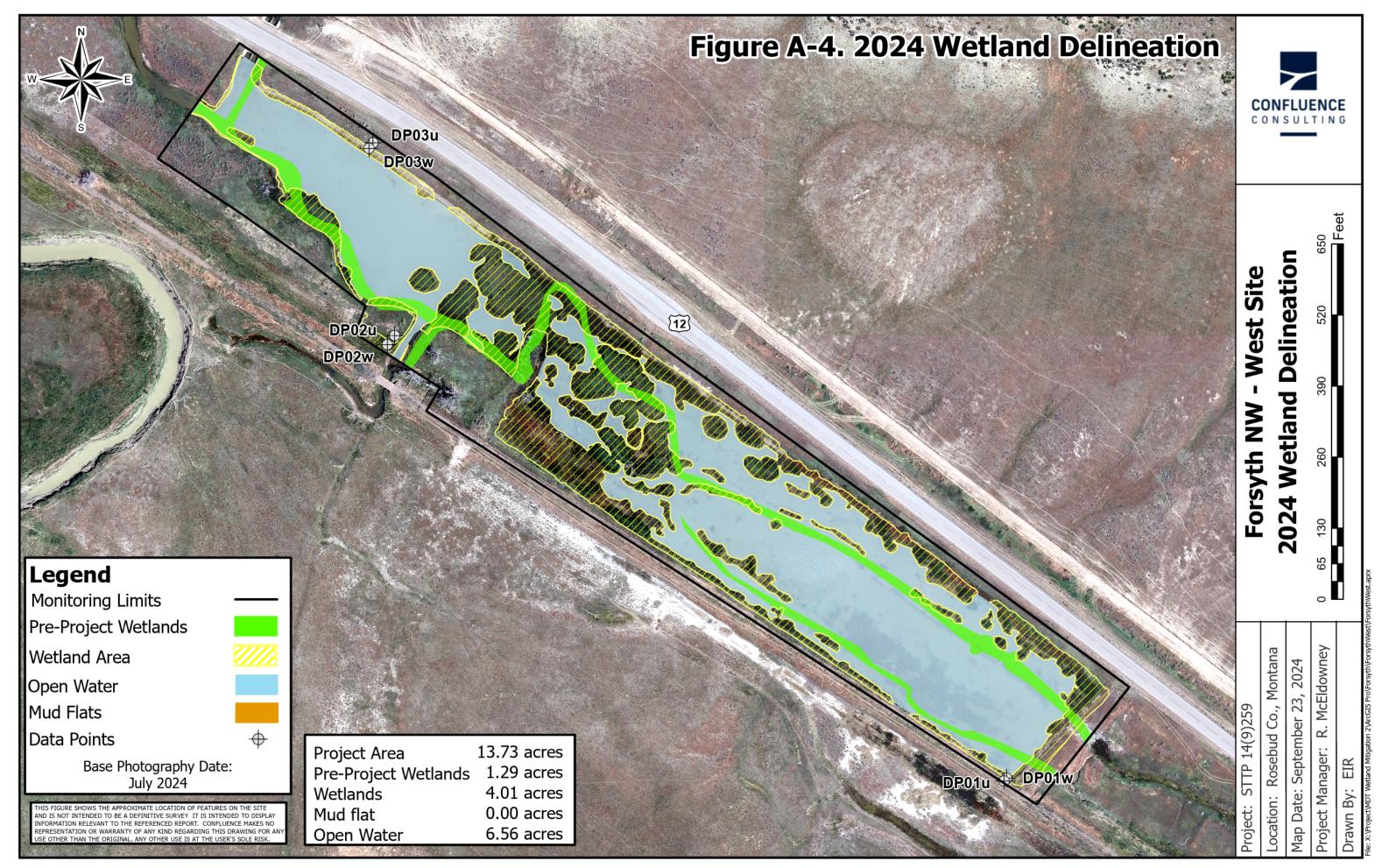
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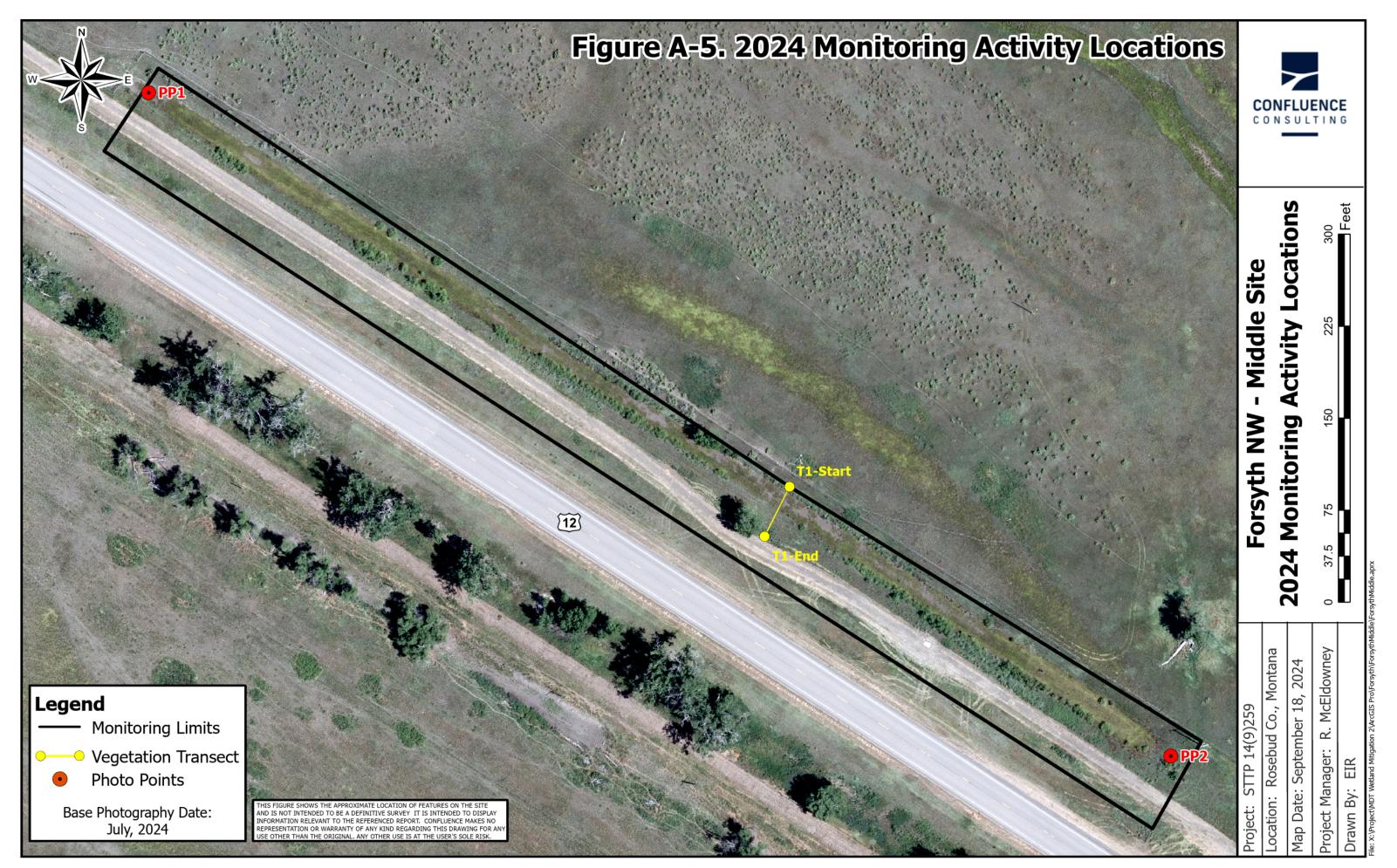
# APPENDIX A PROJECT AREA MAPS

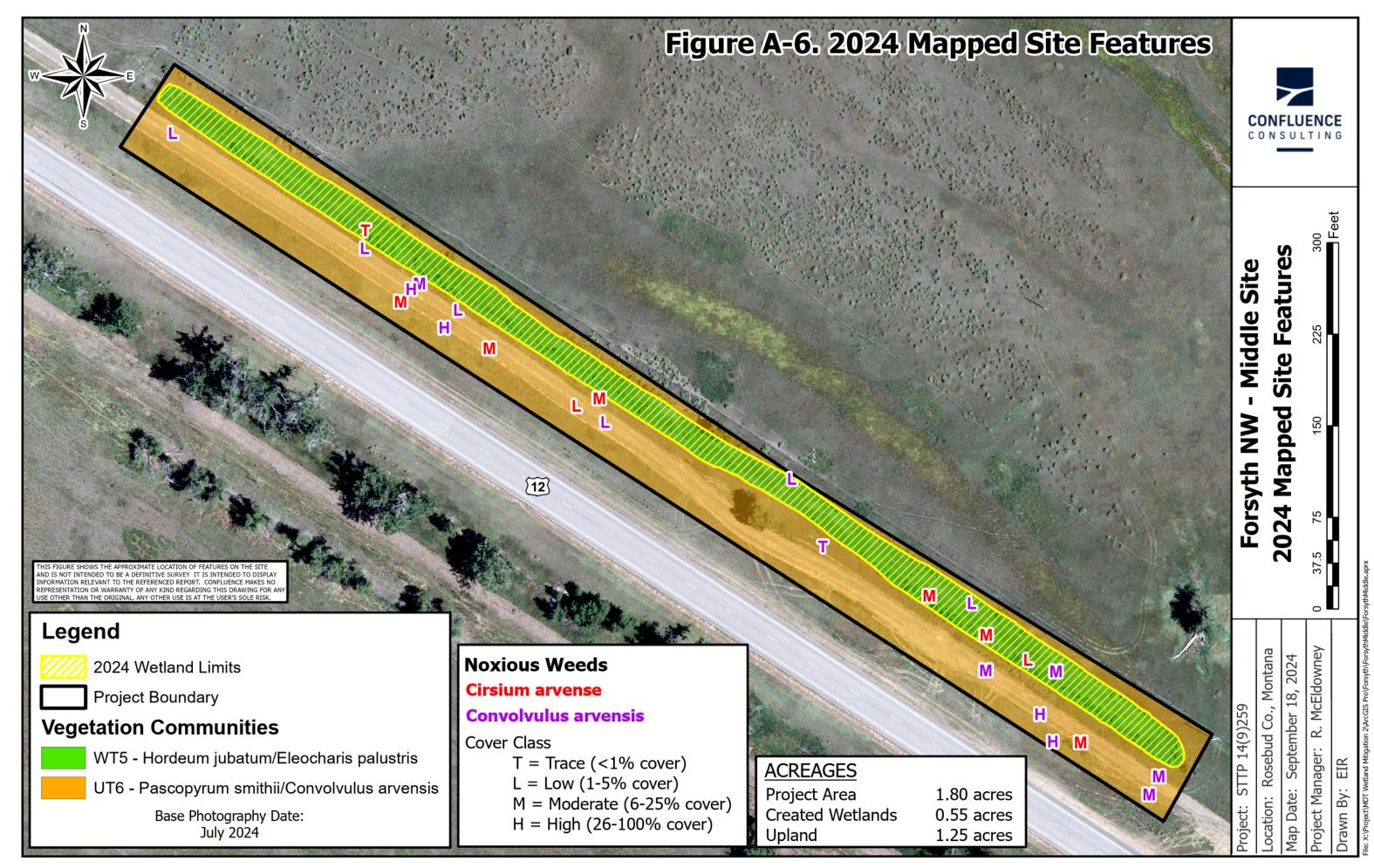
MDT Wetland Mitigation Monitoring Forsyth Northwest – West, Middle, and East Sites Rosebud County, Montana

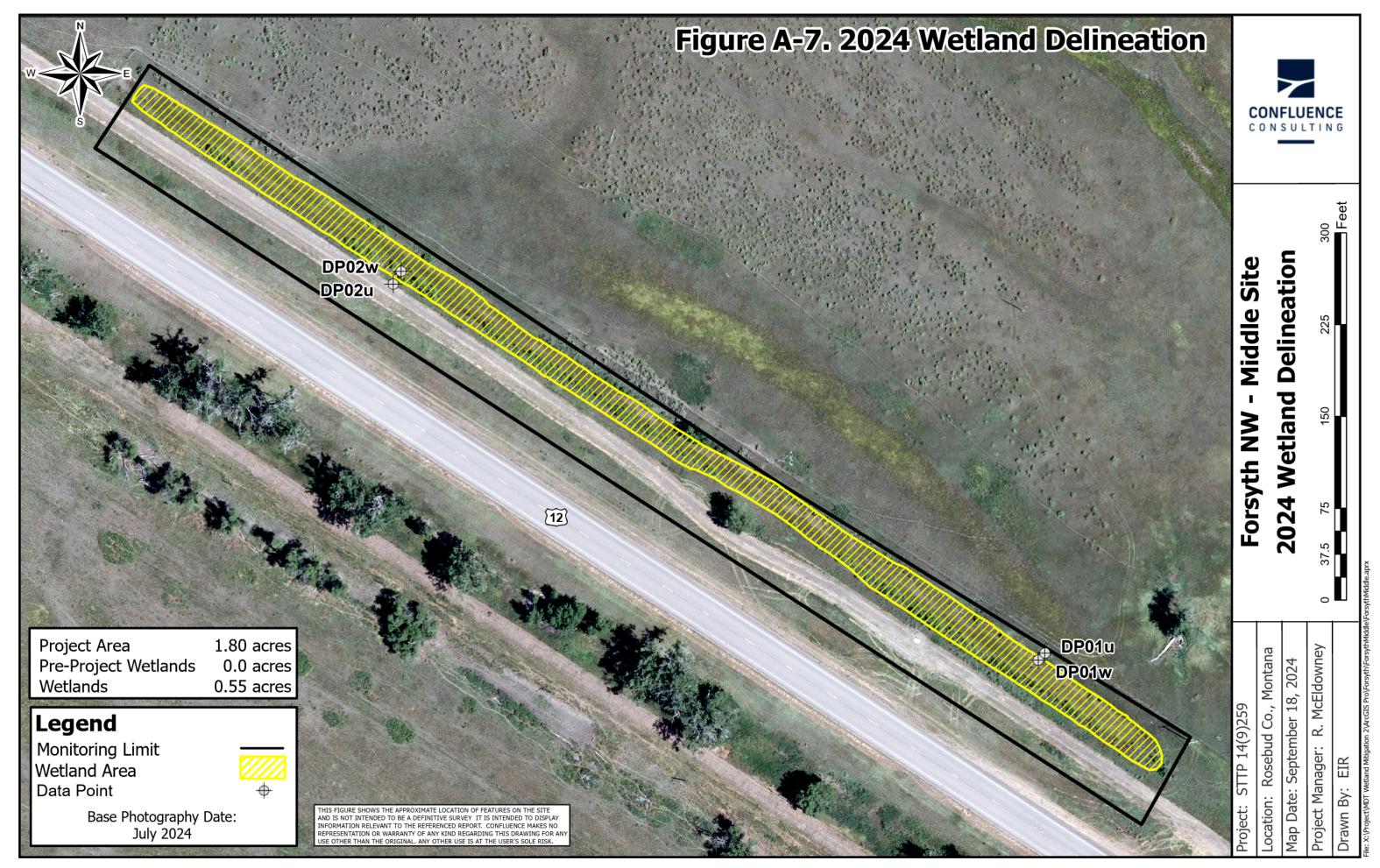


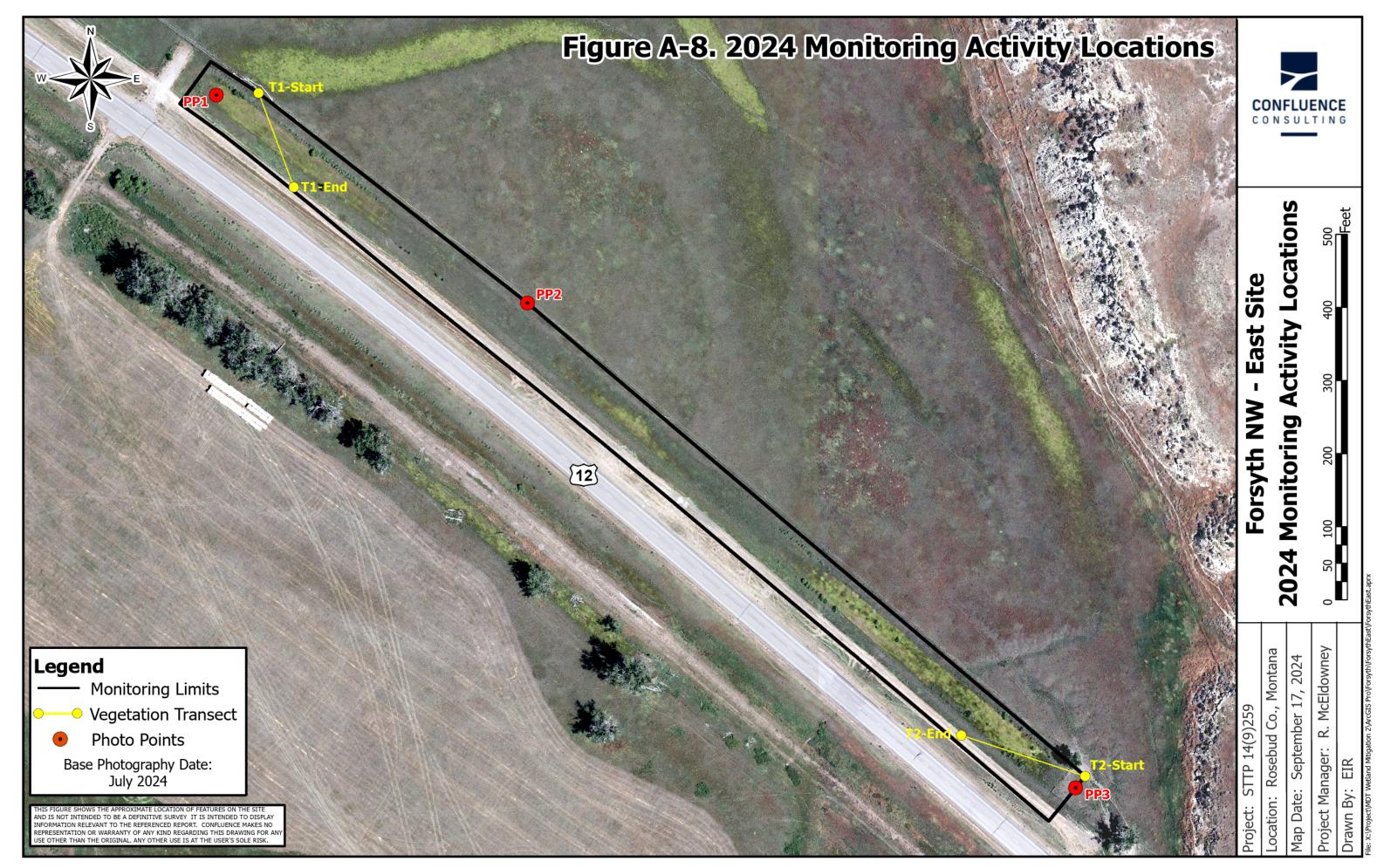


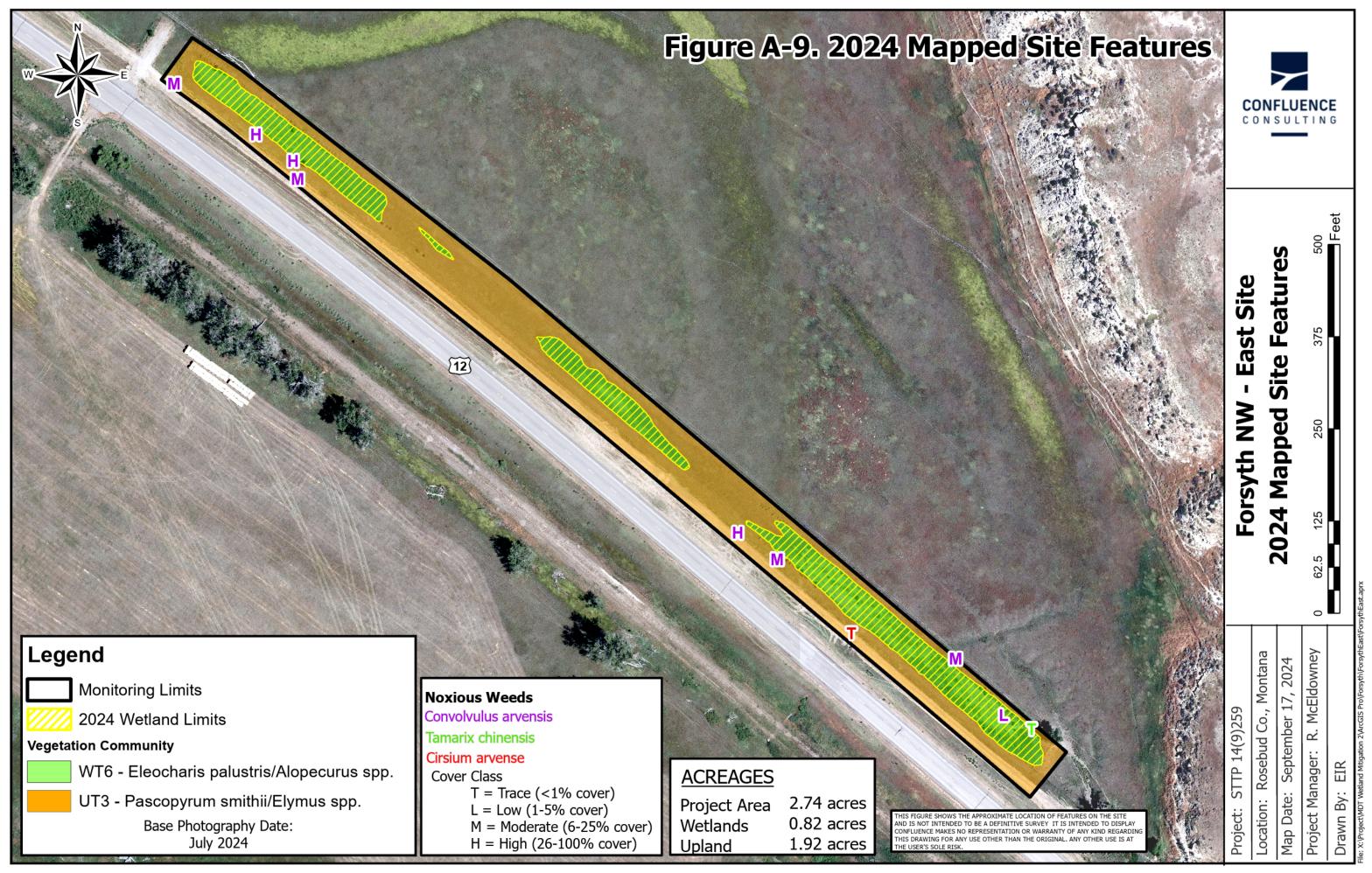


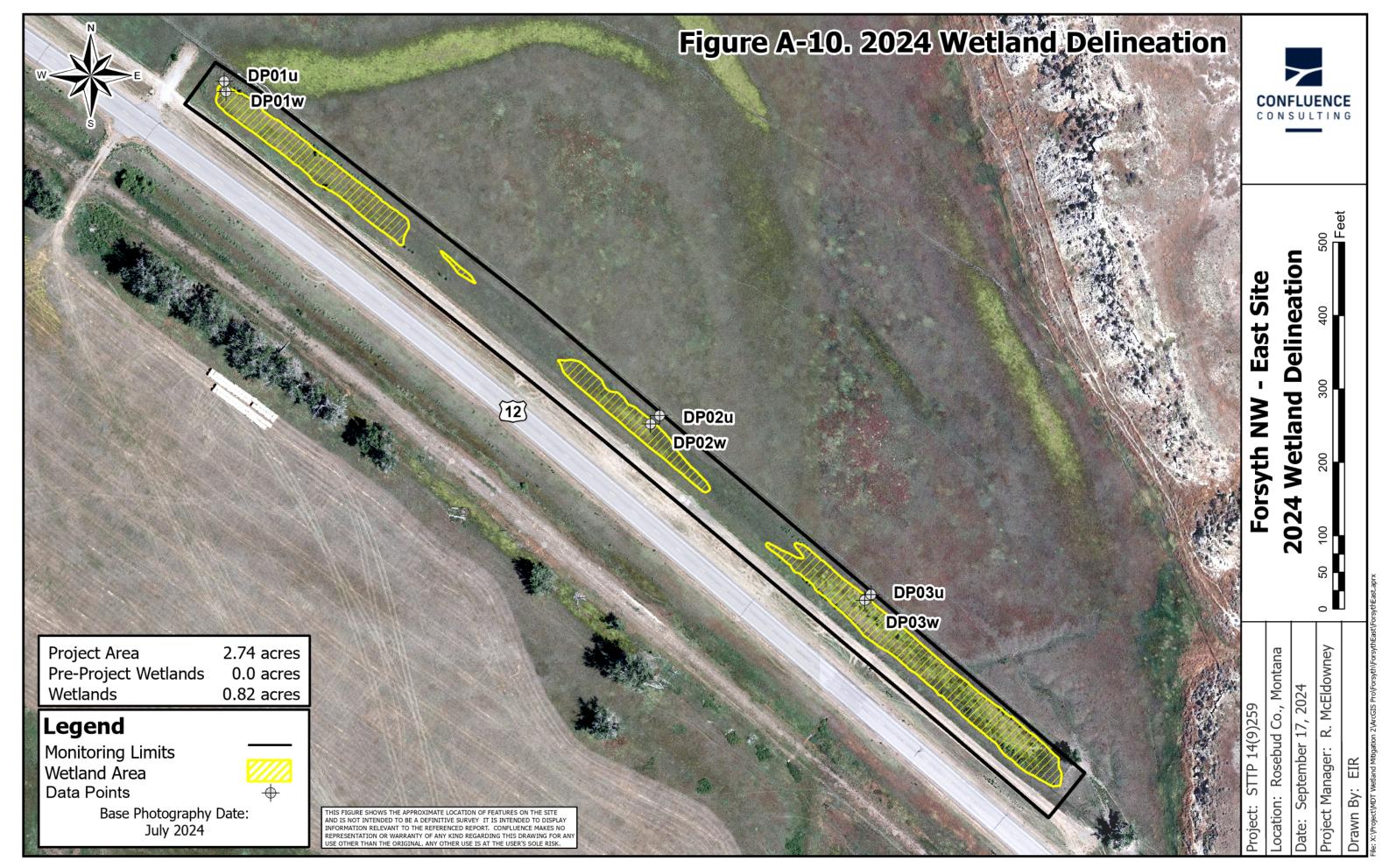












# APPENDIX B MONITORING FORMS

MDT Wetland Mitigation Monitoring Forsyth Northwest – West, Middle, and East Sites Rosebud County, Montana

## MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Forsyth NW - West Assess	sment Date/Time	6/11/2024
Person(s) conducting the assessment: R. McEldowney	, E. Reynaud	
Weather: Sunny, 75 degrees F Location:	~15 miles NW of Forsyth	
MDT District: GlendiveMilepost: RF	280 on US 12	
Legal Description: T <u>7N</u> R <u>39E</u> Section(s) 20 & 29		
Initial Evaluation Date: 8/15/2013 Monitoring Year:	<u>12</u> #Visits in Year: <u>1</u>	
Size of Evaluation Area: 13.71 (acres)		
Land use surrounding wetland:		
Agriculture, grazing, US 12 highway		
HYDROLOGY		
Surface Water Source: Big Porcupine Cr., E.Spring Coule	ee, runoff, seasonally high gro	ound water.
Inundation: Average Depth: 2 (ft)	Range of Depths: 0.5-4	(ft)
Percent of assessment area under inundation: 85 %		
Depth at emergent vegetation-open water boundary:	2 (ft)	
If assessment area is not inundated then are the soils satura	ted within 12 inches of surface	: Yes
Other evidence of hydrology on the site (ex. – drift lines, eros	sion, stained vegetation, etc:	
Majority of the wetland area inundated in 2024. Mudflats around the ope		
SE edge of the site are being eroded by wind-generated waves. Water	was nowing over the dike during the	2024 Site Visit.
Groundwater Monitoring Wells		
Record depth of water surface below ground surface, ir	ı feet	
record departer water carrace below ground carrace, in	11001.	
Additional Activities Checklist:		
☐ Map emergent vegetation-open water boundary on aerial photograph.		
Observe extent of surface water during each site visit and look for evid	ence of past surface water	
elevations (drift lines, erosion, vegetation staining, etc.)		
Use GPS to survey groundwater monitoring well locations, if present.  Hydrology Notes:		
Hydrologic sources include Big Porcupine Creek, East Sp	ring Coulee, and a high wate	r table.
Mitigation area receives surface water from East Spring C Porcupine Creek. The majority of the site was inundated of water depth was estimated to be 18-24". The site support evidenced by drowned woody vegetation, absence of her the open water, and the development of a Schoenoplectu	during the 2024 site visit and s extended periods of inunda baceous vegetation around the	average ation as is he edges of

### **VEGETATION COMMUNITIES**

Site Forsyth NW - West

(Cover Class Codes 0 = < 1%, 1 = 1.5%, 2 = 6.10%, 3 = 11.20%, 4 = 21.50%, 5 = >50%)

Community # 1 Community Type: Bromus tectorum / Sarcobatus vermiculatus Acres: 0.73

Species	Cover class	Species	Cover class
Bare Ground	2	Bassia scoparia	1
Bromus inermis	2	Bromus tectorum	2
Chenopodium album	1	Elymus repens	2
Euphorbia esula	1	Galium triflorum	0
lordeum jubatum	1	Opuntia polyacantha	0
ascopyrum smithii	2	Poa pratensis	2
Sarcobatus vermiculatus	2	Schedonorus pratensis	2
hlaspi arvense	1	Yucca glauca	0
ommonto.			

### **Comments:**

Community type in the NW region of the site. No significant changes in composition in 2024.

Community # 6 Community Type: Pascopyrum smithii / Bromus tectorum Acres: 1.04

Species	Cover class	Species	Cover class
Achnatherum hymenoides	1	Agropyron cristatum	0
Bare Ground	2	Bassia scoparia	1
Bromus arvensis	1	Bromus japonicus	2
Bromus tectorum	1	Chenopodium album	1
Convolvulus arvensis	0	Elymus canadensis	1
Elymus lanceolatus	1	Elymus trachycaulus	2
Euphorbia esula	0	Helianthus annuus	0
Hordeum jubatum	0	Lactuca serriola	1
Lepidium perfoliatum	1	Linum lewisii	1
Medicago sativa	0	Melilotus officinalis	2
Pascopyrum smithii	5	Poa pratensis	3
Rumex crispus	0	Sisymbrium altissimum	1
Thlaspi arvense	2	Tragopogon dubius	0

#### **Comments:**

Majority of the vegetation community is composed of Pascopyrum smithii. Convolvulus arvensis observed in community in 2024.

Community # 8 Community Type: Typha latifolia / Eleocharis palustris Acres: 2.00

Species	Cover class	Species	Cover class
Eleocharis palustris	0	Open Water	2
Populus deltoides	0	Schoenoplectus acutus	0
Schoenoplectus maritimus	1	Sonchus arvensis	1
Spartina pectinata	1	Typha angustifolia	3
Typha latifolia	4		

#### Comments:

CT8 has increased significantly in 2024 due to continued inundation in the majority of the site. Existing stands have grown in addition to new patches.

Community # 16 Community Type: Alopecurus arundinaceus / Hordeum jubatum Acres: 0.05

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	4	Bare Ground	1
Cirsium arvense	0	Eleocharis lanceolata	0
Elymus repens	1	Glycyrrhiza lepidota	0
Hordeum jubatum	2	Pascopyrum smithii	0
Poa compressa	1	Rumex crispus	1
Sagittaria cuneata	1		

## Comments:

Community stayed the same besides a slight increase in Elymus repens cover.

Community # 17 Community Type: Open Water / Aquatic macrophytes Acres: 6.56

Species	Cover class	Species	Cover class
Aquatic macrophytes	0	Bare Ground	1
Eleocharis palustris	0	Open Water	5
Schedonorus pratensis	0	Schoenoplectus maritimus	1
Typha angustifolia	1	Typha latifolia	1

#### Comments:

Open water increased in 2024 despite encroaching Typha latifolia cover likely due to decreasing WT21 cover.

Community # 20 Community Type: Thlaspi arvense / Lepidium perfoliatum Acres: 0.14

Species	Cover class	Species	Cover class
Bare Ground	2	Bromus tectorum	2
Chenopodium album	2	Lepidium perfoliatum	4
Pascopyrum smithii	2	Sarcobatus vermiculatus	0
Thlaspi arvense	2		

#### Comments:

Community type on SE end of project area.

Community # 21 Community Type: Schoenoplectus spp. / Open Water Acres: 0.69

Species	Cover class	Species	Cover class
Open Water	5	Schoenoplectus maritimus	4

#### Comments:

Schoenoplectus spp. has increased in 2024 around the edges of the open water, primarily in the SE region of the site.

Community # 22 Community Type: Eleocharis palustris / Bare Ground Acres: 1.27

Species	Cover class	Species	Cover class
Bare Ground	4	Carex sp.	0
Chenopodium album	2	Distichlis spicata	1
Eleocharis palustris	3	Elymus trachycaulus	0
Hordeum jubatum	1	Iva axillaris	1
Lactuca serriola	0	Open Water	1
Pascopyrum smithii	1	Poa pratensis	0
Polygonum aviculare	0	Populus deltoides	0
Puccinellia nuttalliana	2	Rumex crispus	0
Salicornia rubra	0	Schoenoplectus maritimus	1
Spartina pectinata	0	Typha angustifolia	2
Typha latifolia	1		

#### Comments:

CT22 has increased in cover along the edges of the open water in addition to establishing patches further out into the water.

Community # 23 Community Type: Symphoricarpos albus / Elymus repens Acres: 1.25

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	2	Bare Ground	1
Bassia scoparia	0	Bromus inermis	1
Carex sp.	0	Chenopodium album	1
Cirsium arvense	2	Eleocharis lanceolata	0
Elymus repens	3	Glycyrrhiza lepidota	2
Hordeum jubatum	1	lva axillaris	2
Lepidium perfoliatum	2	Pascopyrum smithii	1
Poa compressa	2	Poa pratensis	3
Ribes aureum	1	Sarcobatus vermiculatus	1
Symphoricarpos albus	3	Thlaspi arvense	2

#### **Comments:**

Community cover has increased in the NW portion of the site.

**Total Vegetation Community Acreage** 

13.73

# **VEGETATION TRANSECTS**

<b>Transect Numbe</b>	r: <u>1</u> Co	mpass Direction from S	tart: <u>25</u>
Interval Data:			
<b>Ending Station</b>	11 Community	Гуре: Pascopyrum smithii / Bro	mus tectorum
Species	Cover class	Species	Cover clas
Bare Ground	1	Bromus tectorum	;
Euphorbia esula	2	Medicago sativa	•
Pascopyrum smithii	3	Poa pratensis	(
Rumex crispus	0	Sisymbrium altissimum	•
Ending Station	264 Community	Гуре: Aquatic macrophytes / Ор	oen Water
Species	Cover class	Species	Cover clas
Open Water	5	Schoenoplectus maritimu	ıs (
Typha latifolia	2		
Ending Station	282 Community	Гуре: Pascopyrum smithii / Bro	mus tectorum
Species	Cover class	Species	Cover clas
Bare Ground	1	Chenopodium album	
Elymus trachycaulus	1	Lactuca serriola	(
Lepidium perfoliatum	2	Open Water	2
Pascopyrum smithii	2	Poa pratensis	(
Rumex crispus	5	Schoenoplectus maritimu	ıs ´
Thlaspi arvense	1		

Majority of this transect was inundated during the 2024 monitoring event. Increase in Typha latifolia reflected in T-1 observations.

Transect Number	r: <u> </u> 2	Compas	Compass Direction from Start: 25			
Interval Data: Ending Station	7	Community Type:	Symphoricarpos albus / El	ymus repens		
Species		Cover class	Species	Cover class		
Bare Ground		1	Elymus repens	5		
Glycyrrhiza lepidota		2	Iva axillaris	2		
Pascopyrum smithii		0	Poa pratensis	2		
Rumex crispus		1	Symphoricarpos albus	0		
Ending Station 236		Community Type:	Aquatic Macrophytes / Ope	en Water		
Species		Cover class	Species	Cover class		
Open Water		5	Rumex crispus	1		
Schoenoplectus maritim	us	1	Typha angustifolia	0		
Ending Station 261		Community Type:	Pascopyrum smithii / Bromus tectorum			
Species		Cover class	Species	Cover class		
Bare Ground		1	Bromus arvensis	0		
Bromus tectorum		1	Chenopodium album	1		
Elymus lanceolatus		1	Elymus trachycaulus	1		
Lepidium perfoliatum		3	Nassella viridula	0		
Pascopyrum smithii		2	Poa pratensis	3		
Sisymbrium altissimum		0				
Transect Notes:						

Consistent inundation has led to open water (CT17) covering the majority of T-2.

## **PLANTED WOODY VEGETATION SURVIVAL**

Fors\	/th	NW	′ - W	/est

## Comments

No woody vegetation planted at site. Natural recruitment of cottonwoods and willows is occurring sparsely on the southern border of the site.

## **WILDLIFE**

Were man-made nesting structures installed? <u>No</u>				
If yes, type of structure:		_		
How many?				
Are the nesting structures being used?	No			
Do the nesting structures need repairs?	No			

**Nesting Structure Comments:** 

Species	#Observed	Behavior	Habitat
American Bittern	1	F	
American Coot	3	F	
Bald Eagle	1	FO	
Cliff Swallow	100+	FO	
Common Nighthawk	2	FO	
Common Yellowthroat	1	L	
Ferruginous Hawk	1	FO	
Greater Yellowlegs	14	F	
Green-winged Teal	5	F	
Mallard	16	F, L	OW, MA
Marbled Godwit	3	F	
Mourning Dove	2	L	
Red-winged Blackbird	15	FO, L	
Rock Wren	1	L	
Western Meadowlark	2	L	
Western Sandpiper	8	F	
Yellow-headed Blackbi	rd 2	L	

#### **Bird Comments**

In 2024, 17 bird species were observed. The following species listed above were observed by MDT during their October site visit:

American Bittern, Ferruginous Hawk, Greater Yellowlegs, Green-winged Teal, Marbled Godwit, Western Sandpiper, and twelve of the sixteen Mallards. The remaining species were observed by Confluence Consulting during the June site visit.

## BEHAVIOR CODES

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

### **HABITAT CODES**

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

WM = Wet meadow MA = Marsh US = Unconsolidated shore MF = Mud Flat OW = Open Water

# Mammals and Herptiles

Species	# Observed	Tracks	Scat	Burrows	Comments
Raccoon	2	Yes	No	No	Observed swimming
Turtle sp.	1	No	No	No	Observed swimming
Northern leopard frog	3	No	No	No	Observed on wetland edges
Prairie dog	1	No	No	No	Dead
Muskrat	1	No	No	No	Observed swimming
Mink	1	No	No	No	Seen hunting crayfish
Crayfish	-	No	No	No	Observed in open water pockets

# Wildlife Comments:

A diversity of wildlife and bird species utilize this site. Mink and crayfish species were observed by MDT during their October site visit.

## **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
DP01u	46.336531	-106.871973		
DP01w	46.336544	-106.871953		
DP02u	46.338868	-106.87628		
DP02w	46.338824	-106.876335		
DP03u	46.339839	-106.87639		
DP03w	46.339812	-106.876421		
PP-1	46.336914	-106.871132	270	Photo Point 1 (Pano):
PP-2	46.336468	-106.871811	350	Photo Point 2 (Pano):
PP-3	46.339088	-106.874611	230	Photo Point 3 (Pano):
PP-4	46.340237	-106.877312	210	Photo Point 4 (Pano):
PP-5	46.337817	-106.874587	45	Photo Point 5 (Pano):
PP-6	46.3368	-106.8714	300	Completed Dike:
PP-6a	46.3368	-106.8714	120	Completed Dike:
T-1 end	46.337456	-106.872063	205	Transect 1 end:
T-1 start	46.33691	-106.872772	25	Transect 1 start:
T-2 end	46.339561	-106.875854	205	Transect 2 end:
T-2 start	46.339001	-106.87645	25	Transect 2 start:

#### Comments:

# **ADDITIONAL ITEMS CHECKLIST**

	Hydrology
□ ✓ lines,	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 vegetation staining, erosion, etc).
	Photos
V V V V	One photo from the wetland toward each of the four cardinal directions 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
	Vegetation
✓ Ma	p vegetation community boundaries
<b>✓</b> Co	mplete Vegetation Transects
	Soils
<b>✓</b> As	sess soils
	Wetland Delineations
<b>✓</b> Suppl	Delineate wetlands according to applicable USACE protocol (1987 form or ement)
	Delineate wetland – upland boundary onto aerial photograph.
Wetla	nd Delineation Comments
Op	pen water has increased in 2024 due to consistent inundation.
	Functional Assessments
<b>⊻</b> forms	Complete and attach full MDT Montana Wetland Assessment Method field
Funct	ional Assessment Comments:
Ca	itegory II wetland.

#### **Maintenance**

Were man-made nesting structure installed at this site?

If yes, do they need to be repaired?

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?

If yes, are the structures in need of repair? No

If yes, describe the problems below.

The dike appears to be functioning well. The south half of the dike as well as the embankment in the SE portion of the site were exhibiting erosion, likely caused by wind-generated waves. It is suggested that this be further evaluated. There is no immediate threat, but it should be monitored as the fenceline is now very close to the eroding areas.

# MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Forsyth NW - Middle	Assessment Date/Time	6/10/2024
Person(s) conducting the assessment: R.	McEldowney, E. Reynaud	
Weather: Partly sunny, 75 degrees F	Location: ~9 miles NW of Forsyth	
MDT District: Glendive	Milepost: ~262 on US 12	
Legal Description: T <u>7N</u> R <u>39E</u> Section	n(s) 33	
Initial Evaluation Date: 8/15/2013 Mo	onitoring Year: <u>12</u> #Visits in Year: <u>1</u>	
Size of Evaluation Area: 1.8 (acres)		
Land use surrounding wetland: Rangeland adjacent to Highway 12.		
	HYDROLOGY	
Surface Water Source: Precipitation, runoff,	and overflow from ditch.	
Inundation: Average Depth: _	0.2 <b>(ft)</b> Range of Depths: <u>0-0.5</u>	(ft)
Percent of assessment area under inundation:	<u>40 %</u>	
Depth at emergent vegetation-open water bou	ndary:0 <b>(ft)</b>	
If assessment area is not inundated then are the	• -	ace: Yes
Other evidence of hydrology on the site (ex. –		
Geomorphic position, surface water, soil sawater-stained leaves.		
Groundwater Monitoring Wells		
Record depth of water surface below grou	ınd surface, in feet.	
Additional Activities Checklist:  Map emergent vegetation-open water boundary on a	aerial photograph.	
Observe extent of surface water during each site visi	it and look for evidence of past surface water	
elevations (drift lines, erosion, vegetation staining, etc.)		
Use GPS to survey groundwater monitoring well local	ations, if present.	
Hydrology Notes:		
The site was inundated more during the 202	24 monitoring visit than the previous yea	ar.

### **VEGETATION COMMUNITIES**

Site Forsyth NW - Middle

(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 # 5 Community Type: Hordeum jubatum / Eleocharis palustris Acres: 0.55

Species	Cover class	Species	Cover class
Bare Ground	2	Bromus arvensis	1
Chenopodium album	1	Cirsium arvense	2
Convolvulus arvensis	1	Deschampsia elongata	1
Eleocharis palustris	2	Elymus lanceolatus	1
Elymus repens	1	Elymus trachycaulus	2
Grindelia squarrosa	3	Hordeum jubatum	0
Juncus balticus	0	Lactuca serriola	3
Lepidium perfoliatum	0	Medicago sativa	0
Nassella viridula	1	Pascopyrum smithii	4
Poa compressa	2	Poa palustris	0
Poa pratensis	1	Populus deltoides	1
Puccinellia nuttalliana	1	Rumex crispus	0
Salix amygdaloides	1	Schedonorus pratensis	1
Schoenoplectus maritimus	1	Thlaspi arvense	0
Tragopogon dubius	1		

### Comments:

The wetland community acreage decreased 0.03-acre in 2024. However, the vegetation species within the community stayed the same as in 2023.

Species	Cover class	Species	Cover class	
Bare Ground	2	Bromus arvensis	2	
Bromus inermis	2	Bromus japonicus	0	
Bromus tectorum	0	Chenopodium album	1	
Cirsium arvense	2	Convolvulus arvensis	3	
Elymus canadensis	1	Elymus elymoides	1	
Elymus trachycaulus	1	Grindelia squarrosa	2	
Hordeum jubatum	0	lva axillaris	4	
Juncus balticus	0	Lactuca serriola	2	
Linum lewisii	1	Melilotus officinalis	0	
Pascopyrum smithii	4	Poa palustris	0	
Poa pratensis	4	Populus deltoides	1	
Ratibida columnifera	1	Rosa woodsii	2	
Rumex crispus	0	Sarcobatus vermiculatus	1	
Schedonorus pratensis	1	Symphoricarpos albus	2	
Taraxacum officinale	0	Thlaspi arvense	0	
Tragopogon dubius	1			

Community # 6 Community Type: Pascopyrum smithii / Convolvulus arvensis

Comments:

Upland community surrounding wetland swale. Poa pratensis and Iva axillaris cover increased while all other species stayed the same.

**Total Vegetation Community Acreage** 

1.8

Acres:

# **VEGETATION TRANSECTS**

Forsyth NW - Middle	Da	ate:6/10/2024	
Transect Number:	1 Compas	ss Direction from S	tart: <u>205</u>
Interval Data:			
Ending Station	13 Community Type:	Pascopyrum smithii / Con	volvulus arvensis
Species	Cover class	Species	Cover clas
Bare Ground	2	Bromus tectorum	
Chenopodium album	2	Elymus canadensis	
Iva axillaris	1	Juncus balticus	
Panicum virgatum	3	Pascopyrum smithii	•
Schedonorus pratensis	0	Taraxacum officinale	
Thlaspi arvense	1		
Ending Station	31 Community Type:	Hordeum jubatum / Eleocl	naris palustris
Species	Cover class	Species	Cover clas
Bare Ground	2	Eleocharis palustris	
Juncus balticus	2	Pascopyrum smithii	:
Ending Station	50 Community Type:	Pascopyrum smithii / Con	volvulus arvensis
Species	Cover class	Species	Cover clas
Bare Ground	3	Bromus inermis	(
Eleocharis palustris	0	Pascopyrum smithii	;
Poa pratensis	5	Populus deltoides	
Symphoricarpos albus	2		

Transect Notes:

Inundation in 2024 has led to a decrease in species diversity and movement towards a monoculture of Eleocharis palustris in the wetland community.

# **PLANTED WOODY VEGETATION SURVIVAL**

Forsy	/th	NW	- N	/lidd	le

# Comments

No planted woody vegetation. Young volunteer cottonwoods and willows are becoming more common around edge of wetland.

# Forsyth NW - Middle

**Birds** 

### **WILDLIFE**

Were man-made nest	ting structures	installed? _	No		
If yes, type of structur	e:				
How many?					
Are the nesting struct	ures being use	ed?	No		
Do the nesting structu	ires need repa	nirs?	No		
Nesting Structur	re Comments	:			
Species	#Observed	Behavior		Habitat	
Red-winged Blackbird	2	L			
Western Meadowlark	1	L			

**BEHAVIOR CODES** 

**Bird Comments** 

Three bird species were observed in 2024.

Yellow Warbler

**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

WM = Wet meadow MA = Marsh US = Unconsolidated shore MF = Mud Flat OW = Open Water

F

# **Mammals and Herptiles**

Species # Observed Tracks Scat Burrows Comments

Tadpoles 5 No No No Observed in inundated portion of site

Wildlife Comments:

Frog tadpoles were the only wildlife observed during the 2024 monitoring visit.

### **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	
DP01u	46.323377	-106.843567			
DP01w	46.323405	-106.84354			
DP02u	46.322501	-106.841502			
DP02w	46.322486	-106.841524			
PP-1	46.322174	-106.840996	300	Photo Point 1:	
PP-2	46.323803	-106.844337	120	Photo Point 2:	
T-1 end	46.322754	-106.842438	25	Transect 1 end:	
T-1 start	46.322948	-106.842323	205	Transect 1 start:	

### **Comments:**

# **ADDITIONAL ITEMS CHECKLIST**

Hydrology	
<ul> <li>✓ Map emergent vegetation/open water boundary on aerial photos.</li> <li>✓ Observe extent of surface water. Look for evidence of past surface water elevations (e.g. drift lines, vegetation staining, erosion, etc).</li> </ul>	
Photos	
<ul> <li>✓ One photo from the wetland toward each of the four cardinal directions</li> <li>✓ One photo showing upland use surrounding the wetland.</li> <li>✓ One photo showing the buffer around the wetland</li> </ul>	
One photo from each end of each vegetation transect, toward the transect	
Vegetation	
☑ Map vegetation community boundaries	
☑ Complete Vegetation Transects	
Soils	
✓ Assess soils	
— A33033 30113	
Wetland Delineations	
☑ Delineate wetlands according to applicable USACE protocol (1987 form or Supplement)	
Delineate wetland – upland boundary onto aerial photograph.	
Wetland Delineation Comments	
0.55 acres of wetlands delineated in 2024.	
Functional Assessments	
☑ Complete and attach full MDT Montana Wetland Assessment Method field forms.	
Functional Assessment Comments:	
Category 3 wetland	

# Maintenance

Were man-made nesting structure installed at this site?

If yes, do they need to be repaired?
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.
N/A.

# MDT WETLAND MITIGATION SITE MONITORING FORM

Project Site: Forsyth NW - EastAssessment	Date/Time	6/10/2024
Person(s) conducting the assessment: R. McEldowney, E. Re	eynaud	
Weather: Partly sunny, 75 degrees F Location: ~8 miles	es NW of Forsyth	
MDT District: Glendive Milepost: ~262.3 o	on US 12	<u>-</u>
Legal Description: T <u>7N</u> R <u>39E</u> Section(s) 34		
Initial Evaluation Date: 8/15/2013 Monitoring Year:12 #Vis	sits in Year: <u>1</u>	
Size of Evaluation Area: 2.74 (acres)		
Land use surrounding wetland:		
Agriculture and US Highway 12.		
HYDROLOGY		
Surface Water Source: Precipitation, runoff, flooding from Big P	orcupine Creek	
Inundation: Average Depth:0.16 (ft) Rang	ge of Depths: 0-0.3	ft)
Percent of assessment area under inundation: 80 %		
Depth at emergent vegetation-open water boundary:0 (ft	t)	
If assessment area is not inundated then are the soils saturated with	<del>_</del>	Yes
Other evidence of hydrology on the site (ex. – drift lines, erosion, sta Surface water, saturated to surface, geomorphic position, high		sulfide
odor.	water table, and flydrogen	Juliuc
Crowndy rates Manitarina Walla		<u> </u>
Groundwater Monitoring Wells		
Record depth of water surface below ground surface, in feet.		
Additional Activities Cheeklist		
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 p	past surface water	
elevations (drift lines, erosion, vegetation staining, etc.)	•	
Use GPS to survey groundwater monitoring well locations, if present.		
łydrology Notes:		
Site was slightly invadated during 2004 positiving visit. The CE	new of the cite was day a	a d ara t
Site was slightly inundated during 2024 monitoring visit. The SE ncreasingly wetter moving to the NW part of the site.	: part or the site was dry ar	iu got
5,		

### **VEGETATION COMMUNITIES**

Site Forsyth NW - East

(Cover Class Codes 0 = < 1%, 1 = 1.5%, 2 = 6.10%, 3 = 11.20%, 4 = 21.50%, 5 = >50%)

Community # 3 Community Type: Pascopyrum smithii / Elymus spp. Acres: 1.94

Species	Cover class	Species	Cover class
Alopecurus arundinaceus	1	Ambrosia psilostachya	0
Bare Ground	1	Bassia scoparia	0
Bromus arvensis	0	Bromus japonicus	3
Bromus tectorum	0	Chenopodium album	1
Convolvulus arvensis	2	Elymus canadensis	0
Elymus repens	1	Elymus trachycaulus	1
Hordeum jubatum	1	Lactuca serriola	2
Lepidium perfoliatum	2	Medicago sativa	0
Melilotus officinalis	0	Opuntia sp	0
Pascopyrum smithii	5	Poa compressa	1
Poa pratensis	3	Populus angustifolia	0
Populus tremuloides	0	Ratibida columnifera	0
Rumex crispus	1	Schedonorus pratensis	1
Sisymbrium altissimum	0	Thlaspi arvense	2
Tragopogon dubius	1		

### **Comments:**

Pascopyrum smithii cover has increased in 2024 while Elymus spp. cover has decreased.

Community # 6 Community Type: Eleocharis palustris / Alopecurus spp. Acres: 0.82

Species	Cover class	Species	Cover class	
Alopecurus arundinaceus	1	Alopecurus pratensis	1	
Bare Ground	0	Convolvulus arvensis	0	
Eleocharis palustris	5	Elymus repens	0	
Lactuca serriola	1	Lepidium perfoliatum	1	
Open Water	1	Pascopyrum smithii	2	
Poa compressa	1	Poa pratensis	0	
Populus deltoides	1	Rumex crispus	0	
Salix amygdaloides	1	Schoenoplectus maritimus	0	
Thlaspi arvense	2			

### **Comments:**

Eleocharis palustris has increased in cover due to increased wetness across site. Hordeum jubatum and Alopecurus spp. have decreased in response. To better reflect the species composition, Vegetation Community 5 (Hordeum jubatum/Alopecurus spp.) has been changed to Vegetation Community 6 (Eleocharis palustris/Alopecurus spp.).

# **VEGETATION TRANSECTS**

Transect Number:	Compas	ss Direction from St	art: <u>145</u>
Interval Data:	25.0 ". T	D	
Ending Station	35 Community Type:	Pascopyrum smithii / Elymu	ıs sp.
Species	Cover class	Species	Cover class
Bare Ground	3	Bromus japonicus	0
Lactuca serriola	1	Lepidium perfoliatum	1
Medicago sativa	0	Panicum virgatum	0
Pascopyrum smithii	5	Rumex crispus	0
Thlaspi arvense	2		
Ending Station	93 Community Type:	Eleocharis palustris / Alope	curus spp.
Species	Cover class	Species	Cover class
Alopecurus arundinaceus	0	Alopecurus pratensis	1
Eleocharis palustris	5	Open Water	1
Pascopyrum smithii	0		
Ending Station	125 Community Type:	Pascopyrum smithii / Elymu	ıs sp.
Species	Cover class	Species	Cover class
Alopecurus arundinaceus	0	Bare Ground	1
Bromus japonicus	3	Chenopodium album	0
Convolvulus arvensis	4	Elymus repens	1
Elymus trachycaulus	0	Lactuca serriola	0
Lepidium perfoliatum	1	Medicago sativa	0
Pascopyrum smithii	4	Poa compressa	2
Poa pratensis	4	Sisymbrium altissimum	0
Thlaspi arvense	2		

Decreased cover of Alopecurus arundinaceus and Open Water since 2023. Increased cover of Eleocharis palustris, Pascopyrum smithii, and Poa pratensis in 2024.

280 **Compass Direction from Start:** Transect Number: **Interval Data:** 38 Community Type: **Ending Station** Pascopyrum smithii / Elymus spp **Species Cover class Cover class** Species Bare Ground 3 Bromus japonicus 0 Convolvulus arvensis 0 Lactuca serriola 2 0 5 Lepidium perfoliatum Pascopyrum smithii Poa compressa 0 Populus angustifolia 0 Populus deltoides 0 Thlaspi arvense 0 Tragopogon dubius 0 **Ending Station** 127 Community Type: Eleocharis palustris / Alopecurus spp. **Species** Cover class **Species** Cover class Eleocharis palustris 5 Pascopyrum smithii 2 Rumex crispus 0 Salix fragilis 1 Schoenoplectus maritimus 0 181 Community Type: **Ending Station** Pascopyrum smithii / Elymus spp. **Species Cover class Species Cover class** 0 0 Bare Ground Bromus japonicus Chenopodium album 0 Lactuca serriola 1 Medicago sativa 0 Pascopyrum smithii 5 Poa compressa 2 Rumex crispus 1 Thlaspi arvense **Transect Notes:** Increased water in 2023 led to domination of Eleocharis palustris.

# PLANTED WOODY VEGETATION SURVIVAL

Forsyth NW - East

# Comments

No planted woody vegetation.

# Forsyth NW - East

### **WILDLIFE**

Birds	֡
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Were man-made nesting structures installed?	? <u>No</u>
If yes, type of structure:	
How many?	
Are the nesting structures being used?	No
Do the nesting structures need repairs?	No
Nesting Structure Comments:	

Species	#Observed	Behavior	Habitat
Common Nighthawk	1	FO	
Golden Eagle	1	FO	
Killdeer	1	L	
Lark Sparrow	1	L	
Mourning Dove	1	L	
Red-winged Blackbird	5	FO	
Rock Wren	2	FO	
Western Kingbird	1	FO, L	
Western Meadowlark	2	FO	
Yellow Warbler	2	FO	
Bird Comments			

During the 2024 monitoring visit, ten bird species were observed. A large raptor nest was also observed near the site in 2024, likely belonging to the Golden Eagle that was spotted during monitoring.

### **BEHAVIOR CODES**

BP = One of a breeding pair BD = Breeding display F = Foraging FO = Flyover L = Loafing N = Nesting

### **HABITAT CODES**

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

WM = Wet meadow MA = Marsh US = Unconsolidated shore MF = Mud Flat OW = Open Water

# **Mammals and Herptiles**

# Wildlife Comments:

No wildlife noted during the 2024 field survey.

### **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:**

<b>✓</b>	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
DP01u	46.321041	-106.838693		
DP01w	46.321002	-106.83866		
DP02u	46.319737	-106.83774		
DP02w	46.319706	-106.837783		
DP03u	46.319041	-106.835472		
DP03w	46.31902	-106.835454		
PP-1	46.321003	-106.838814	125	Photo Point 1
PP-2	46.320068	-106.837128	210	Photo Point 2
PP-3	46.318233	-106.834335	305	Photo Point 3
T-1 end	46.320297	-106.838493	325	Transect 1 end
T-1 start	46.321045	-106.838486	145	Transect 1 start
T-2 end	46.318417	-106.834923	100	Transect 2 end
T-2 start	46.318336	-106.834175	280	Transect 2 start

#### Comments:

# **ADDITIONAL ITEMS CHECKLIST**

	Hydrology
☐ ✓ lines,	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 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 the buffer around the wetland One photo from each end of each vegetation transect, toward the transect
	Vegetation
<b>☑</b> Ma	p vegetation community boundaries
✓ Cor	mplete Vegetation Transects
	Soils
✓ Ass	sess soils
	Wetland Delineations
<b>✓</b> Supple	Delineate wetlands according to applicable USACE protocol (1987 form or ement)
	Delineate wetland – upland boundary onto aerial photograph.
Wetlar	nd Delineation Comments
	Functional Assessments
<b>✓</b> forms.	Complete and attach full MDT Montana Wetland Assessment Method field
Functi	onal Assessment Comments:
Cat	tegory 3 wetland.

# Maintenance

Were man-made nesting structure installed at this site?

If yes, do they need to be repaired?							
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.							
N/A							

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West		City/Cou	unty: F	Rosebuc	d County	Sampling Date: 2024-06-11
Applicant/Owner: MDT	State: Montana Sampling Point: DP01u					
Investigator(s): R McEldowney					nge: S29 T7N R39E	
Landform (hillslope, terrace, etc.): Side Slope						Slope (%): 100
· · · · · · · · · · · · · · · · · · ·			•		,	Datum: NAD 83
Soil Map Unit Name: 138 - Marvan silty clay, warm, (						
Are climatic / hydrologic conditions on the site typical for this						·
Are Vegetation, Soil, or Hydrologys	-					present? Yes No
Are Vegetation, Soil, or Hydrologyn					eded, explain any answe	
SUMMARY OF FINDINGS – Attach site map	showing	samp	oling	point lo	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes N Hydric Soil Present? Yes N Wetland Hydrology Present? Yes N Remarks:	o			Sampled a Wetlan		No
Upland sample point in the SE corne	r of the	wes	t mi	tigatio	on site.	
VEGETATION – Use scientific names of plan	ts					
	Absolute	Domir	nant Ir	ndicator	Dominance Test work	
1					Number of Dominant S That Are OBL, FACW, (excluding FAC-):	
2					,	
4					Total Number of Domir Species Across All Stra	_
Sapling/Shrub Stratum (Plot size: 15 ft r				•	Percent of Dominant S That Are OBL, FACW,	pecies or FAC: <u>0.00</u> (A/B)
1 2					Prevalence Index wor	ksheet:
3.					•	Multiply by:
4.						x 1 = 0
5.						x 2 = 0
- 0		= Total	Cover			x 3 = 6
Herb Stratum (Plot size: 5 ft r )	40	~		JPL	FACU species 0 UPL species 75	x 4 = 0
1. Agropyron cristata 2. Bromus tectorum	20			JPL	Column Totals: 77	
3. Euphoria esula	15			JPL	Column Totals. 77	(A) <u></u> (B)
4 Lactuca serriola	2			AC	Prevalence Index	= B/A = <u>4.94</u>
5				_	Hydrophytic Vegetation	on Indicators:
6.					· ·	Hydrophytic Vegetation
7.					2 - Dominance Tes	
8					3 - Prevalence Inde	
9					4 - Morphological A	Adaptations <sup>1</sup> (Provide supporting s or on a separate sheet)
10						phytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30 ft r )		= Total			-	il and wetland hydrology must
1			Cover	<u> </u>	Hydrophytic Vegetation Present? Ye	s No
Remarks:  Upland sample point dominated by o						

SOIL Sampling Point: DP01u

Profile Desc	ription: (Describe	to the depth r			ator or confirm	n the absence	of indicators.)
Depth	Matrix	<u></u> %		x Features	pe <sup>1</sup> Loc <sup>2</sup>	Ta	Demonto
(inches) 0 - 14	Color (moist)	100	Color (moist)	<u>%</u> <u>Typ</u>	<u>loc</u>	Texture  Loamy Sand	Remarks
	10YR 2/2			· <del></del>		Loanly Sand	Graveny
-							
	-						
				·			
<del></del>		- <del> </del>		·			
	oncentration, D=Dep				oated Sand G		cation: PL=Pore Lining, M=Matrix.
-	Indicators: (Applic	able to all LRI			2.4		for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1) pipedon (A2)			Gleyed Matrix (S Redox (S5)	54)		Nuck (A9) ( <b>LRR I, J</b> ) Prairie Redox (A16) ( <b>LRR F, G, H</b> )
Black Hi			-	Matrix (S6)			surface (S7) (LRR G)
	n Sulfide (A4)			Mucky Mineral (	(F1)		lains Depressions (F16)
	Layers (A5) (LRR	F)	Loamy (	Gleyed Matrix (I	F2)	_	R H outside of MLRA 72 & 73)
	ck (A9) ( <b>LRR F, G,</b>	•		d Matrix (F3)		_	ed Vertic (F18)
	Below Dark Surfac	e (A11)	· · · · · · · · · · · · · · · · · · ·	Dark Surface (F	•		arent Material (TF2)
	ark Surface (A12)			d Dark Surface			hallow Dark Surface (TF12)
-	lucky Mineral (S1) /lucky Peat or Peat (	(S2) (I RR G H		Depressions (F8 ains Depressior			(Explain in Remarks) of hydrophytic vegetation and
	cky Peat or Peat (S			RA 72 & 73 of			d hydrology must be present,
_	`	, ,	`		,		disturbed or problematic.
Restrictive L	ayer (if present):						
Type:			_				
Depth (inc	ches):		<u> </u>			Hydric Soil	Present? Yes No
Remarks:						1	
No hydri	ic soil indica	tore obsa	rved				
NO Hyun		tors obse	i ved.				
	CV						
HYDROLO							
_	drology Indicators:						
	cators (minimum of o	one required; ch					ary Indicators (minimum of two required)
	Water (A1)		Salt Crust				ace Soil Cracks (B6)
	iter Table (A2)			vertebrates (B1	•		rsely Vegetated Concave Surface (B8)
Saturatio				Sulfide Odor (C			nage Patterns (B10)
	arks (B1)			n Water Table		·	dized Rhizospheres on Living Roots (C3)
	nt Deposits (B2) posits (B3)			Rhizospheres or not tilled)	i Living Roots		rhere tilled)
	it or Crust (B4)		,	of Reduced Iror	2 (C4)		rish Burrows (C8)  ration Visible on Aerial Imagery (C9)
	osits (B5)		<del></del>	Surface (C7)	1 (04)		morphic Position (D2)
	on Vis ble on Aerial	Imagery (R7)		olain in Remark	s)		:-Neutral Test (D5)
	tained Leaves (B9)	inagery (Dr)	Outer (Exp	nam m remand	3)		st-Heave Hummocks (D7) (LRR F)
Field Observ	. ,						erroare raminesia (27) (Entr)
Surface Water		es No	Depth (inc	ches).			
Water Table			Depth (inc				
Saturation Pr			Depth (inc			land Hydrolog	y Present? Yes No
(includes cap	oillary fringe)						,
Describe Red	corded Data (stream	n gauge, monito	oring well, aerial p	photos, previou	s inspections),	, if available:	
Remarks:							
No evide	ence of wetla	and hydro	ology obse	rved.			
			,				

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West	(	City/County	Rosebuc	d County	Sampling Date: 2024-06-11
-		-		State: Montana Sampling Point: DP01v	
				nge: S29 T7N R39E	. •
•					e Slope (%): 0
Subregion (LRR): G 60B					
Soil Map Unit Name: 138 - Marvan silty clay, warm, C					
Are climatic / hydrologic conditions on the site typical for this					·
Are Vegetation, Soil, or Hydrology si	-				oresent? Yes No
Are Vegetation, Soil, or Hydrologyn			(If ne	eeded, explain any answei	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samplin	g point le	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:  Yes   No  No  No  No  No  No  No  No  No  N	o		e Sampled in a Wetlar		No
Wetland sample point in the wetland	fringe	in SE c	orner o	f west site. PEN	/I, depressional.
<b>VEGETATION</b> – Use scientific names of plant	ts.				
Tree Stratum (Plot size: 30 ft r	Absolute % Cover	Dominant		Dominance Test work	
1				Number of Dominant Sp That Are OBL, FACW, of	
2.				(excluding FAC-):	<u>1</u> (A)
3				Total Number of Domina	
4				Species Across All Stra	ta: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: 15 ft r )		= Total Cov		Percent of Dominant Sp That Are OBL, FACW, o	
1				Prevalence Index worl	ksheet:
3.				Total % Cover of:	Multiply by:
4.					x 1 = <u>20</u>
5.					x = 0
- 6		= Total Cov	ver		x 3 = 3
Herb Stratum (Plot size: 5 ft r )	20		OBL		x 4 = 0
1. Schoenoplectus maritimus 2 Rumex mexicanus	20		FAC	UPL species 0 Column Totals: 21	
<sup></sup>	· <del></del>			Column rotals. 21	(A) <u>23</u> (B)
3				Prevalence Index	= B/A = 1.09
5.				Hydrophytic Vegetation	on Indicators:
6.				✓ 1 - Rapid Test for F	
7.				✓ 2 - Dominance Tes	
8				✓ 3 - Prevalence Inde	
9					Adaptations <sup>1</sup> (Provide supporting s or on a separate sheet)
10					phytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30 ft r		= Total Cov			I and wetland hydrology must
1		= Total Cov	 ver	Hydrophytic Vegetation Present? Yes	s No
Remarks:				•	
PEM. Sample point is dominated by alkali bulrush. Othe hydrophytic vegetation includes a positive rapid test, a					

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SOIL Sampling Point: DP01w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth Matrix Redox Features											
(inches)	Color (moist)	%C	color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>		Remarks		
0 - 12	N 4/0	100					Loamy Sand	Gravelly			
-											
_											
-											
	-										
-											
_				_							
1T C-C			ad Matrix Of			4 04 0	21 2		ana Limina, NA-NAstriu		
	oncentration, D=Deplicators: (Applicators)					a Sana G			ore Lining, M=Matrix.  atic Hydric Soils³:		
Histosol		able to all Liviv	s, unless office  ✓ Sandy (						•		
l —	pipedon (A2)			Redox (S5	. ,			/luck (A9) ( <b>LR</b> Prairie Redox	( (A16) ( <b>LRR F, G, H</b> )		
	istic (A3)		-	d Matrix (S				Surface (S7)			
l —	en Sulfide (A4)			Mucky Mir				Plains Depress			
	d Layers (A5) (LRR	F)		Gleyed Ma			_		of MLRA 72 & 73)		
1 cm Mu	uck (A9) ( <b>LRR F, G,</b>	H)	Deplete	d Matrix (I	F3)		Reduc	ed Vertic (F1	8)		
-	d Below Dark Surfac	ce (A11)		Dark Surfa	` '			arent Materia			
l —	ark Surface (A12)			d Dark Su			-		Surface (TF12)		
-	Mucky Mineral (S1)	(CO) (LDD C LI)		Depression		40)		(Explain in Re	•		
	Mucky Peat or Peat ucky Peat or Peat (S		_	ains Depre .RA 72 & 7	•	,			c vegetation and nust be present,		
3 CITI WIC	icky real of real (S	(LKK F)	(IVIL	.NA 12 0. 1	3 OI LKK	. П <i>)</i>		disturbed or			
Restrictive	Layer (if present):						dilicoo	- diotarbed or	problematic.		
Type:											
, , <u> </u>	ches):						Hydric Soil	Present?	Yes No		
Remarks:							1.,,				
Gleyed	sand matrix.										
<b>HYDROLO</b>	GY										
Wetland Hy	drology Indicators										
1	cators (minimum of		eck all that appl	v)			Seconda	arv Indicators	(minimum of two required)		
✓ Surface	-		Salt Crust					face Soil Crac	<u> </u>		
	ater Table (A2)		Aquatic In		s (B13)				ed Concave Surface (B8)		
✓ Saturation			Hydrogen		, ,			inage Pattern			
	larks (B1)		Dry-Seaso		, ,			-	oheres on Living Roots (C3)		
	nt Deposits (B2)		Oxidized F					here tilled)	<b>3</b> ( )		
✓ Drift Dep				not tilled)		· ·		yfish Burrows	(C8)		
	at or Crust (B4)		Presence			<b>!</b> )			e on Aerial Imagery (C9)		
Iron Dep			Thin Muck	Surface (	C7)		<u>✓</u> Geo	morphic Posi	tion (D2)		
Inundati	on Vis ble on Aerial	Imagery (B7)	Other (Ex	olain in Re	marks)		FAC	C-Neutral Tes	t (D5)		
Water-S	Stained Leaves (B9)						Fros	st-Heave Hun	nmocks (D7) (LRR F)		
Field Obser	vations:										
Surface Wat	er Present?	∕es <u> </u>	Depth (in	ches): 24							
Water Table Present? Yes No Depth (inches):											
								y Present?	Yes No		
(includes capillary fringe)											
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Remarks:											
Site is inu	Site is inundated with steep banks. Evidence of wetland hydrology includes soil saturation, surface water, drift										
	algal mat or cr	•			-			-			
3000000	gaac or or	, 90011101	o poordo	,	. 600,414	3.713					

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West	(	City/Cour	nty: Rosebuc	d County	Sampling Date: 2024-06-11				
		-	-		Sampling Point: DP02u				
				nge: S29 T7N R39E	. •				
Landform (hillslope, terrace, etc.): Alluvial Flat		Local reli	ief (concave, o	convex, none): Linear	Slope (%): 0				
Subregion (LRR): G 60B	3	Long: -106.87628	Datum: NAD 83						
Soil Map Unit Name: 138 - Marvan silty clay, warm, (									
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ar? Yes_	✓ No_	(If no, explain in R	emarks.)				
Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 🚩 No									
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)									
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  No  Is the Sampled Area within a Wetland?  Yes No  Wetland?  Yes No									
Upland sample point in center of site	e, south	side.							
VEGETATION – Use scientific names of plan	ts.								
Tree Stratum (Plot size: 30 ft r			nt Indicator ? Status	Dominance Test work					
1				Number of Dominant Sp That Are OBL, FACW, of	or FAC				
2.				(excluding FAC-):	<u>0</u> (A)				
3				Total Number of Domin					
4				Species Across All Stra	ta: <u>2</u> (B)				
Sapling/Shrub Stratum (Plot size: 15 ft r )				Percent of Dominant Sp That Are OBL, FACW, of					
2				Prevalence Index wor	ksheet:				
3.					Multiply by:				
4					x 1 = 0				
5					x 2 = 0				
List of the State		= Total C	Cover		x 3 = 45 x 4 = 140				
Herb Stratum (Plot size: 5 ft r  1 Bromus inermis	35	~	UPL	UPL species 35					
2 Pascopyrum smithii	35		FACU	Column Totals: 85					
3. Iva axillaris	10		FAC						
4. Lepidium perfoliatum	5		FAC	Prevalence Index					
5				Hydrophytic Vegetatio					
6				1 - Rapid Test for F 2 - Dominance Tes					
7				3 - Prevalence Inde					
8					Adaptations <sup>1</sup> (Provide supporting				
9				data in Remarks	s or on a separate sheet)				
10	^-			Problematic Hydrop	phytic Vegetation <sup>1</sup> (Explain)				
Woody Vine Stratum (Plot size: 30 ft r )  1		= Total C		<sup>1</sup> Indicators of hydric soi be present, unless distu	l and wetland hydrology must urbed or problematic.				
2				Hydrophytic Vegetation Present? Yes	s No				
Remarks:				l .					
Upland point dominated by FACU an	d UPL v	/egeta	ation.						

SOIL Sampling Point: DP02u

	•	to the dep				or confir	m the absence of indicators.)				
Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Feature %	es Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks				
0 - 8	2.5Y 4/3	100	10YR 4/6	1	С		Silty Clay				
8 - 16	2.5Y 3/1	100					Silty Clay				
			-	_							
		<del>-</del>			<del></del>						
				_			·				
							· <del></del>				
				_							
-											
	oncentration, D=Dep					ed Sand G					
-	Indicators: (Applic	able to all					Indicators for Problematic Hydric Soils <sup>3</sup> :				
Histosol	pipedon (A2)		Sandy Sandy	Redox (S			1 cm Muck (A9) (LRR I, J) Coast Prairie Redox (A16) (LRR F, G, I	<b>H</b> )			
	istic (A3)			ed Matrix (			Dark Surface (S7) (LRR G)	-,			
	en Sulfide (A4)		Loamy	Mucky Mi	neral (F1)		High Plains Depressions (F16)				
	d Layers (A5) (LRR	•		Gleyed M			(LRR H outside of MLRA 72 & 73)				
	uck (A9) ( <b>LRR F, G,</b> d Below Dark Surfac			ed Matrix ( Dark Surf	. ,		Reduced Vertic (F18) Red Parent Material (TF2)				
	ark Surface (A12)	) <b>(</b> ( ) ( ) ( )	<del></del>		urface (F7	)	Very Shallow Dark Surface (TF12)				
-	Mucky Mineral (S1)		· · · · · · · · · · · · · · · · · · ·	Depression	. ,		Other (Explain in Remarks)				
	Mucky Peat or Peat				essions (F		<sup>3</sup> Indicators of hydrophytic vegetation and				
5 CM IVIL	ucky Peat or Peat (S	3) ( <b>LRR F</b> )	(IVI	LKA /2 &	73 of LRR	( <b>H</b> )	wetland hydrology must be present, unless disturbed or problematic.				
Restrictive	Layer (if present):										
Type:											
Depth (in	ches):						Hydric Soil Present? Yes No _	<u> </u>			
Remarks:							•				
No hydr	ic soil indica	tors ob	served.								
,											
HYDROLO	GY										
Wetland Hy	drology Indicators:	:									
	cators (minimum of o	one require		•			Secondary Indicators (minimum of two re	quired)			
	Water (A1)		Salt Crus				Surface Soil Cracks (B6)				
_	ater Table (A2)		Aquatic I				Sparsely Vegetated Concave Surface (B8)				
Saturation Water M			Hydroger Dry-Seas				<ul><li> Drainage Patterns (B10)</li><li> Oxidized Rhizospheres on Living Room</li></ul>	ote (C3)			
	nt Deposits (B2)		Oxidized					ots (CS)			
Drift Dep			<del></del>	not tilled			Crayfish Burrows (C8)				
Algal Ma	at or Crust (B4)		Presence	of Reduc	ed Iron (C	4)	Saturation Visible on Aerial Imagery	(C9)			
Iron Dep	oosits (B5)		Thin Muc	k Surface	(C7)		Geomorphic Position (D2)				
	on Vis ble on Aerial	Imagery (B	7) Other (Ex	cplain in R	emarks)		FAC-Neutral Test (D5)				
	tained Leaves (B9)						Frost-Heave Hummocks (D7) (LRR	<b>F</b> )			
Field Obser		<b>.</b>	N= <b>/</b> D==45 (5								
Surface Wat			No Depth (i								
Water Table			tland Hydrology Present? Yes No _	~							
Saturation P (includes car	oillary fringe)		No Depth (i								
Describe Re	corded Data (stream	n gauge, mo	onitoring well, aeria	photos, p	revious ins	pections)	, if available:				
Remarks:											
				_							
No evide	No evidence of wetland hydrology observed.										

### WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West		City/Co	ounty: F	Rosebu	d County Sampling Date: 2024-06-11
Applicant/Owner: MDT		-	-		State: Montana Sampling Point: DP02w
Investigator(s): R McEldowney		Section	n, Town	ship, Ra	nge: S29 T7N R39E
Landform (hillslope, terrace, etc.): Depression		Local	relief (co	oncave,	convex, none): Concave Slope (%): 2
Subregion (LRR): G 60B	_ Lat: 46.	.3388	24		Long: -106.876335 Datum: NAD 83
Soil Map Unit Name: <u>138 - Marvan silty clay, warm, (</u>	to 2 per	cent s	slopes		NWI classification: PABFx
Are climatic / hydrologic conditions on the site typical for this	s time of year	ar? Ye	es 🗸	No	(If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologys	ignificantly	disturb	ed?	Are '	'Normal Circumstances" present? Yes No
Are Vegetation, Soil, or Hydrology n	aturally pro	blemat	tic?	(If ne	eeded, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samı	pling	point l	ocations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes <u>✓</u> N	0				
Hydric Soil Present? Yes N	o			Sampled a Wetlar	
Wetland Hydrology Present? Yes N	0		within	a wellal	id! TesNO
Remarks:  Wetland sample point on south side,	in the	cent	tral p	ortior	n of the site.
VEGETATION – Use scientific names of plan					
Tree Stratum (Plot size: 30 ft r	Absolute % Cover				Dominance Test worksheet:
1					Number of Dominant Species That Are OBL, FACW, or FAC
2					(excluding FAC-): 1 (A)
3					Total Number of Dominant
4					Species Across All Strata: 1 (B)
Sapling/Shrub Stratum (Plot size: 15 ft r )		= Tota	al Cover		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
2.					Prevalence Index worksheet:
3.					Total % Cover of: Multiply by:
4.					OBL species $0 \times 1 = 0$
5					FACW species 60 x 2 = 120
F ## "		= Tota	al Cover		FAC species $\frac{10}{5}$ $x = 30$
Herb Stratum (Plot size: 5 ft r )	60	,	,	ACW	FACU species 5 x 4 = 20
Alopecurus arundinaceus     Rumex crispus	10			AC AC	UPL species $0$ $x = 0$ Column Totals: $75$ (A) $170$ (B)
3. Elymus repens	5	-		ACU	Column Totals. 75 (A) 175 (B)
4	- ——	-			Prevalence Index = B/A = 2.26
5.					Hydrophytic Vegetation Indicators:
6.					✓ 1 - Rapid Test for Hydrophytic Vegetation
7.					✓ 2 - Dominance Test is >50%
8					✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
9					4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
10					Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30 ft r	75	= Tota	al Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1					
2			al Cover		Hydrophytic Vegetation Present?  Yes No
% Bare Ground in Herb Stratum 25  Remarks:					
Stand of creening meadow fortail F	vidence	a of I	hydr	anhyt	ic vegetation includes a nocitive

Stand of creeping meadow foxtail. Evidence of hydrophytic vegetation includes a positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL Sampling Point: DP02w

Profile Desc	ription: (Describe	to the dep	oth needed to docur	ment the	indicator	or confirm	m the absence of in	ndicators.)		
Depth	Matrix			x Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0 - 14	2.5Y 4/1	60	10YR 4/6	30	С	М	Silty Clay			
0 - 14			N 3/0	10	D	М	Silty Clay			
-										
-				_	_					
				_	_					
				_	-		·			
			-	-						
			-	_	-					
							·			
			=Reduced Matrix, CS			ed Sand G		n: PL=Pore Lining, M=Matrix.		
-		able to all	LRRs, unless othe					Problematic Hydric Soils <sup>3</sup> :		
Histosol	` '		Sandy (	-				(A9) (LRR I, J)		
	oipedon (A2)		Sandy I					rie Redox (A16) (LRR F, G, H)		
Black Hi	n Sulfide (A4)			d Matrix ( Mucky Mi	ineral (F1)			ce (S7) ( <b>LRR G</b> ) s Depressions (F16)		
	l Layers (A5) ( <b>LRR</b> l	F)			latrix (F2)		-	outside of MLRA 72 & 73)		
	ck (A9) ( <b>LRR F, G</b> ,			d Matrix			Reduced V	,		
	d Below Dark Surfac			Dark Surf	. ,			t Material (TF2)		
Thick Da	ark Surface (A12)		Deplete	d Dark S	urface (F7	)		ow Dark Surface (TF12)		
	lucky Mineral (S1)			Depression	. ,			lain in Remarks)		
	flucky Peat or Peat (				essions (F			ydrophytic vegetation and		
5 cm Mu	cky Peat or Peat (S	3) ( <b>LRR F</b> )	(ML	.RA 72 &	73 of LRF	R H)	-	drology must be present, urbed or problematic.		
Restrictive I	_ayer (if present):						unless dist	urbed or problematic.		
_	Luyer (ii present).									
, <u> </u>	ches):						Hydric Soil Pre	sent? Yes 🔽 No		
Remarks:							Tryunc con i re	30III: 103 NO		
		av and	domintions Duam		no do vim					
-	matrix with red	ox and	depietions. Prof	minent	redoxiii	iorpnic	concentrations	s common within depleted		
matrix.										
HYDROLO	GY									
Wetland Hyd	drology Indicators:									
Primary India	cators (minimum of o	ne require	d; check all that appl	y)			Secondary Ir	ndicators (minimum of two required)		
Surface	Water (A1)		Salt Crust	(B11)			Surface Soil Cracks (B6)			
High Wa	ter Table (A2)		Aquatic In	vertebrate	es (B13)		Sparsely Vegetated Concave Surface (B8)			
✓ Saturation	on (A3)		Hydrogen	Sulfide C	dor (C1)		Drainage	e Patterns (B10)		
Water M	arks (B1)		Dry-Seaso	on Water	Table (C2	)	Oxidized	Rhizospheres on Living Roots (C3)		
	nt Deposits (B2)		Oxidized F	Rhizosphe	eres on Liv	ing Roots	(C3) (where	e tilled)		
Drift Dep	oosits (B3)		(where	not tilled	)			Burrows (C8)		
_	it or Crust (B4)		Presence			4)		on Visible on Aerial Imagery (C9)		
	osits (B5)		Thin Muck					phic Position (D2)		
	on Vis ble on Aerial	Imagery (E	(Exp	olain in R	emarks)			utral Test (D5)		
	tained Leaves (B9)						Frost-He	eave Hummocks (D7) (LRR F)		
Field Observ			.,							
Surface Water			No Depth (in							
Water Table			No Depth (in					,		
Saturation Pr		′es	Wet	land Hydrology Pro	esent? Yes No					
(includes cap Describe Red		gauge, m	onitoring well, aerial	photos, p	revious ins	spections)	. if available:			
	2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	J J,	g, <b></b>	,, p		,	, <del></del>			
Remarks:										
	rated to the curf	aca Str	and reday through	hout Ev	idence c	of wetter	d hydrology incl	udes a high water table, soil		
			ong redox through ong living roots, g					_		
saturation,	ONIGIZED HIIZOS	vicies ai	ong nving 100ts, (	Jeonioi	orne posi	don, and	a a positive FAC-	redual test.		

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West	(	City/Cour	<sub>ntv:</sub> Rosebud	d County	Sampling Date: 2024-06-11				
		-	-		Sampling Point: DP03u				
• • • • • • • • • • • • • • • • • • • •				nge: S20 T7N R39E					
Landform (hillslope, terrace, etc.): Depression				-	e Slone (%): 5				
					Datum: NAD 83				
Soil Map Unit Name: 36 - Borollic Camborthids-Ustic Tol									
•					·				
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)  Are Vegetation, Soil, or Hydrology significantly disturbed?  Are "Normal Circumstances" present? Yes No									
Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)									
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Yes No  Yes No  Yes No  Is the Sampled Area within a Wetland?  Yes No  Wetland?									
Water levels high, sample point located in NW area of site.									
VEGETATION – Use scientific names of plant		Domina	ınt Indicator	Dominance Test work	-chapt:				
Tree Stratum (Plot size: 30 ft r			Status	Number of Dominant Sp					
1				That Are OBL, FACW, (excluding FAC-):	or FAC (A)				
2					(A)				
3				Total Number of Domin- Species Across All Stra	_				
4		= Total C							
Sapling/Shrub Stratum (Plot size: 15 ft r ) 1				Percent of Dominant Sp That Are OBL, FACW, o					
2.				Prevalence Index work	ksheet:				
3.					Multiply by:				
4					x 1 = <u>0</u>				
5					x = 0				
E ft r		= Total C	Cover	FAC species 72	x 3 = 42				
Herb Stratum (Plot size: 5 ft r  1. Pascopyrum smithii	45	/	FACU	UPL species 0					
2 Poa pratensis	20		FACU	Column Totals: 86					
3. Lactuca serriola	12		FAC						
Thlaspi arvense	5		FACU	Prevalence Index					
5. Elymus trachycaulus	2		FACU	Hydrophytic Vegetation					
6. Lepidium perfoliatum	2		FAC	1 - Rapid Test for F 2 - Dominance Tes	• • •				
7. Tragopogon dubius	1			3 - Prevalence Inde					
8					Adaptations <sup>1</sup> (Provide supporting				
9				data in Remarks	s or on a separate sheet)				
10	^-			Problematic Hydror	phytic Vegetation <sup>1</sup> (Explain)				
Woody Vine Stratum (Plot size: 30 ft r )  1		= Total C		<sup>1</sup> Indicators of hydric soil be present, unless distu	l and wetland hydrology must urbed or problematic.				
2.				Hydrophytic					
% Bare Ground in Herb Stratum 13		= Total C	:over	Vegetation	s No				
Remarks:				ı					
No evidence of hydrophytic vegetation present. Sample point dominated by upland									
vegetation.	J., p. 00		zampio p	onit donimated	a y apiana				

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SOIL Sampling Point: DP03u

Profile Desc	ription: (Describe	to the depth n	eeded to docu	ment the i	ndicator	or confirn	n the absence of i	ndicators.)			
Depth	Matrix			x Features							
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0 - 8	10YR 4/2	100					Silty Clay Loam				
							<u> </u>				
-											
-											
		<del></del>									
	-							_			
		- —— —									
	oncentration, D=Dep					d Sand G		n: PL=Pore Lining, M=Matrix.			
Hydric Soil I	ndicators: (Applic	able to all LRF	Rs, unless othe	rwise note	ed.)			Problematic Hydric Soils <sup>3</sup> :			
Histosol	` '		Sandy	-	. ,			(A9) ( <b>LRR I, J</b> )			
	pipedon (A2)			Redox (S5				rie Redox (A16) ( <b>LRR F, G, H</b> )			
Black His	` '			d Matrix (S	,			ce (S7) (LRR G)			
	n Sulfide (A4)	<b>-</b> \	-	Mucky Min			<b>—</b> ·	s Depressions (F16)			
	Layers (A5) (LRR I			Gleyed Ma			•	outside of MLRA 72 & 73)			
	ick (A9) ( <b>LRR F, G</b> , l d Below Dark Surfac			d Matrix (F Dark Surfa			Reduced V	t Material (TF2)			
	ark Surface (A12)	e (ATT)		d Dark Su				ow Dark Surface (TF12)			
	lucky Mineral (S1)			Depression			-	plain in Remarks)			
	lucky Peat or Peat (	S2) ( <b>LRR G, H</b>		•	. ,	16)		ydrophytic vegetation and			
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16) 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)							wetland hydrology must be present,				
							unless dist	urbed or problematic.			
Restrictive L	ayer (if present):										
Type:			_								
Depth (inc	ches):		_				Hydric Soil Pre	sent? Yes No			
Remarks:											
Cobbles	/gravel restr	icted exc	avation de	eper t	han 8'	'. No h	vdric soil in	dicators observed.			
	, 9						,				
HYDROLO	GY										
	drology Indicators:										
_	cators (minimum of c		neck all that appl	v)			Secondary Ir	ndicators (minimum of two required)			
-	Water (A1)	<u></u>	Salt Crust	•				Soil Cracks (B6)			
	ter Table (A2)		Aquatic In		s (B13)			y Vegetated Concave Surface (B8)			
Saturation	, ,		Hydrogen		. ,			e Patterns (B10)			
	arks (B1)		Dry-Seaso					d Rhizospheres on Living Roots (C3)			
	nt Deposits (B2)		Oxidized F					e tilled)			
	oosits (B3)			not tilled)	C3 OII LIVI	ing recots		Burrows (C8)			
	it or Crust (B4)		Presence		d Iron (C4	1)		on Visible on Aerial Imagery (C9)			
_	osits (B5)		Thin Muck		,	')	·	phic Position (D2)			
-	on Vis ble on Aerial	lmagery (B7)	Other (Ex					utral Test (D5)			
	tained Leaves (B9)	inagery (br)	Outer (EX	Jiaiii iii ike	marks)			eave Hummocks (D7) (LRR F)			
Field Observ							<u> </u>	(_ ', (_ ', ', ', ', ', ', ', ', ', ', ', ', ',			
Surface Water	er Present? Y	es No	Depth (in	ches):							
Water Table											
							and Hydrology Pr	esent? Yes No			
(includes cap	oillary fringe)										
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:											
Remarks:											
No evide	ence of wetla	and hydro	logy pres	ent.							
		•	-, .								

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW West	(	City/Co	ounty: Rose	bud County	Sampling Date: 2024-06-1	1
Applicant/Owner: MDT			-	State: Montana	· · · ·	
Investigator(s): E Reynaud				Range: S20 T7N R39E		
Landform (hillslope, terrace, etc.): Depression					e Slope (%): 1	
					Datum: NAD 83	i
Soil Map Unit Name: 36 - Borollic Camborthids-Ustic T						
Are climatic / hydrologic conditions on the site typical for th	is time of yea	ar? Ye	es 🗸 N	o (If no, explain in F	Remarks.)	
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology						
SUMMARY OF FINDINGS – Attach site map						c.
Hydrophytic Vegetation Present? Yes I	No					
Hydric Soil Present? Yes	No		Is the Samp		,	
Wetland Hydrology Present? Yes	No		within a We	tland? Yes	, No	
Remarks:						
Water levels high, sample point loca  VEGETATION – Use scientific names of plan		SW a	rea of s	ite.		
VEGETATION – Use scientific fiames of plan		Domi	inant Indicat	or Dominance Test worl	rohooti	
Tree Stratum (Plot size: 30 ft r			inani indicai			
1				That Are OBL, FACW,	or FAC	
2				(excluding FAC-):	<u>3</u> (A)	
3				Total Number of Domin		
4				Species Across All Stra	ata: <u>4</u> (B)	
Sapling/Shrub Stratum (Plot size: 15 ft r				Percent of Dominant S That Are OBL, FACW,		3)
1 2				Prevalence Index wo	ksheet:	
3.					Multiply by:	
4					x 1 = <u>30</u>	
5					x 2 = 0	
		= Tota	l Cover		x 3 = 30	
Herb Stratum (Plot size: 5 ft r	00		4 ODI		x 4 = 40	
1. Eleocharis palustris	_ 20			UPL species 0		
Lepidium perfoliatum     Pascopyrum smithii	<u>10</u>			Column Totals: 50	(A) <u>100</u> (B)	1
Schoenoplectus maritimus	10 10			Prevalence Index	c = B/A = 2.00	
··· <del>·</del>				Hydrophytic Vegetati	on Indicators:	
5				1 - Rapid Test for	Hydrophytic Vegetation	
6				<u>✓</u> 2 - Dominance Telescope	st is >50%	
7 8				<u>✓</u> 3 - Prevalence Index	ex is ≤3.0 <sup>1</sup>	
9.				4 - Morphological	Adaptations <sup>1</sup> (Provide supporting	ıg
10					s or on a separate sheet)	
10.			l Cover	— Problematic Hydro	ophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size: 30 ft r )  1.				<sup>1</sup> Indicators of hydric so be present, unless dist	il and wetland hydrology must urbed or problematic.	
2.				Hydrophytic		
				Vegetation	esNo	
% Bare Ground in Herb Stratum 50				Present? Ye	es No	
Remarks:			_			
Evidence of hydrophytic vegetation inc	iludes a p	oosit	ive dom	nance test and a pi	evalence index less	

than or equal to 3.0. Sample point comprised of 30% bare ground and 20% open water.

SOIL Sampling Point: DP03w

Profile Desc	ription: (Describe	to the depth	needed to docun	nent the i	indicator o	or confirm	the absence o	f indicators.)		
Depth	Depth Matrix Redox Features									
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0 - 5	10YR 5/1		10YR 4/6	2	<u>C</u>		Clay			
5 - 10	10YR 5/2	100					Clay			
-										
-										
	-				·					
	-		_							
	ncentration, D=Dep					d Sand Gr		tion: PL=Pore Lining, M=Matrix.  or Problematic Hydric Soils <sup>3</sup> :		
Histosol		able to all Li	Sandy G					•		
	oipedon (A2)		Sandy R	-			1 cm Muck (A9) ( <b>LRR I, J</b> ) Coast Prairie Redox (A16) ( <b>LRR F, G, H</b> )			
Black His			Stripped					rface (S7) (LRR G)		
Hydroge	n Sulfide (A4)				neral (F1)		High Pla	ins Depressions (F16)		
	l Layers (A5) ( <b>LRR I</b>			Sleyed Ma			`	H outside of MLRA 72 & 73)		
	ck (A9) ( <b>LRR F, G</b> ,		<u>✓</u> Depleted		,		_	d Vertic (F18)		
	l Below Dark Surfac ark Surface (A12)	e (A11)		ark Surfa	ace (F6) ırface (F7)			ent Material (TF2) allow Dark Surface (TF12)		
	lucky Mineral (S1)			epressio			-	explain in Remarks)		
2.5 cm M	lucky Peat or Peat (	S2) ( <b>LRR G</b> ,			essions (F	16)		f hydrophytic vegetation and		
5 cm Mu	cky Peat or Peat (S	3) ( <b>LRR F</b> )	(MLI	RA 72 & 7	73 of LRR	H)		hydrology must be present,		
<b>D</b> (1) (1) 1							unless d	isturbed or problematic.		
	ayer (if present):									
Type:	shoo):						Hydric Soil P	resent? Yes No		
Remarks:	ches):						Hydric 30ii F	resent: resNo		
	rodovimorphi	o o o o o o o o o o o o o o o o o o o	rationa aamm	an with	in tha d	anlatad	matrix Cra	val restricted execution		
deeper tha	•	Concenti	ations commi	JII WILII	iii tile u	epieteu	matrix. Grav	vel restricted excavation		
•										
HYDROLO										
-	drology Indicators:									
	ators (minimum of c	ne required;	• • • • • • • • • • • • • • • • • • • •				-	y Indicators (minimum of two required)		
<u>✓</u> Surface			Salt Crust					ce Soil Cracks (B6)		
_	ter Table (A2)		Aquatic Inv					ely Vegetated Concave Surface (B8)		
✓ Saturatio			Hydrogen					age Patterns (B10)		
	arks (B1) it Deposits (B2)		Dry-Seaso Oxidized R			na Booto /		zed Rhizospheres on Living Roots (C3) ere tilled)		
	oosits (B3)		(where n			ng Roots (		sh Burrows (C8)		
	it or Crust (B4)		Presence of			)		ation Visible on Aerial Imagery (C9)		
_	osits (B5)		Thin Muck			,	<del></del>	norphic Position (D2)		
-	on Vis ble on Aerial I	magery (B7)						Neutral Test (D5)		
Water-St	tained Leaves (B9)						Frost-	Heave Hummocks (D7) (LRR F)		
Field Observ	vations:									
Surface Water	er Present? Y	es 🔽 No	Depth (inc	thes): 3		_				
Water Table Present? Yes No Depth (inches):										
Saturation Pr		es 🖊 No	Depth (inc	ches): 0		Wetla	and Hydrology	Present? Yes No		
(includes cap Describe Rec		i dalide mon	itoring well aerial r	hotos nr	evious insi	nections)	if available:			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:										
Remarks:										
	of wotland had	rology inc	ludos surfoso	water	soil set	uration	goomorphia	a position, and a positive		
	-	rology inc	iudes surrace	water,	suii sat	uration,	, geomorphic	c position, and a positive		
FAC-Neut	rai test.									

# WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Forsyth NW Middle	(	City/Cou	nty: Rosebu	d County	Sampling Date: 2024-06-10			
	State: Montana Sampling Point: DP01u							
Investigator(s): R McEldowney Section, Township, Range: S33 T7N R39E								
Landform (hillslope, terrace, etc.): Alluvial Flat					Slope (%): 3			
					Datum: NAD 83			
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 pe								
Are climatic / hydrologic conditions on the site typical for this					·			
Are Vegetation, Soil, or Hydrologys								
Are Vegetation, Soil, or Hydrology n								
SUMMARY OF FINDINGS – Attach site map								
Hydrophytic Vegetation Present? Yes N. Hydric Soil Present? Yes N. Wetland Hydrology Present? Yes N. Remarks:	o		s the Sampled vithin a Wetlar		No			
Upland point located on road side of		ıd, we	est of cer	nter.				
VEGETATION – Use scientific names of plan		Domin	ant Indicator	Dominance Test work	chooti			
<u>Tree Stratum</u> (Plot size: <u>30 ft r</u> )  1  2	% Cover	Specie	s? Status	Number of Dominant Sp That Are OBL, FACW, of (excluding FAC-):	pecies			
3. 4.	<del></del>			Total Number of Domini Species Across All Stra	_			
Sapling/Shrub Stratum (Plot size: 15 ft r  1. Populus deltoides	3	= Total (	Cover <b>FAC</b>	Percent of Dominant Sp That Are OBL, FACW, o				
2.				Prevalence Index work				
3					Multiply by:			
4					x 1 = 0 x 2 = 0			
5					x 3 = 24			
Herb Stratum (Plot size: 5 ft r )	3	= Total (	Cover		x 4 = 200			
1. Poa pratensis	35		FACU	UPL species 0				
2. Convolvulus arvensis	15			Column Totals: 58	(A) <u>224</u> (B)			
3. Pascopyrum smithii	15		FACU	Prevalence Index	= R/A = 3.86			
4. Panicum virgatum	5		FAC	Hydrophytic Vegetation				
5				1 - Rapid Test for H 2 - Dominance Tes 3 - Prevalence Inde	Hydrophytic Vegetation st is >50% ex is ≤3.0 <sup>1</sup>			
9.				4 - Morphological A	Adaptations <sup>1</sup> (Provide supporting s or on a separate sheet)			
10					phytic Vegetation <sup>1</sup> (Explain)			
Woody Vine Stratum (Plot size: 30 ft r )  1.		= Total (		<sup>1</sup> Indicators of hydric soil be present, unless distu	l and wetland hydrology must urbed or problematic.			
2			Cover	Hydrophytic Vegetation Present? Yes	s No			
Upland point dominated by Kentucky								

SOIL Sampling Point: DP01u

Profile Desc	ription: (Describe	to the depth n			or or confirn	n the absence of	f indicators.)			
Depth	Matrix	0/		x Features	1 1 - 2	Ta	Domondes			
(inches)	Color (moist)		Color (moist)	<u>%</u> Type	Loc <sup>2</sup>	Texture	Remarks			
0 - 16	10YR 4/2	100				Silty Clay				
-										
-										
-			_							
1Type: C=C	oncentration, D=Dep	oletion RM=Re	duced Matrix CS	=Covered or Co	ated Sand G	rains <sup>2</sup> l ocat	tion: PL=Pore Lining, M=Matrix.			
•	ndicators: (Applic				ateu Sanu Oi		or Problematic Hydric Soils <sup>3</sup> :			
Histosol				Gleyed Matrix (S4	1)		ck (A9) ( <b>LRR I, J</b> )			
	pipedon (A2)			Redox (S5)	• /		airie Redox (A16) (LRR F, G, H)			
Black Hi			-	Matrix (S6)			face (S7) (LRR G)			
Hydroge	n Sulfide (A4)		Loamy N	Mucky Mineral (F	1)	<del></del>	ins Depressions (F16)			
Stratified	Layers (A5) (LRR	F)	Loamy (	Gleyed Matrix (F2	2)	(LRR	H outside of MLRA 72 & 73)			
	ck (A9) ( <b>LRR F, G,</b>	•		d Matrix (F3)		Reduced	l Vertic (F18)			
	Below Dark Surfac	ce (A11)		Oark Surface (F6)		<del></del>	ent Material (TF2)			
	ark Surface (A12)			d Dark Surface (F	•	-	allow Dark Surface (TF12)			
	lucky Mineral (S1)	(S2) (LBB C H		Depressions (F8)			xplain in Remarks) hydrophytic vegetation and			
	Mucky Peat or Peat or Peat (S			iins Depressions RA 72 & 73 of LI			nydrology must be present,			
3 6111 1410	icky i cat of i cat (c	o) (ERRT)	(IVIL)	12 Q 73 01 E	ixix ii)		isturbed or problematic.			
Restrictive I	_ayer (if present):					1				
	, , ,									
	ches):		_			Hydric Soil P	resent? Yes No			
Remarks:			<b>=</b> '			,				
		_	_							
No hydri	ic soil indica	tors obse	rved.							
HYDROLO	GY									
Wetland Hyd	drology Indicators	<u> </u>								
Primary Indic	cators (minimum of	one required; ch	neck all that apply	/)		Secondary	Indicators (minimum of two required)			
Surface	Water (A1)		Salt Crust	(B11)		Surface Soil Cracks (B6)				
	ter Table (A2)			vertebrates (B13)	)		ely Vegetated Concave Surface (B8)			
Saturation	on (A3)			Sulfide Odor (C1			age Patterns (B10)			
	arks (B1)			n Water Table (C			ed Rhizospheres on Living Roots (C3)			
	nt Deposits (B2)			hizospheres on I		(C3) (who	ere tilled)			
Drift Dep	oosits (B3)		(where n	not tilled)			sh Burrows (C8)			
Algal Ma	t or Crust (B4)		Presence of	of Reduced Iron (	(C4)	Satura	ation Visible on Aerial Imagery (C9)			
Iron Dep	osits (B5)		Thin Muck	Surface (C7)		Geom	orphic Position (D2)			
Inundation	on Vis ble on Aerial	Imagery (B7)	Other (Exp	lain in Remarks)		FAC-N	Neutral Test (D5)			
Water-S	tained Leaves (B9)					Frost-	Heave Hummocks (D7) (LRR F)			
Field Observ	vations:									
Surface Water	er Present?	/es No _	Depth (inc	ches):						
Water Table			Depth (inc							
Saturation Pr			Depth (inc			and Hydrology I	Present? Yes No			
(includes cap	oillary fringe)									
Describe Red	corded Data (stream	n gauge, monito	oring well, aerial p	photos, previous	inspections),	it available:				
Remarks:										
No evida	ence of wetla	and hydro	loav obsei	rved						
. 10 CVIG	SHOC OF WELL	ana nyan	nogy obser	. v.a.						

Project/Site: Forsyth NW Middle	(	City/Cou	<sub>ıntv:</sub> Roseb	ud County	Sampling Date: 2024-06-10
		-	-		Sampling Point: DP01w
Investigator(s): R McEldowney					
Landform (hillslope, terrace, etc.): Ditch				=	e Slope (%): 2
					Datum: NAD 83
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 per					
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology si					
Are Vegetation, Soil, or Hydrology na					
SUMMARY OF FINDINGS – Attach site map s					
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?  Remarks:  PEM, Depressional. Sample point loc	)	v	s the Sample vithin a Wetl		, No
VEGETATION – Use scientific names of plant					
-		Domin	ant Indicator	Dominance Test work	 ksheet:
			es? Status	- Number of Dominant S	pecies
1				That Are OBL, FACW, (excluding FAC-):	or FAC (A)
2				-   ` ` ` `	
3 4				Total Number of Domir Species Across All Stra	_
Sapling/Shrub Stratum (Plot size: 15 ft r )	:	= Total	Cover	Percent of Dominant S That Are OBL, FACW,	
1				Prevalence Index wor	ksheet:
2				Total % Cover of:	Multiply by:
3				OBL species 35	x 1 = <u>35</u>
5			<del></del>		x 2 = <u>20</u>
		= Total	Cover		x 3 = 0
Herb Stratum (Plot size: 5 ft r			ODI		x 4 = <u>20</u>
1. Eleocharis palustris	35		OBL	_	x 5 = 0
2. Alopecurus arundinaceus 3. Pascopyrum smithii	<u>10</u> 3		FACW	Column Totals: 50	(A) <u>75</u> (B)
Thiseniaryoneo		-	FACU FACU	Prevalence Index	c = B/A = 1.50
				Hydrophytic Vegetation	on Indicators:
5				1 - Rapid Test for I     1 - Rapid Te	Hydrophytic Vegetation
6				<u>✓</u> 2 - Dominance Test	st is >50%
8				✓ 3 - Prevalence Inde	ex is ≤3.0 <sup>1</sup>
9.				4 - Morphological A	Adaptations <sup>1</sup> (Provide supporting s or on a separate sheet)
10					phytic Vegetation <sup>1</sup> (Explain)
		= Total			
Woody Vine Stratum (Plot size: 30 ft r )  1				<sup>1</sup> Indicators of hydric so be present, unless dist	il and wetland hydrology must urbed or problematic.
2.				Hydrophytic	
		= Total	Cover	Vegetation	<b>v</b>
% Bare Ground in Herb Stratum 50				Present? Ye	es <u> </u>
Remarks:					
Evidence of hydrophytic vegetation i		•		apid test, positiv	e dominance test,

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SOIL Sampling Point: DP01w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Redox Features

Depth

Matrix

(inches)	Color (moist)		Color (moist)	-		<u>Texture</u>	Remarks
0 - 1	10Y 4/1	100				Mucky Loam/Clay	Sulfidic odor.
1 - 16	2.5Y 4/2	100				Silty Clay	
	<u> </u>						
				- <del> </del>			
-							
				<del></del>		<u> </u>	
			=Reduced Matrix, CS		Coated Sand G		cation: PL=Pore Lining, M=Matrix.
-		cable to all	LRRs, unless other	rwise noted.)		Indicators	for Problematic Hydric Soils <sup>3</sup> :
Histosol				Gleyed Matrix (	S4)		Muck (A9) ( <b>LRR I, J</b> )
	oipedon (A2)		-	Redox (S5)			Prairie Redox (A16) (LRR F, G, H)
	stic (A3)			d Matrix (S6)	(E4)		Surface (S7) (LRR G)
	en Sulfide (A4)	<b>-</b> \		Mucky Mineral		-	lains Depressions (F16)
	d Layers (A5) (LRR			Gleyed Matrix	(FZ)		R H outside of MLRA 72 & 73) ed Vertic (F18)
	ıck (A9) ( <b>LRR F, G,</b> d Below Dark Surfa			d Matrix (F3) Dark Surface (F	=6)		arent Material (TF2)
	ark Surface (A12)	GC (A11)		ed Dark Surface		·	hallow Dark Surface (TF12)
	Mucky Mineral (S1)			Depressions (F		-	(Explain in Remarks)
-	Mucky Peat or Peat	(S2) ( <b>LRR (</b>		ains Depressio			of hydrophytic vegetation and
	ıcky Peat or Peat (S			.RA 72 & 73 of			d hydrology must be present,
						unless	disturbed or problematic.
	Layer (if present):						
Restrictive I							
Type:	,						
Type:						Hydric Soil	Present? Yes V No
Type: Depth (incomes Remarks:	ches):					Hydric Soil	Present? Yes V No No
Type: Depth (ind Remarks: Sulfidic	odor in uppe					Hydric Soil	Present? Yes <u>V</u> No
Type: Depth (inc Remarks: Sulfidic (	odor in uppe	er layer.				Hydric Soil	Present? Yes V No No
Type: Depth (ind Remarks: Sulfidic of HYDROLO Wetland Hyd	odor in uppe	er layer.		v)			
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of	er layer.	d; check all that appl	* *		Seconda	ary Indicators (minimum of two required)
Type:	odor in uppe  GY  drology Indicators cators (minimum of Water (A1)	er layer.	d; check all that appl	(B11)	13)	Seconda Surf	ary Indicators (minimum of two required) face Soil Cracks (B6)
Type:	odor in uppe GY drology Indicators cators (minimum of Water (A1) ater Table (A2)	er layer.	d; check all that appl Salt Crust Aquatic In	(B11) vertebrates (B		Seconda Surf Spa	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8)
Type:	odor in uppe GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3)	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen	(B11) vertebrates (B' Sulfide Odor (	C1)	Seconda Surf Spa Drai	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10)
Type:	odor in uppe GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1)	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc	(B11) vertebrates (B <sup>2</sup> Sulfide Odor (Gon Water Table	C1) (C2)	Seconda Surf Spa Drai Oxio	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3)
Type: Depth (ind Remarks: Sulfidic of  HYDROLO  Wetland Hyd Primary Indic V Surface High Wa V Saturatio Water M Sedimer	ches):	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrates (B <sup>2</sup> Sulfide Odor (Gon Water Table Rhizospheres c	C1) (C2)	Seconda Surf Spa Drai Oxice (C3)	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3)
Type:	drology Indicators (minimum of Water (A1) (ater Table (A2) (b) (c) (drology Indicators (minimum of Water (A1) (ater Table (A2) (b) (drology Indicators (minimum of Water (A1) (ater Table (A2) (b) (drology Indicators (drology In	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled)	C1) (C2) on Living Roots	Seconda Surf Spa Drai Oxic s (C3) (w	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8)
Type:	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro	C1) (C2) on Living Roots	Seconda Surf Spa Drai Oxio s (C3) (w Cray	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5)	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where I	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro	C1) (C2) on Living Roots on (C4)	Seconda  Surf Spa Drai Oxio (C3) (w Satu	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) rhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where I	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro	C1) (C2) on Living Roots on (C4)	Seconda  Surf Spa Drai Oxio (W) Cray Satu	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type:	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aerial tained Leaves (B9)	er layer.	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seaso Oxidized F (where I	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro	C1) (C2) on Living Roots on (C4)	Seconda  Surf Spa Drai Oxio (W) Cray Satu	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) rhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) morphic Position (D2)
Type:	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations:	er layer. : one required	d; check all that appl Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro s Surface (C7) plain in Remark	C1) (C2) on Living Roots on (C4)	Seconda  Surf Spa Drai Oxio (W) Cray Satu	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type:	drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present?	er layer. : one required Imagery (B:	d; check all that appl Salt Crust Aquatic In: Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro s Surface (C7) colain in Remark	C1) (C2) on Living Roots on (C4)	Seconda  Surf Spa Drai Oxio (W) Cray Satu	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type:	GY drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present?	er layer.  : one required  Yes	d; check all that appl  Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck T)  No Depth (in No Depth (in	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro a Surface (C7) colain in Remark ches):	C1) (C2) on Living Roots on (C4) (C3)	Seconda  Surf Spa Drai Oxio (W) Cray Satu FAC Fros	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present? Present?	er layer.  : one required  Yes	d; check all that appl Salt Crust Aquatic In: Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro a Surface (C7) colain in Remark ches):	C1) (C2) on Living Roots on (C4) (C3)	Seconda  Surf Spa Drai Oxio (W) Cray Satu FAC Fros	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) C-Neutral Test (D5)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present? Present? resent? present?	Imagery (B:	d; check all that appl  Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro s Surface (C7) colain in Remark ches): ches): ches):	C1) (C2) on Living Roots on (C4) (SS)  Wet	Seconda  Surf Spa Drai Oxio (W) Cray Satu FAC Fros	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present? Present? resent? present?	Imagery (B:	d; check all that appl  Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck T)  No Depth (in No Depth (in	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro s Surface (C7) colain in Remark ches): ches): ches):	C1) (C2) on Living Roots on (C4) (SS)  Wet	Seconda  Surf Spa Drai Oxio (W) Cray Satu FAC Fros	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present? Present? resent? present?	Imagery (B:	d; check all that appl  Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Other (Exp	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres conot tilled) of Reduced Iro s Surface (C7) colain in Remark ches): ches): ches):	C1) (C2) on Living Roots on (C4) (SS)  Wet	Seconda  Surf Spa Drai Oxio (W) Cray Satu FAC Fros	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present? Present? resent? present? corded Data (stream	Imagery (B:	d; check all that appl  Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck 7) Depth (in No Depth (in No Depth (in onitoring well, aerial	(B11) vertebrates (B' Sulfide Odor (Gon Water Table Rhizospheres of not tilled) of Reduced Iro a Surface (C7) colain in Remark ches): ches): ches): ches): 0	C1) (C2) on Living Roots (C4) (C5) (C4) (C5) (C4) (C4) (C5) (C4) (C5) (C4) (C5) (C4) (C5) (C6) (C6) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	Seconda  Surf Spa Drai Oxio (W) Cray Satu FAC Fros	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) rhere tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9) whorphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)
Type:	ches):  Odor in uppe  GY  drology Indicators cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial tained Leaves (B9) vations: er Present? Present? Present? corded Data (stream	er layer.  : one required  Yes Yes Yes T gauge, mo	d; check all that appl  Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where I Presence Thin Muck T) Depth (in No Depth (in	(B11) vertebrates (B <sup>2</sup> Sulfide Odor (Con Water Table Rhizospheres conot tilled) of Reduced Iro a Surface (C7) clain in Remark ches): ches): ches): ches): 0 photos, previou	C1) (C2) on Living Roots on (C4) (S)  Wet us inspections)	Seconda Surf Spa Spa Drai Oxio (C3) (w Satu FAC Fros	ary Indicators (minimum of two required) face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) nage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) offish Burrows (C8) uration Visible on Aerial Imagery (C9) omorphic Position (D2) c-Neutral Test (D5) st-Heave Hummocks (D7) (LRR F)

Project/Site: Forsyth NW Middle	(	City/County	. Rosebud	d County	Sampling Date: 2024-06-10
		-			Sampling Point: DP02u
Investigator(s): R McEldowney					
Landform (hillslope, terrace, etc.): Alluvial Flat		Local relief	f (concave, o	convex, none): Linear	Slope (%): 0
					Datum: NAD 83
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 pe					
Are climatic / hydrologic conditions on the site typical for this	time of yea	ar? Yes	✓ No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologys	ignificantly of	disturbed?	Are "	Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrologyn	aturally prol	blematic?	(If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samplin	g point le	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No Remarks:	o		ne Sampled nin a Wetlar		No <u> </u>
Upland sample point dominated by v	vestern	wheat	grass.		
VEGETATION – Use scientific names of plant	ts.				
Tree Stratum (Plot size: 30 ft r	Absolute % Cover	Dominant		Dominance Test work	
1				Number of Dominant Sport That Are OBL, FACW, or	or FAC
2.				(excluding FAC-):	<u>0</u> (A)
3				Total Number of Domin	
4				Species Across All Stra	ta: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: 15 ft r )  1		= Total Co		Percent of Dominant Sp That Are OBL, FACW,	
2				Prevalence Index wor	ksheet:
3					Multiply by:
4					x 1 = 0
5					x 2 = 0
5 ft r		= Total Co	ver	FACU species 62	x 3 = 18
Herb Stratum (Plot size: 5 ft r  1. Pascopyrum smithii	60	~	FACU	UPL species 0	
2. Rumex crispus	5		FAC	Column Totals: 68	
3. Thlaspi arvense	2		FACU		
4. Lactuca serriola	1		FAC	Prevalence Index	
5		-		Hydrophytic Vegetation	
6				1 - Rapid Test for F 2 - Dominance Tes	
7				3 - Prevalence Inde	
8		-			Adaptations <sup>1</sup> (Provide supporting
9				data in Remarks	s or on a separate sheet)
10	~~			Problematic Hydro	phytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30 ft r )  1		= Total Co		<sup>1</sup> Indicators of hydric soi be present, unless distu	l and wetland hydrology must urbed or problematic.
2.				Hydrophytic	
% Bare Ground in Herb Stratum 32		= Total Cov	ver	Vegetation Present? Yes	s No
Remarks:					
Sample point dominated by FACU ve	getatio	n.			

US Army Corps of Engineers B-49 Great Plains – Version 2.0

SOIL Sampling Point: DP02u

Depting		cription: (Describe	to the depth ned				or confirn	n the absence	of indicators.)
O - 16 10YR 4/2 100 Sitty Clay Soil is moist.  - Sitty Clay Soil is moist.  - Sitty Clay Soil is moist.  - Soil indicators: (Applicable to all LRRs, unless otherwise noted.)  - Histosoil (A1) Sondy Gleyed Matrix (S3)  - Black Histic (A3)  - Sandy Gleyed Matrix (S6)  - Black Histic (A3)  - Sandy Redox (S6)  - Black Histic (A3)  - Sandy Redox (S6)  - Black Histic (A3)  - Hydrogen Suifface (A1)  - Loamy Mulcky Mineral (F1)  - Loamy Mulcky Mineral (F2)  - Loamy Mulcky Mineral (F2)  - Loamy Mulcky Mineral (F3)  - Sondy Mulcky Mineral (S1)  - Sondy Mulcky Mineral (S2) (LRR R)  - High Plants Depressions (F6)  - Sond Mulcky Mineral (S1)  - Sond Mulcky Mineral (S2) (LRR R)  - Mulck Peat or Peat (S3) (LRR F)  - Mulck Peat or Peat (S3) (LRR F)  - Sond Mulcky Mineral (S1)  - Sond Mulcky Mineral (S2)  - Sond Mulcky Mine			% Co				Loc²	Texture	Remarks
Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, D-Depletion, RM-Reduced Marks, CS-Covered or Coaled Sand Grains.  Type: C-Concentration, C-Coaled Sand Grains.  Type: C-Coaled Frains Reduced (FE)  Type: C-Coaled Frains Reduced (FE)				, , , , , , , , , , , , , , , , , , ,					
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		-	<del></del>						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			<del></del>		. ——				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	-		- · <u></u>						
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	-								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	-							<u> </u>	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					·				
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	1Typo: C=C	oncontration D=Don	lotion PM=Podu	good Matrix, CS	S=Covered		nd Sand G	raine <sup>2</sup> l o	eation: DL =Doro Lining M=Matrix
Histosel (A1)							d Sand G		
Histic Epipedon (A2) Black Histic (A3) — Stripped Matrix (S6) — Hydrogen Sulfide (A4) — Loamy Mucky Mineral (F1) — Loamy Mucky Mineral (F1) — Stratified Layers (A5) (LRR F) — Loamy Mucky Mineral (F1) — Stratified Layers (A5) (LRR F) — Loamy Gleyed Matrix (F2) — To m Muck (A9) (LRR F, G, H) — Depleted Matrix (F2) — Depleted Below Dark Surface (A11) — Redox Dark Surface (F1) — Perpleted Below Dark Surface (A11) — Redox Dark Surface (F1) — Sandy Mucky Mineral (S1) — Sandy Mucky Mineral (S1) — Sandy Mucky Mineral (S1) — So m Mucky Peat or Peat (S2) (LRR G, H) — High Plains Depressions (F8) — 2.5 cm Mucky Peat or Peat (S3) (LRR F) — (MLRA 72 & 73 of LRR H) — Strictive Layer (if present): — Type: — Depth (inches): — Depth (inches): — Depth (inches): — Depth (inches): — Sandy Mydrology Indicators observed.  HYDROLOGY  Wetland Hydrology Indicators  Wetland Hydrology Indicators: — Hydroc Soil Indicators (minimum of one required; check all that apply) — Surface Water (A1) — High Vater Table (A2) — Aquatic Invertebrates (B13) — Surface Soil Cracks (B8) — Saturation (A3) — Hydrogen Sulfide Odor (C1) — Sater Marks (B1) — Dry-Season Water Table (C2) — Oxidized Rhizospheres on Living Roots (C3) — Water Marks (B1) — Dry-Season Water Table (C2) — Oxidized Rhizospheres on Living Roots (C3) — (Where not tilled) — Fresence of Reduced Inn (C4) — Saturation Visible on Aerial Imagery (C9) — Innundation Visible on Aerial Imagery (B7) — Water-Stained Leaves (B9) — Thin Muck Surface — Vest Marks (B1) — Presence of Reduced Inn (C4) — Saturation Visible on Aerial Imagery (C9) — Innundation Visible on Aerial Imagery (B7) — Water-Stained Leaves (B9) — Depth (inches): — Wetland Hydrology Present? Yes No	-		abio to all Entite						•
Black Histic (A3)		` '			-				
Loamy Mucky Minerat (F1)	-			-				·	
Depleted Below Dark Surface (A11)				Loamy	Gleyed Ma	atrix (F2)		_	
Thick Dark Surface (A12)					•				` '
			e (A11)	· · · · · · · · · · · · · · · · · · ·		. ,			, ,
							)	-	
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present):	-		S2) (I <b>PP &amp; H</b> )				16)		
Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No  Remarks:  No hydric soil indicators observed.  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of two required; check all that apply) Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1)				-					
Type:		(0)	-, (=:::::,	(			,		
Remarks:  No hydric soil indicators observed.  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (minimum of two required)  Surface Water (A1)  Sulface Soil Cracks (B6)  High Water Table (A2)  Salt Crust (B11)  Surface Soil Cracks (B6)  Hydrogen Sulfide Odor (C1)  Drainage Patterns (B10)  Water Marks (B1)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living Roots (C3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Iron Deposits (B5)  In Jundation Vis ble on Aerial Imagery (B7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Present?  Yes No V Depth (inches):  Water Mater Table Present?  Yes No V Depth (inches):  Wetland Hydrology Present?  Wetland Hydrology Present?  Yes No V Depth (inches):  Wetland Hydrology Present?  Wetland Hydrology Present?  Yes No V Depth (inches):  Remarks:	Restrictive I	Layer (if present):							
Remarks:  No hydric soil indicators observed.  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Sulface Water (A1) S	Type:								
No hydric soil indicators observed.   HYDROLOGY	Depth (in	ches):						Hydric Soil	Present? Yes No
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Surface Water (A2)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Oxidized Rhizospheres on Living Roots (C3)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living Roots (C3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Iron Deposits (B5)  Thin Muck Surface (C7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Marks (B1)  Depth (inches):  Water Table (A2)  Secondary Indicators (minimum of two required)  Surface (B1)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Driface Notice Spailery (B10)  Depth (inches):  Wetland Hydrology Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Wetland Hydrology Present? Yes No Surface (B9)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Remarks:								
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Surface Water (A2)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Dry-Season Water Table (C2)  Oxidized Rhizospheres on Living Roots (C3)  Sediment Deposits (B2)  Oxidized Rhizospheres on Living Roots (C3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Iron Deposits (B5)  Thin Muck Surface (C7)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Marks (B1)  Depth (inches):  Water Table (A2)  Secondary Indicators (minimum of two required)  Surface (B1)  Surface Soil Cracks (B6)  Sparsely Vegetated Concave Surface (B8)  Driface Notice Spailery (B10)  Depth (inches):  Wetland Hydrology Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Wetland Hydrology Present? Yes No Surface (B9)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	No bydr	ic coil indicat	ore obcor	rod					
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B8)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)	ivo riyur	ic son maicai	.013 00361	reu.					
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B8)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)		C.V.							
Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (minimum of two required)  Surface Water (A1)									
Surface Water (A1) Salt Crust (B11) Surface Soil Cracks (B6) High Water Table (A2) Aquatic Invertebrates (B13) Sparsely Vegetated Concave Surface (B8) Saturation (A3) Hydrogen Sulfide Odor (C1) Drainage Patterns (B10) Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Inon Deposits (B3) Thin Muck Surface (C7) Geomorphic Position (D2) Water-Stained Leaves (B9) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F)  Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	_			ck all that anni	w)			Seconda	ary Indicators (minimum of two required)
High Water Table (A2)	-	•	ine required, che						•
Saturation (A3)		, ,	•			e (R13)			
Water Marks (B1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living Roots (C3) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Caryfish Burrows (C8) Crayfish Burrows (C8)	_		•						
Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) (where tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Water Table Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Present Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:									
Drift Deposits (B3) (where not tilled) Crayfish Burrows (C8) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Saturation Visible on Aerial Imagery (C9) Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F) Field Observations: Water Table Present? Yes No ✓ Depth (inches): Water Table Present? Yes No ✓ Depth (inches): Wetland Hydrology Present? Yes No ✓ Depth (inches): Wetland Hydrology Present? Yes No ✓ Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:			•	<del></del>		, ,			
Algal Mat or Crust (B4)			•		•	00 011 211	ing receic	. ,	,
Iron Deposits (B5) Thin Muck Surface (C7) Geomorphic Position (D2) Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F)  Field Observations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:		, ,		,		d Iron (C4	1)		, ,
Inundation Vis ble on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5) Water-Stained Leaves (B9) Frost-Heave Hummocks (D7) (LRR F)  Field Observations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Operational Present? Yes		• •	•			•	- /		
Water-Stained Leaves (B9)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Water Table Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	-							· · · · · · · · · · · · · · · · · · ·	• • •
Field Observations:  Surface Water Present? Yes Nov _ Depth (inches):  Water Table Present? Yes Nov _ Depth (inches):  Saturation Present? Yes Nov _ Depth (inches):  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:			-3-7( )			,		·	• •
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No V Depth (inches): Bescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:									. , , , , ,
Water Table Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No V Depth (inches): Bescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:	Surface Wat	er Present? Y	es No	Depth (in	ches):				
Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Verificial Saturation Present.									
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Remarks:								and Hydrolog	y Present? Yes No
Remarks:	(includes car	oillary fringe)			•				,
	Describe Re	corded Data (stream	gauge, monitorii	ng well, aerial ¡	ohotos, pro	evious ins	pections),	if available:	
	Domarka								
No evidence of wetland hydrology.	Remarks:								
	No evide	ence of wetla	and hydrol	ogy.					

Project/Site: Forsyth NW Middle		City/C	ounty	Rosebu	d County	Sampling [	)ate: 202	4-06-10
Applicant/Owner: MDT		State: Montana Sampling Point: DP02w						
• •					nge: S33 T7N R39E	oupg .	• <u> </u>	
Landform (hillslope, terrace, etc.): Valley Floor						<del></del>	Slope (%	6): 2
Subregion (LRR): G 60B								
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 pe							·	
Are climatic / hydrologic conditions on the site typical for thi								
Are Vegetation, Soil, or Hydrologys	-						- V	No
Are Vegetation, Soil, or Hydrology					eeded, explain any answe			
SUMMARY OF FINDINGS – Attach site map								res etc
			.p	g pomit i		, <b>po</b> rta		
Hydrophytic Vegetation Present?  Yes   Hydric Soil Present?  Yes   N	10		Is th	e Sampled				
Wetland Hydrology Present?	10		with	in a Wetlar	nd? Yes	No		
Remarks:								
Wetland sample point near southeas	st end o	of th	e pi	roiect a	rea. Normal con	ditions	exist.	
			•	•				
VEGETATION – Use scientific names of plan	nts.							
Tree Stratum (Plot size: 30 ft r	Absolute % Cover				Dominance Test work			
1					Number of Dominant Sp That Are OBL, FACW, of			
2.					(excluding FAC-):	<u>1</u>		(A)
3					Total Number of Domin	ant		
4					Species Across All Stra			(B)
0 1 (0) 1 0 1 (1) 15 ft r		= Tot	al Cov	/er	Percent of Dominant Sp			
Sapling/Shrub Stratum (Plot size: 15 ft r )					That Are OBL, FACW,	or FAC: 10	00.00	(A/B)
1 2					Prevalence Index wor	ksheet:		
3.					Total % Cover of:			
4.						x 1 =		
5					FACW species 0			
		= Tot	al Cov	/er	FAC species 1			<del></del>
Herb Stratum (Plot size: 5 ft r )  1. Eleocharis palustris	70		/	OBL	FACU species 13			
2. Pascopyrum smithii	10			FACU	UPL species 0 Column Totals: 94			—— (B)
3. Scirpus maritimus	10			OBL				(D)
4 Thlaspi arvense	3			FACU	Prevalence Index			
5. Rumex crispus	1			FAC	Hydrophytic Vegetation			
6.					✓ 1 - Rapid Test for H		Vegetation	
7					2 - Dominance Tes			
8					<ul><li>3 - Prevalence Inde</li><li>4 - Morphological A</li></ul>		(Dravida a	unnartina
9					data in Remarks			
10					Problematic Hydro	ohytic Veget	ation¹ (Exp	olain)
Woody Vine Stratum (Plot size: 30 ft r	94	= Tota	al Cov	er/er	<sup>1</sup> Indicators of hydric soi			y must
1					be present, unless distu	rbea or prof	Diematic.	
2					Hydrophytic			
% Bare Ground in Herb Stratum 6		= Tota	al Cov	/er	Vegetation Present? Yes	s	No	_
Remarks:					1			-
	10 K 0 0 0 0 0	<b>.</b> :			ropid tost iss-iti	أيرم والمربء	ino:	. to c+
Evidence of hydrophytic vegetation	•		•	Sitive	rapid test, positi	ve aom	inance	e test,
and a prevalence index less than or	equal to	o 3.0	0.					

US Army Corps of Engineers B-51 Great Plains – Version 2.0

SOIL Sampling Point: DP02w

Profile Desc	ription: (Describe	to the dep	oth needed to docum	nent the	indicator	or confirm	m the absence of in	dicators.)
Depth	Matrix		Redo	x Feature				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0 - 16	10YR 4/1	98	10YR 4/6	2	С	М	Clay	
-								
								_
					<u> </u>		· · · · · · · · · · · · · · · · · · ·	_
					. —			
			-				<u> </u>	
-								
1Type: C=Co	oncentration D=De	nletion RM	=Reduced Matrix, CS	S=Covere	d or Coate	d Sand G	trains <sup>2</sup> Location	: PL=Pore Lining, M=Matrix.
			LRRs, unless other			u cana c		Problematic Hydric Soils <sup>3</sup> :
Histosol			Sandy (				1 cm Muck	•
	oipedon (A2)		Sandy F	-	. ,			e Redox (A16) ( <b>LRR F, G, H</b> )
Black Hi			Stripped				<del></del>	e (S7) ( <b>LRR G</b> )
Hydroge	n Sulfide (A4)		Loamy I	Mucky Mi	neral (F1)		High Plains	Depressions (F16)
	l Layers (A5) ( <b>LRR</b>		Loamy (	Gleyed M	atrix (F2)		(LRR H	outside of MLRA 72 & 73)
	ck (A9) ( <b>LRR F, G</b> ,		<u>✓</u> Deplete	,	,		Reduced Ve	` ,
	d Below Dark Surface	ce (A11)		Dark Surfa	` '			Material (TF2)
	ark Surface (A12) lucky Mineral (S1)			d Dark St Depressio	urface (F7)		•	w Dark Surface (TF12) ain in Remarks)
	lucky Willeral (ST)  // Aucky Peat or Peat	(S2) (I RR		•	essions (F	16)		drophytic vegetation and
	cky Peat or Peat (S	. , .			73 of LRR		-	rology must be present,
	,	, (= ,	(			,	-	rbed or problematic.
Restrictive L	ayer (if present):							-
Type:								
Depth (inc	ches):						Hydric Soil Pres	ent? Yes 🔽 No
Remarks:								
Dromino	nt radavima	rnhia f	naturas aamn	non in	the de	nloto	d matrix	
Promine	ni redoximo	i priic i	eatures comn	non in	the de	plete	u matrix.	
	OV							
HYDROLO								
-	drology Indicators							
-		one require	d; check all that apply				•	dicators (minimum of two required)
<u>✓</u> Surface			Salt Crust					Soil Cracks (B6)
<u>✓</u> High Wa	ter Table (A2)		Aquatic Inv					Vegetated Concave Surface (B8)
✓ Saturation	on (A3)		Hydrogen	Sulfide O	dor (C1)			Patterns (B10)
	arks (B1)		Dry-Seaso				· · · · · · · · · · · · · · · · · · ·	Rhizospheres on Living Roots (C3)
	nt Deposits (B2)		Oxidized F			ing Roots		,
	oosits (B3)			not tilled)				Burrows (C8)
	it or Crust (B4)		Presence		,	1)		n Visible on Aerial Imagery (C9)
	osits (B5)		Thin Muck					hic Position (D2)
·	on Vis ble on Aerial	Imagery (B	7) Other (Exp	olain in Re	emarks)			tral Test (D5)
	tained Leaves (B9)					-	Frost-Hea	ave Hummocks (D7) (LRR F)
Field Observ								
Surface Water			No Depth (inc			-		
Water Table			No Depth (inc			-		
Saturation Pr		Yes	No Depth (inc	ches): 0		Wet	land Hydrology Pre	sent? Yes No
(includes cap Describe Red		n gauge, m	onitoring well, aerial p	ohotos, pr	evious ins	pections).	. if available:	
	222 = 312 (31.301)	J J, 111		, p.			,	
Remarks:								
	<b>.fs</b> ! !!	dual - :			1		Aabla9	
				ce wate	er, a hig	n water	table, soil satu	ration, geomorphic
position, a	and a positive l	FAC-Neu	ıtral test.					

Project/Site: Forsyth NW East		City/Coun	<sub>ity:</sub> Rosebu	d County	Sampling Date: 2024-06-10
Applicant/Owner: MDT		-	-		Sampling Point: DP01u
Investigator(s): R McEldowney				nge: S34 T7N R39E	. 0
Landform (hillslope, terrace, etc.): Alluvial Flat				-	e Slope (%): 4
, ,			•		Datum: NAD 83
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 pe					
Are climatic / hydrologic conditions on the site typical for this					·
Are Vegetation, Soil, or Hydrologys					
Are Vegetation, Soil, or Hydrologyn					
SUMMARY OF FINDINGS – Attach site map	showing	sampli	ng point l	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No Remarks:	o <u> </u>		the Sampled thin a Wetlar		No
Upland sample point at west end of	the eas	t site.			
VEGETATION – Use scientific names of plan	ts.				
		Domina	nt Indicator	Dominance Test work	sheet:
1	<u> </u>			Number of Dominant S That Are OBL, FACW, (excluding FAC-):	
2					
4				Total Number of Domin Species Across All Stra	
Sapling/Shrub Stratum (Plot size: 15 ft r				Percent of Dominant Sp That Are OBL, FACW,	
1				Prevalence Index wor	ksheet:
2				Total % Cover of:	Multiply by:
4					x 1 = <u>0</u>
5.					x 2 = 0
		= Total C	over		x 3 = 30
Herb Stratum (Plot size: 5 ft r )	40	~	FACU		x 4 = 200
1. Pascopyrum smithii 2. Thlaspi arvense	40 10		FACU	UPL species 2 Column Totals: 62	
3 Lactuca serriola	5		FAC	Column rotals. <u>02</u>	(A) <u>240</u> (B)
A Panicum virgatum	5		FAC	Prevalence Index	= B/A = 3.87
5. Bromus tectorum	2		UPL	Hydrophytic Vegetation	on Indicators:
6				1 - Rapid Test for H	• • •
7.				2 - Dominance Tes	
8				3 - Prevalence Inde	
9					Adaptations <sup>1</sup> (Provide supporting s or on a separate sheet)
10					phytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30 ft r )  1		= Total C		<sup>1</sup> Indicators of hydric soi be present, unless distu	l and wetland hydrology must urbed or problematic.
2		= Total C		Hydrophytic Vegetation Present? Yes	s No
Remarks:				<u> </u>	
Upland sample point dominated by w	vestern	whea	itgrass.		

SOIL Sampling Point: DP01u

Profile Desc	ription: (Describe	to the depth n			r or confirn	n the absence of	f indicators.)
Depth	Matrix	0/		x Features	1.5.2	Ta	Domonilo
(inches)	Color (moist)		Color (moist)	%Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 15	2.5Y 4/2	100				Silty Clay	
	-					- <u> </u>	
-							
		<u> </u>					
				. — — —			
	-			· ———			
	-						
-							
¹Type: C=Co	oncentration, D=Dep	oletion RM=Re	duced Matrix CS	S=Covered or Coa	ted Sand G	rains <sup>2</sup> l ocat	tion: PL=Pore Lining, M=Matrix.
	ndicators: (Applic				itea earia ei		or Problematic Hydric Soils <sup>3</sup> :
Histosol				Gleyed Matrix (S4)	)		ck (A9) (LRR I, J)
	ipedon (A2)			Redox (S5)	,		airie Redox (A16) ( <b>LRR F, G, H</b> )
Black His				Matrix (S6)			face (S7) (LRR G)
Hydroge	n Sulfide (A4)		Loamy N	Mucky Mineral (F1	)	High Pla	ins Depressions (F16)
Stratified	l Layers (A5) (LRR	F)	Loamy (	Gleyed Matrix (F2)	)	(LRR	H outside of MLRA 72 & 73)
	ck (A9) ( <b>LRR F, G,</b>	,		d Matrix (F3)			Vertic (F18)
	Below Dark Surfac	e (A11)		Dark Surface (F6)	<del>-</del> \	<del></del>	ent Material (TF2)
	rk Surface (A12) lucky Mineral (S1)			d Dark Surface (F	7)		allow Dark Surface (TF12) xplain in Remarks)
	lucky Milleral (31) lucky Peat or Peat	(S2) (I RR G H		Depressions (F8) ains Depressions (	(F16)		hydrophytic vegetation and
	cky Peat or Peat (S			RA 72 & 73 of LR			nydrology must be present,
	,	-, (,	(		,		isturbed or problematic.
Restrictive L	ayer (if present):						·
Type:			_				
Depth (inc	ches):					Hydric Soil P	resent? Yes No
Remarks:							
N.I. a In I							
No nyari	c soil indica	tors obse	rvea.				
HYDROLO	GY						
Wetland Hyd	drology Indicators:	:					
Primary Indic	ators (minimum of	one required; ch	neck all that apply	y)		Secondary	Indicators (minimum of two required)
Surface	Water (A1)		Salt Crust	(B11)		Surfac	ce Soil Cracks (B6)
High Wa	ter Table (A2)		Aquatic Inv	vertebrates (B13)		Spars	ely Vegetated Concave Surface (B8)
Saturatio	on (A3)		Hydrogen	Sulfide Odor (C1)		Draina	age Patterns (B10)
Water M	arks (B1)		Dry-Seaso	n Water Table (C	2)	Oxidiz	ed Rhizospheres on Living Roots (C3)
Sedimer	t Deposits (B2)		Oxidized R	Rhizospheres on L	iving Roots	(C3) (who	ere tilled)
Drift Dep	oosits (B3)		(where r	not tilled)		Crayfi	sh Burrows (C8)
Algal Ma	t or Crust (B4)		Presence of	of Reduced Iron (0	C4)	Satura	ation Visible on Aerial Imagery (C9)
Iron Dep	osits (B5)		Thin Muck	Surface (C7)		Geom	orphic Position (D2)
Inundation	on Vis ble on Aerial	Imagery (B7)	Other (Exp	lain in Remarks)		FAC-N	leutral Test (D5)
Water-S	tained Leaves (B9)					Frost-	Heave Hummocks (D7) (LRR F)
Field Observ	vations:						
Surface Water	er Present?	'es No _	Depth (inc	ches):			
Water Table	Present?	'es No	Depth (inc	ches):			
Saturation Pr	resent?	'es No	Depth (inc	ches):	Wetl	and Hydrology I	Present? Yes No
(includes cap	oillary fringe)						
Describe Red	corded Data (stream	n gauge, monito	oring well, aerial p	onotos, previous ir	nspections),	ıт avaılable:	
Remarks:							
No evide	ence of wetla	and hydro	logy obse	rved.			
5 7 140							

Project/Site: Forsyth NW East	C	City/Count	<sub>v:</sub> Rosebuc	d County	Sampling Da	<sub>ite:</sub> 2024-06	3-10
		-	-	State: Montana			
Investigator(s): R McEldowney							
Landform (hillslope, terrace, etc.): Ditch				-	е	Slope (%): 0	
Subregion (LRR): G 60B							
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 per							
Are climatic / hydrologic conditions on the site typical for this	time of year	ar? Yes _	✓ No_	(If no, explain in R	temarks.)		
Are Vegetation, Soil, or Hydrology si						s No	
Are Vegetation, Soil, or Hydrology na							
SUMMARY OF FINDINGS – Attach site map s	showing	sampli	ng point le	ocations, transects	, importan	t features,	etc.
Wetland Hydrology Present? Yes No Remarks:	)	wit	the Sampled thin a Wetlar	nd? Yes <u> </u>	No	_	
Wetland site in a linear borrow ditch.	The s	ite is i	nundate	d.			
VEGETATION – Use scientific names of plant	s.						
Tree Stratum (Plot size: 30 ft r 1.	% Cover	Species'	nt Indicator ? Status	Number of Dominant S That Are OBL, FACW,	pecies or FAC	(,	(4)
2				(excluding FAC-):		(/	(A)
3				Total Number of Domir Species Across All Stra		(E	B)
Sapling/Shrub Stratum (Plot size: 15 ft r )		= Total Co	over	Percent of Dominant S		0.00	• (5)
1. Salix amygdaloides	15	~	FACW	That Are OBL, FACW,	or FAC: 10	<u>0.00</u> (A	4/B)
2.				Prevalence Index wor	ksheet:		
3.				Total % Cover of:			
4				OBL species 30			
5				FACW species 15			
F 44 m	15	= Total Co	over	FAC species 5 FACU species 7			
Herb Stratum (Plot size: 5 ft r  1. Eleocharis palustris	30	~	OBL	UPL species 0			
2. Pascopyrum smithii	7		FACU	Column Totals: 57			(B)
3. Rumex crispus	5		FAC		. , .		(6)
4				Prevalence Index			
5.				Hydrophytic Vegetation			
6.				1 - Rapid Test for I		egetation	
7.				✓ 2 - Dominance Test			
8				✓ 3 - Prevalence Inde			
9				4 - Morphological A data in Remark	Adaptations' (I s or on a sepa	Provide suppoi arate sheet)	rting
10				Problematic Hydro		•	
Woody Vine Stratum (Plot size: 30 ft r		= Total Co		<sup>1</sup> Indicators of hydric so be present, unless disti			st
1					· ·		
2				Hydrophytic Vegetation	. 4		
% Bare Ground in Herb Stratum 58		- TOLAT C	0.4.01	Present? Ye	s N	o	
Remarks:							
PEM with peach leaf willow along the upper	margin c	of the w	etland. Ev	idence of hydroph	ytic veget	ation inclu	des
positive rapid test, positive dominance test,	and a pr	revalen	ce index l	ess than or equal t	o 3.0.		

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SOIL Sampling Point: DP01w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

(inches)	Matrix Color (moist)	% (	Redox Features	oc <sup>2</sup> Texture	Domarko
(inches) 0 - 1	Color (moist) 10Y 4/1	<u>%</u> 0	Color (moist) % Type Lo	<u>Muck</u>	Remarks Sulfidic odor.
	·	<del></del>			Callidic GGGI.
1 - 16	2.5Y 4/2	100		Silty Clay	
-					
-					
				<del></del>	
			<del></del>		·
1			<del></del>		<del></del>
			duced Matrix, CS=Covered or Coated Sa		cation: PL=Pore Lining, M=Matrix.
•	`	icable to all LRF	Rs, unless otherwise noted.)		for Problematic Hydric Soils <sup>3</sup> :
Histosol	pipedon (A2)		Sandy Gleyed Matrix (S4) Sandy Redox (S5)		Muck (A9) ( <b>LRR I, J</b> ) Prairie Redox (A16) ( <b>LRR F, G, H</b> )
	istic (A3)		Stripped Matrix (S6)		Surface (S7) (LRR G)
	en Sulfide (A4)		Loamy Mucky Mineral (F1)		Plains Depressions (F16)
	d Layers (A5) ( <b>LRR</b>	<b>R F</b> )	Loamy Gleyed Matrix (F2)		RR H outside of MLRA 72 & 73)
	uck (A9) ( <b>LRR F, G</b>		Depleted Matrix (F3)		ed Vertic (F18)
-	d Below Dark Surfa	ace (A11)	Redox Dark Surface (F6)		arent Material (TF2)
	ark Surface (A12)		<ul><li>Depleted Dark Surface (F7)</li><li>Redox Depressions (F8)</li></ul>	-	Shallow Dark Surface (TF12) (Explain in Remarks)
	Mucky Mineral (S1) Mucky Peat or Peat			<del></del>	of hydrophytic vegetation and
	ucky Peat or Peat (		(MLRA 72 & 73 of LRR H)		d hydrology must be present,
	,	, ,	,		disturbed or problematic.
Restrictive	Layer (if present):				
Type:			-		
Depth (in	ches):		-	Hydric Soil	Present? Yes V No No
Remarks:				•	
Sulfidic	odor in upp	er laver			
Camaic	odor iii app	ci layer.			
HYDROLO	·CV				
	drology Indicator				
_	drology Indicators				
Primary Indi	cators (minimum of				ary Indicators (minimum of two required)
Primary India  V Surface	cators (minimum of Water (A1)		Salt Crust (B11)	Sur	face Soil Cracks (B6)
Primary India  Surface High Wa	cators (minimum of Water (A1) ater Table (A2)		Salt Crust (B11) Aquatic Invertebrates (B13)	Suri Spa	face Soil Cracks (B6) rrsely Vegetated Concave Surface (B8)
Primary India  Surface High Wa  Saturation	cators (minimum of Water (A1) ater Table (A2) on (A3)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	Suri Spa Dra	face Soil Cracks (B6) rsely Vegetated Concave Surface (B8) inage Patterns (B10)
Primary India  Surface High Wa  Saturati Water M	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1)		Salt Crust (B11) Aquatic Invertebrates (B13)  ✓ Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2)	Suri Spa Dra Oxio	face Soil Cracks (B6) ursely Vegetated Concave Surface (B8) unage Patterns (B10) dized Rhizospheres on Living Roots (C3)
Primary India  Surface High Wa  Saturatia Water M Sedimen	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2)		Salt Crust (B11) Aquatic Invertebrates (B13)  ✓ Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Suri Spa Dra Oxid Roots (C3) (w	face Soil Cracks (B6) rrsely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) //here tilled)
Primary India  Surface High Wa  Saturati Water M Sedimei Drift De	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		<ul> <li>Salt Crust (B11)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Dry-Season Water Table (C2)</li> <li>Oxidized Rhizospheres on Living F (where not tilled)</li> </ul>	Suri Spa Dra Oxio Roots (C3) (w Cra	face Soil Cracks (B6) presely Vegetated Concave Surface (B8) presely Patterns (B10) presely Rhizospheres on Living Roots (C3) presely there tilled presely the surrows (C8)
Primary India  Surface High Wa Saturati Water M Sedimer Drift De	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		<ul> <li>Salt Crust (B11)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Dry-Season Water Table (C2)</li> <li>Oxidized Rhizospheres on Living F (where not tilled)</li> <li>Presence of Reduced Iron (C4)</li> </ul>	Suri Spa Dra Oxic Roots (C3)	face Soil Cracks (B6) resely Vegetated Concave Surface (B8) inage Patterns (B10) dized Rhizospheres on Living Roots (C3) where tilled) yfish Burrows (C8) uration Visible on Aerial Imagery (C9)
Primary India  Surface High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	fone required; ch	<ul> <li>Salt Crust (B11)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Dry-Season Water Table (C2)</li> <li>Oxidized Rhizospheres on Living F (where not tilled)</li> <li>Presence of Reduced Iron (C4)</li> <li>Thin Muck Surface (C7)</li> </ul>	Suri Spa Dra Oxio Roots (C3)	face Soil Cracks (B6) presely Vegetated Concave Surface (B8) prinage Patterns (B10) prinage Patterns (B10) prinage Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) prinorphic Position (D2)
Primary India  Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Dep	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	f one required; ch	<ul> <li>Salt Crust (B11)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Dry-Season Water Table (C2)</li> <li>Oxidized Rhizospheres on Living F (where not tilled)</li> <li>Presence of Reduced Iron (C4)</li> </ul>	Suri Spa Dra Oxio Roots (C3)	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa Saturati Water M Sedimel Drift Del Algal Ma Iron Dep	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9)	f one required; ch	<ul> <li>Salt Crust (B11)</li> <li>Aquatic Invertebrates (B13)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Dry-Season Water Table (C2)</li> <li>Oxidized Rhizospheres on Living F (where not tilled)</li> <li>Presence of Reduced Iron (C4)</li> <li>Thin Muck Surface (C7)</li> </ul>	Suri Spa Dra Oxio Roots (C3)	face Soil Cracks (B6) presely Vegetated Concave Surface (B8) prinage Patterns (B10) prinage Patterns (B10) prinage Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) prinorphic Position (D2)
Primary India  Surface High Wa Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatia Water-S	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) rvations:	f one required; ch	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Suri Spa Dra Oxio Roots (C3)	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa Saturati Water M Sedimer Drift Der Algal Ma Iron Der Inundati Water-S Field Obser	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) rvations: ter Present?	I Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Suri Spa Dra Oxio Roots (C3)	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa  Saturati Water M Sedimen Drift Dep Algal Ma Iron Dep Inundati Water-S  Field Obser Surface Water Water Table	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) rvations: ter Present?	I Imagery (B7)  Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13)  v Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Suri Spa Dra Oxio Roots (C3) (w Cra Sati Gec FAC Fros	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa Saturatia Water M Sedimer Drift Der Algal Ma Iron Der Inundatia Water-S Field Obser Surface Wat Water Table Saturation P (includes car	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) revations: ter Present? Present? Present?	I Imagery (B7)  Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13)  v Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surfice Surfice Spanning Surfice Spanning Spanni	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa Saturatia Water M Sedimer Drift Der Algal Ma Iron Der Inundatia Water-S Field Obser Surface Wat Water Table Saturation P (includes car	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) revations: ter Present? Present? Present?	I Imagery (B7)  Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13)  v Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surfice Surfice Spanning Surfice Spanning Spanni	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa Saturatia Water M Sedimer Drift Del Algal Ma Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes car Describe Re	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) revations: ter Present? Present? Present?	I Imagery (B7)  Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13)  v Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surfice Surfice Spanning Surfice Spanning Spanni	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa Saturatia Water M Sedimer Drift Der Algal Ma Iron Der Inundatia Water-S Field Obser Surface Wat Water Table Saturation P (includes car	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) revations: ter Present? Present? Present?	I Imagery (B7)  Yes No _ Yes No _ Yes No _	Salt Crust (B11) Aquatic Invertebrates (B13)  v Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surfice Surfice Spanning Surfice Spanning Spanni	face Soil Cracks (B6) proceedings of the control of
Primary India  Surface High Wa  Saturatia Water M Sedimen Drift Dep Algal Ma Iron Dep Inundatia Water-S Field Obser Surface Wat Water Table Saturation P (includes ca) Describe Re	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) rvations: ter Present? Present? Present? pillary fringe) coorded Data (strea	Il Imagery (B7)  Yes No _ Yes No _ Yes No _ m gauge, monito	Salt Crust (B11) Aquatic Invertebrates (B13)  v Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface Surface Spanners Spann	face Soil Cracks (B6) proceed of the process of the
Primary India  Surface High Wa Saturatia Water M Sedimen Drift Del Algal Ma Iron Dep Inundati Water-S Field Obser Surface Wat Water Table Saturation P (includes cal Describe Re  Remarks: Site is inu	cators (minimum of Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Vis ble on Aeria Stained Leaves (B9) rvations: ter Present? Present? pillary fringe) corded Data (strea	rone required; chall Imagery (B7)  Yes No _ Yes No _ Yes No _ m gauge, monito	Salt Crust (B11) Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2) Oxidized Rhizospheres on Living F	Surface of wetland hydrolog	face Soil Cracks (B6) presely Vegetated Concave Surface (B8) prinage Patterns (B10) dized Rhizospheres on Living Roots (C3) prinage tilled) prish Burrows (C8) puration Visible on Aerial Imagery (C9) principle Position (D2) principle Position (D2) principle Test (D5) principle Research (D7) (LRR F)  The present? Yes No  Present? Yes No  Principle Research (B7)  Present? Yes No  Principle Research (B8)  Principle Research (B10)  P

Project/Site: Forsyth NW East	(	City/Count	<sub>ty:</sub> Rosebud	d County	Sampling Date: 2024-06-10
-		-	-		Sampling Point: DP02u
Investigator(s): R McEldowney					. •
Landform (hillslope, terrace, etc.): Alluvial Flat					Slope (%): 0
					Datum: NAD 83
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 pe					
Are climatic / hydrologic conditions on the site typical for this	time of yea	ar? Yes_	✓ No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologysi	ignificantly of	disturbed?	Are "	Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrologyn	aturally prol	blematic?	(If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samplii	ng point le	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Remarks:			he Sampled hin a Wetlar		No
Upland sample point several feet hig	her tha	ın pair	ed wetla	and point.	
VEGETATION – Use scientific names of plant	ts.				
1	% Cover	Species?		Dominance Test work  Number of Dominant S  That Are OBL, FACW, (excluding FAC-):	pecies
2				Total Number of Domin Species Across All Stra	ant
Sapling/Shrub Stratum (Plot size: 15 ft r )				Percent of Dominant Sp That Are OBL, FACW, o	
2.				Prevalence Index wor	
3					Multiply by:
4					x 1 = 0
5					x 2 = 0 x 3 = 15
Herb Stratum (Plot size: 5 ft r )		= Total Co	over	FACU species 76	
1. Pascopyrum smithii	75	V	FACU	UPL species 5	
2. Bromus tectorum	5	-	UPL	Column Totals: 86	<del>-</del>
3. Lactuca serriola	3		FAC		5/4 / 1 00
4. Lepidium perfoliatum	2		FAC	Prevalence Index	
5. Thlaspi arvense	1	-	FACU	Hydrophytic Vegetation 1 - Rapid Test for H	
6				2 - Dominance Tes	
7				3 - Prevalence Inde	
8					Adaptations <sup>1</sup> (Provide supporting
9				data in Remarks	s or on a separate sheet)
10	~~			Problematic Hydro	phytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30 ft r )  1		= Total Co		<sup>1</sup> Indicators of hydric soi be present, unless distu	l and wetland hydrology must urbed or problematic.
2 % Bare Ground in Herb Stratum		= Total Co	over	Hydrophytic Vegetation Present? Yes	s No
Remarks: Sample point is dominated by FACU					

SOIL Sampling Point: DP02u

Profile Desc	ription: (Describe	e to the depth	needed to docun	nent the i	ndicator o	r confirm	the absence	of indicators.)						
Depth	Matrix			x Features										
(inches)	Color (moist)	%	Color (moist)	<u></u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rem	arks					
0 - 14	2.5Y 4/2	100					Silty Clay	Slightly moist.						
-														
-														
	-							-						
	-													
-														
	-													
				· ——										
	<del></del>													
<sup>1</sup> Type: C=Co	oncentration, D=De	pletion, RM=Re	educed Matrix, CS	S=Covered	or Coated	Sand Gra	ains. <sup>2</sup> Loc	cation: PL=Pore Lin	ing, M=Matrix.	-				
	ndicators: (Appli							for Problematic H						
Histosol			Sandy C				1 cm N	/luck (A9) (LRR I, J	)					
'	pipedon (A2)			Redox (S5)				Prairie Redox (A16)		)				
Black His			-	Matrix (S				Surface (S7) (LRR (	•	,				
	n Sulfide (A4)			Mucky Min				Plains Depressions (						
	Layers (A5) (LRR	<b>F</b> )	-	Gleyed Ma			_	R H outside of ML						
	ck (A9) (LRR F, G			d Matrix (F			Reduc	ed Vertic (F18)	,					
	Below Dark Surfa			Dark Surfa				arent Material (TF2)	ı					
Thick Da	rk Surface (A12)		Deplete	d Dark Su	rface (F7)		Very S	hallow Dark Surfac	e (TF12)					
Sandy M	lucky Mineral (S1)		Redox [	Depression	ns (F8)		Other	(Explain in Remarks	s)					
2.5 cm N	lucky Peat or Peat	(S2) (LRR G, I	<b></b> High Pla	ins Depre	ssions (F1	6)	<sup>3</sup> Indicators	of hydrophytic vege	tation and					
5 cm Mu	cky Peat or Peat (	S3) ( <b>LRR F</b> )	(ML	RA 72 & 7	3 of LRR I	H)	wetland	d hydrology must be	e present,					
							unless	disturbed or proble	matic.					
Restrictive L	ayer (if present):													
Type:			_											
Depth (inc	ches):		_				Hydric Soil	Present? Yes _	No					
Remarks:							1							
Nia lavialui														
No nyari	c soil indica	itors obse	ervea.											
HYDROLO	GY													
Wetland Hyd	drology Indicators	<b>5</b> :												
Primary Indic	ators (minimum of	one required; of	heck all that apply	<b>v</b> )			Seconda	ary Indicators (minin	num of two reg	uired)				
	Water (A1)		Salt Crust				<u>-</u>	face Soil Cracks (B6						
	ter Table (A2)		Aquatic Inv		(B13)			rsely Vegetated Co		(B8)				
Saturatio	, ,		Hydrogen		. ,			inage Patterns (B10		(DO)				
								=		to (C2)				
	arks (B1)		Dry-Seaso		, ,	D4- /		dized Rhizospheres	on Living Roo	is (C3)				
	t Deposits (B2)		Oxidized F		es on Livin	ig Roots (		here tilled)						
	oosits (B3)		,	not tilled)			<del></del> -	yfish Burrows (C8)						
_	it or Crust (B4)		Presence					uration Visible on A		C9)				
Iron Dep			Thin Muck					morphic Position (D	02)					
	on Vis ble on Aerial		Other (Exp	lain in Re	marks)			C-Neutral Test (D5)						
	tained Leaves (B9)	1					Fros	st-Heave Hummock	s (D7) ( <b>LRR F</b>	-)				
Field Observ														
Surface Water	er Present?	Yes No	Depth (inc	ches):		_								
Water Table	Present?	Yes No	Depth (inc	ches):		_								
Saturation Pr			Depth (inc				and Hydrolog	y Present? Yes _	No	<b>/</b>				
(includes cap	oillary fringe)							_						
Describe Rec	corded Data (stream	m gauge, monit	oring well, aerial p	photos, pre	evious insp	ections), i	if available:							
Remarks:														
No eviden	ce of wetland	hydrology	observed Sa	mnla n	oint is o	n a flat	hench rous	ghly 6 ft highe	r than ite					
		riyarology	observeu. Se	ampie b	OILLE O	ıı a ııal	Dencii I UU	grily o it flighte	1 1110111115					
wetland p	aıг.													

Project/Site: Forsyth NW East		Citv/Coun	<sub>itv:</sub> Rosebuo	d County	Sa	mpling Date:	2024-06-10
Applicant/Owner: MDT		-	-	State: Mo			
Investigator(s): R McEldowney							
Landform (hillslope, terrace, etc.): Ditch						Slor	ne (%)· 0
Subregion (LRR): G 60B							
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 pe				=			
•							<del>leu</del>
Are climatic / hydrologic conditions on the site typical for this							,
Are Vegetation, Soil, or Hydrologys	ignificantly	disturbed	? Are "	Normal Circumsta	ances" prese	ent? Yes	No
Are Vegetation, Soil, or Hydrology n	aturally pro	blematic?	(If ne	eded, explain any	answers in	Remarks.)	
SUMMARY OF FINDINGS – Attach site map	showing	sampli	ing point l	ocations, tran	sects, in	nportant fe	atures, etc.
Hydrophytic Vegetation Present?  Hydric Soil Present?  Wetland Hydrology Present?  Remarks:  Yes   N  Yes  N  N	0		the Sampled thin a Wetlar		es	No	
Wetland sample point in middle of ea		. PEM,	, depress	sional.			
<u> </u>		Domina	nt Indicator	Dominance Te	st workshe	et:	
<u>Tree Stratum</u> (Plot size: <u>30 ft r</u> )  1  2	% Cover	Species	Status	Number of Dom That Are OBL, I (excluding FAC	inant Speci	es	(A)
3.				Total Number o	f Dominant		
4.				Species Across		1	(B)
Sapling/Shrub Stratum (Plot size: 15 ft r )		= Total C		Percent of Dom That Are OBL, F			(A/B)
2.				Prevalence Ind	ex worksh	eet:	
3.				Total % Co	ver of:	Multiply	/ by:
4.				OBL species		_ x 1 = <u>65</u>	
5		-		FACW species			
		= Total C	over	FAC species	0	_ x 3 = 0	
Herb Stratum (Plot size: 5 ft r				FACU species			
1 Eleocharis palustris	65		OBL	UPL species	0		
2. Alopecurus arundinaceus	5		FACW	Column Totals:	73	(A) <u>87</u>	(B)
3. Pascopyrum smithii	3		FACU	Prevalenc	e Index = E	2/Δ = 1.19	
4				Hydrophytic Vo			
5				✓ 1 - Rapid T	_		ation
6				<ul> <li>✓ 1 - Rapid 1</li> <li>✓ 2 - Domina</li> </ul>	-		auon
7				✓ 3 - Prevale			
8						r <u>=</u> 3.0 otations¹ (Provi	de sunnortina
9						on a separate	
10	72			Problemation	Hydrophyt	ic Vegetation <sup>1</sup>	(Explain)
Woody Vine Stratum (Plot size: 30 ft r )  1		= Total C		<sup>1</sup> Indicators of hy be present, unle			
2				Hydrophytic			
% Bare Ground in Herb Stratum 27		= Total C	Cover	Vegetation Present?	Yes	✓ No	
Remarks:							

PEM wetland dominated by spikerush. Evidence of hydrophytic vegetation includes positive rapid test, positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL Sampling Point: DP02w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

(inches)	Color (moist)	%	Color (moist) % Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0 - 15	2.5Y 4/2	100			Silty Clay	
	·					<del></del>
-						
	•					
<sup>1</sup> Type: C=Ce	oncentration, D=Dep	letion, RM=R	educed Matrix, CS=Covered or Coat	ed Sand Gr	ains. <sup>2</sup> Location:	PL=Pore Lining, M=Matrix.
Hydric Soil	Indicators: (Applic	able to all Li	RRs, unless otherwise noted.)		Indicators for Pr	oblematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Sandy Gleyed Matrix (S4)		1 cm Muck (/	49) ( <b>LRR I, J</b> )
	oipedon (A2)		Sandy Redox (S5)		Coast Prairie	Redox (A16) ( <b>LRR F, G, H</b> )
	stic (A3)		Stripped Matrix (S6)			(S7) (LRR G)
	en Sulfide (A4)		Loamy Mucky Mineral (F1)		-	Depressions (F16)
	d Layers (A5) (LRR I		Loamy Gleyed Matrix (F2)		`	utside of MLRA 72 & 73)
	ick (A9) ( <b>LRR F, G,</b> I		Depleted Matrix (F3)		Reduced Ver	` '
	d Below Dark Surfac ark Surface (A12)	e (ATT)	<ul><li>Redox Dark Surface (F6)</li><li>Depleted Dark Surface (F7)</li></ul>	7)		Material (TF2) Dark Surface (TF12)
	Mucky Mineral (S1)		Redox Depressions (F8)	)		in in Remarks)
	Mucky Peat or Peat (	(S2) (LRR G.		F16)		rophytic vegetation and
	icky Peat or Peat (S		(MLRA 72 & 73 of LR	•	· ·	ology must be present,
	,	, ,	•	,	-	bed or problematic.
Restrictive I	Layer (if present):					-
Type:						
Depth (in	ches):				Hydric Soil Prese	ent? Yes 🗸 No
Remarks:	,					
	odor at surfa	ice.				
	odor at surfa	ice.				
Sulfidic		ice.				
Sulfidic	GY					
Sulfidic HYDROLO Wetland Hy	GY drology Indicators:		check all that apply)		Secondary Ind	icators (minimum of two required)
Sulfidic HYDROLO Wetland Hyderimary India	GY drology Indicators: cators (minimum of c				-	icators (minimum of two required)
Sulfidic  HYDROLO  Wetland Hyd  Primary Indic  Surface	GY drology Indicators: cators (minimum of c		Salt Crust (B11)		Surface So	oil Cracks (B6)
Sulfidic  HYDROLO  Wetland Hyder  Primary India  Surface  High Wa	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		Salt Crust (B11) Aquatic Invertebrates (B13)		Surface So	oil Cracks (B6) /egetated Concave Surface (B8)
Sulfidic  HYDROLO  Wetland Hyd  Primary India  Surface  High Wa  Saturatio	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)		Surface So Sparsely \ Drainage I	oil Cracks (B6) /egetated Concave Surface (B8) Patterns (B10)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Water Mater Mate	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1)		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2		Surface Some Sparsely \ Drainage I Oxidized F	oil Cracks (B6) /egetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3)
Sulfidic  HYDROLO  Wetland Hyd  Primary India  Surface  High Wa  Saturatio  Water M  Sedimer	GY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)		Salt Crust (B11) Aquatic Invertebrates (B13)  ✓ Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li		Surface So Sparsely \ Drainage I Oxidized F C3) (where to	pil Cracks (B6) /egetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3)
Sulfidic  HYDROLO  Wetland Hyd  Primary Indic  Surface  High Wa  Saturatic  Water M  Sedimer  Drift Dep	drology Indicators: cators (minimum of compared to the compare		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li (where not tilled)	ving Roots (	Surface Some Sparsely Note of the Caracter Surface Some Sparsely Note of the Caracter Surface Surface Some Surface Sur	poil Cracks (B6)  /egetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  illed)  urrows (C8)
Sulfidic  HYDROLO  Wetland Hyd  Primary Indic  Surface  High Wa  Saturatic  Water M  Sedimer  Drift Dep  Algal Ma	drology Indicators: cators (minimum of control of contr		Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely \ Sparsely \ Drainage I \ Oxidized F  C3) (where to separate Some Separation Surface Some Sparsely \ Cayfish B \ Saturation	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  iilled)  urrows (C8)  Visible on Aerial Imagery (C9)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Water Mater Mate	drology Indicators: cators (minimum of control of contr	one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface So Sparsely \ Drainage I Oxidized F C3) (where to Crayfish B Saturation Geomorph	bil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3) viilled) urrows (C8) Visible on Aerial Imagery (C9) viic Position (D2)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Wa  Saturation  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundation	drology Indicators: cators (minimum of control of contr	one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Notes of the Sparsely	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  viilled)  urrows (C8)  Visible on Aerial Imagery (C9)  vic Position (D2)  ral Test (D5)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Wa  Saturatia  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundatia  Water-S	drology Indicators: cators (minimum of of of other cators) water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial I	one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Notes of the Sparsely	bil Cracks (B6) Vegetated Concave Surface (B8) Patterns (B10) Rhizospheres on Living Roots (C3) viilled) urrows (C8) Visible on Aerial Imagery (C9) viic Position (D2)
Sulfidic  HYDROLO  Wetland Hyd  Primary India  Surface  High Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundati  Water-S  Field Obser	drology Indicators: cators (minimum of of of water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial I tained Leaves (B9) vations:	one required;	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Notes of the Sparsely	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  viilled)  urrows (C8)  Visible on Aerial Imagery (C9)  vic Position (D2)  ral Test (D5)
Sulfidic  HYDROLO  Wetland Hy Primary Indic  Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatic Water-S  Field Obser Surface Wat	drology Indicators: cators (minimum of control of contr	one required; Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Notes of the Sparsely	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  viilled)  urrows (C8)  Visible on Aerial Imagery (C9)  vic Position (D2)  ral Test (D5)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundatio  Water-S  Field Obser  Surface Water  Water Table	drology Indicators: cators (minimum of content of conte	Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Notes of the Caracterist Sparsely Notes of the Carac	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  tilled)  urrows (C8)  Visible on Aerial Imagery (C9) tilc Position (D2) ral Test (D5)  ve Hummocks (D7) (LRR F)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundatio  Water-S  Field Obser  Surface Water  Saturation P	drology Indicators: cators (minimum of of of other cators) Water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial (tained Leaves (B9)) vations: er Present? Present? Y	Imagery (B7)	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Notes of the Sparsely	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  tilled)  urrows (C8)  Visible on Aerial Imagery (C9) tilc Position (D2) ral Test (D5)  ve Hummocks (D7) (LRR F)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Wa  Saturation  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundation  Water-S  Field Obser  Surface Water  Saturation P (includes cap	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial (I) tained Leaves (B9) vations: er Present? Present? Y resent? Y resent?	Imagery (B7)  'es No 'es No 'es No	Salt Crust (B11) Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Note of the Caracterist Section 1. Sparsely Note of the Caracterist Section 1. Sparsely Note of the Caracterist Section 1. Sparsely Note of the Section 1. Spars	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  tilled)  urrows (C8)  Visible on Aerial Imagery (C9) tilc Position (D2) ral Test (D5)  ve Hummocks (D7) (LRR F)
Sulfidic  HYDROLO  Wetland Hyde  Primary India  Surface  High Wa  Saturation  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Inundation  Water-S  Field Obser  Surface Water  Saturation P (includes cap	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial (I) tained Leaves (B9) vations: er Present? Present? Y resent? Y resent?	Imagery (B7)  'es No 'es No 'es No	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Note of the Caracterist Section 1. Sparsely Note of the Caracterist Section 1. Sparsely Note of the Caracterist Section 1. Sparsely Note of the Section 1. Spars	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  tilled)  urrows (C8)  Visible on Aerial Imagery (C9) tilc Position (D2) ral Test (D5)  ve Hummocks (D7) (LRR F)
Sulfidic  HYDROLO  Wetland Hyde Primary Indice  Water Mater Sedimer  Drift Dep Algal Mater Mater Mater Sedimer Unundative Water Sedimer Surface Water Mater Table Saturation Pater Table Saturation Pater Mater Table Saturation Pater Table	drology Indicators: cators (minimum of of of other (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial (I) tained Leaves (B9) vations: er Present? Present? Y resent? Y resent?	Imagery (B7)  'es No 'es No 'es No	Salt Crust (B11) Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	ving Roots (	Surface Some Sparsely Note of the Caracterist Section 1. Sparsely Note of the Caracterist Section 1. Sparsely Note of the Caracterist Section 1. Sparsely Note of the Section 1. Spars	bil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  tilled)  urrows (C8)  Visible on Aerial Imagery (C9) tilc Position (D2) ral Test (D5)  ve Hummocks (D7) (LRR F)
Sulfidic  HYDROLO  Wetland Hyde  Primary Indice  Y Surface  High Water Many  Sedimer  Drift Dep  Algal Many  Iron Dep  Inundation  Water-S  Field Obser  Surface Water  Water Table  Saturation Perinculudes cap  Describe Reservance  Remarks:	drology Indicators: cators (minimum of of water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Intained Leaves (B9) vations: er Present? Present? Yresent? Yresent? Yresent? Yresent? Yresent? Yresent? Yresent? Yresent?	Imagery (B7)  Yes No Yes No Yes No Tigauge, moni	Salt Crust (B11) Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	wetlaspections), i	Surface Some Sparsely Notes of the second se	poil Cracks (B6)  Vegetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  viilled)  urrows (C8)  Visible on Aerial Imagery (C9)  viic Position (D2)  ral Test (D5)  ve Hummocks (D7) (LRR F)  vent? Yes Vo
Sulfidic  HYDROLO  Wetland Hyder  Primary Indice  High Water Management  Sedimer  Drift Dep  Algal Management  Iron Dep  Inundation  Water Sedimer  Water Sedimer  Drift Dep  Algal Management  Iron Dep  Inundation  Water Table  Saturation Pe  (includes cap  Describe Reservation Remarks:  Surface water  Remarks:	drology Indicators: cators (minimum of of of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Intained Leaves (B9) vations: er Present? Present? Y Present? Y Present? Y Corded Data (stream	Imagery (B7)  Yes No Yes No Yes No In gauge, monitoches. Clos	Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	wing Roots ( 4)  Wetla spections), i	Surface Some Sparsely Notes of	bil Cracks (B6)  /egetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  filled)  urrows (C8)  Visible on Aerial Imagery (C9)  filic Position (D2)  ral Test (D5)  we Hummocks (D7) (LRR F)   ent? Yes No  hydrology includes soil
Sulfidic  HYDROLO  Wetland Hyde  Primary Indice  High Water Manage Manage Manage Mater Sedimer  Drift Dep  Algal Manage Mater Sedimer  Inundation  Water Table  Saturation Perinculudes cap  Describe Remarks:  Surface Water Mater Mater Capace Mater Table  Saturation Perinculudes Capace Mater Capace Material Materia	drology Indicators: cators (minimum of of of water (A1) ater Table (A2) on (A3) larks (B1) on Deposits (B2) cosits (B3) at or Crust (B4) cosits (B5) on Vis ble on Aerial Intained Leaves (B9) vations: er Present? Present? Y Present? Y Present? Y Corded Data (stream	Imagery (B7)  Yes No Yes No Yes No In gauge, monitoches. Clos	Salt Crust (B11) Aquatic Invertebrates (B13)  Hydrogen Sulfide Odor (C1) Dry-Season Water Table (C2 Oxidized Rhizospheres on Li	wing Roots ( 4)  Wetla spections), i	Surface Some Sparsely Notes of	bil Cracks (B6)  /egetated Concave Surface (B8)  Patterns (B10)  Rhizospheres on Living Roots (C3)  filled)  urrows (C8)  Visible on Aerial Imagery (C9)  filic Position (D2)  ral Test (D5)  we Hummocks (D7) (LRR F)   ent? Yes No  hydrology includes soil

Project/Site: Forsyth NW East	(	City/County	Rosebuc	d County	Sampling Date: 2024-06-10
		-			Sampling Point: DP03u
				nge: S34 T7N R39E	. •
Landform (hillslope, terrace, etc.): Side Slope					Slope (%): 25
Subregion (LRR): G 60B	Lat: 46.	319596		Long: -106.836468	Datum: NAD 83
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 pe					
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ar? Yes	✓ No	(If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrologys	ignificantly of	disturbed?	Are "	Normal Circumstances" p	oresent? Yes No
Are Vegetation, Soil, or Hydrologyn	aturally pro	blematic?	(If ne	eded, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing	samplin	g point le	ocations, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No Metland Hydrology Present?	o <u> </u>		ne Sampled in a Wetlar		No
Wetland Hydrology Present? Yes No	<u> </u>				
Upland sample point on side slope of bo		tch; rou	ghly 3 ft	t higher than pair	ed wetland point.
VEGETATION – Use scientific names of plant	ts.				
1	% Cover		Status	Dominance Test work  Number of Dominant Sp That Are OBL, FACW, of (excluding FAC-):	pecies
2	<u> </u>			Total Number of Domin Species Across All Stra	ant
4		= Total Co			
Sapling/Shrub Stratum (Plot size: 15 ft r )				Percent of Dominant Sp That Are OBL, FACW, o	
2.				Prevalence Index wor	
3					Multiply by:
4					x 1 = 0
5					x 2 = 0 x 3 = 75
Herb Stratum (Plot size: 5 ft r )		= Total Co	ver		x 4 = 244
1 Pascopyrum smithii	60	~	FACU	UPL species 0	
2. Lepidium perfoliatum	15		FAC	Column Totals: 86	
3. Lactuca serriola	10		FAC		
4. Thlaspi arvense	1		FACU	Prevalence Index	
5				Hydrophytic Vegetatio	
6				1 - Rapid Test for F 2 - Dominance Tes	
7				3 - Prevalence Inde	
8					Adaptations <sup>1</sup> (Provide supporting
9				data in Remarks	s or on a separate sheet)
10	~~			Problematic Hydro	phytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30 ft r )  1		= Total Co		<sup>1</sup> Indicators of hydric soi be present, unless distu	l and wetland hydrology must urbed or problematic.
2		= Total Co		Hydrophytic Vegetation Present? Yes	s No
% Bare Ground in Herb Stratum 14  Remarks:				10.	
Sample point is dominated by FACU	vegeta	tion.			

SOIL Sampling Point: DP03u

Profile Desc	ription: (Describe	to the depth i			r or confirn	n the absence	of indicators.)
Depth	Matrix	%		x Features	Loc <sup>2</sup>	Touture	Domarko
(inches) 0 - 16	2.5Y 4/2	_ <u> </u>	Color (moist)	%Type <sup>1</sup>	LOC	Texture Silty Clay	Remarks Soil is dry.
	2.51 4/2	100				Silty Clay	Soil is dry.
				<del></del>			
_				. <u> </u>			
-							
-							_
				·			
				· ·			<u> </u>
				<del></del>			
	-			· ·——		-	
	oncentration, D=Dep				ited Sand Gi		cation: PL=Pore Lining, M=Matrix.
-	ndicators: (Applic	able to all LR					for Problematic Hydric Soils <sup>3</sup> :
Histosol				Gleyed Matrix (S4)	)		Muck (A9) (LRR I, J)
Black Hi	nipedon (A2)		-	Redox (S5) d Matrix (S6)			Prairie Redox (A16) (LRR F, G, H)
	n Sulfide (A4)			Mucky Mineral (F1	1)		turface (S7) ( <b>LRR G</b> ) lains Depressions (F16)
	Layers (A5) (LRR	F)		Gleyed Matrix (F2	•	_	R H outside of MLRA 72 & 73)
	ck (A9) ( <b>LRR F, G</b> ,			d Matrix (F3)	,	`	ed Vertic (F18)
Depleted	Below Dark Surfac	e (A11)	Redox [	Dark Surface (F6)		Red Pa	arent Material (TF2)
	rk Surface (A12)			d Dark Surface (F	7)		hallow Dark Surface (TF12)
	lucky Mineral (S1)	(OO) (LDD O L		Depressions (F8)	(E40)		(Explain in Remarks)
	flucky Peat or Peat or Reat (S			ains Depressions ( RA 72 & 73 of LR			of hydrophytic vegetation and d hydrology must be present,
5 CITI WILL	cky real of real (S	3) (LKK F)	(IVIL	NA 12 & 13 01 LN	хк п)		disturbed or problematic.
Restrictive L	ayer (if present):					1	
Type:			_				
Depth (inc	ches):					Hydric Soil	Present? Yes No
Remarks:	·						
Nia lavalui			m. ra al				
No nyari	c soil indica	tors obse	rvea.				
HYDROLO							
_	drology Indicators:						
	ators (minimum of o	one required; c			-	-	ry Indicators (minimum of two required)
	Water (A1)		Salt Crust				ace Soil Cracks (B6)
	ter Table (A2)			vertebrates (B13)			rsely Vegetated Concave Surface (B8)
Saturatio				Sulfide Odor (C1)			nage Patterns (B10)
	arks (B1)		-	n Water Table (C			dized Rhizospheres on Living Roots (C3)
	t Deposits (B2)			Rhizospheres on L	iving Roots		there tilled)
	oosits (B3)		,	not tilled) of Reduced Iron ((	C4)		rish Burrows (C8)  ration Visible on Aerial Imagery (C9)
	t or Crust (B4) osits (B5)		<del></del>	Surface (C7)	<del>(4)</del>	· <u></u>	morphic Position (D2)
	on Vis ble on Aerial	Imagery (B7)		plain in Remarks)			:-Neutral Test (D5)
	tained Leaves (B9)	imagery (Br)	Outer (Exp	nam m Kemana,			st-Heave Hummocks (D7) (LRR F)
Field Observ	. ,						cricare raminesia (27) (2mm)
Surface Water		es No	✓ Depth (inc	ches):			
Water Table				ches):			
Saturation Pr				ches):		and Hydrolog	y Present? Yes No
(includes cap	oillary fringe)						,
Describe Red	corded Data (stream	n gauge, monito	oring well, aerial p	ohotos, previous ir	nspections),	if available:	
Remarks:							
No evide	ence of wetla	and hydro	ology obse	rved			
	OI WOUL	aria riyare					

Project/Site: Forsyth NW East		City/Co	ounty: R	Rosebu	d County Sampling Date: 2024-06-1	0
Applicant/Owner: MDT		-	-		State: Montana Sampling Point: DP03w	
Investigator(s): R McEldowney		Sectio	n, Town	ship, Ra	nge: S34 T7N R39E	
Landform (hillslope, terrace, etc.): Ditch						
					Long: <u>-106.836446</u> Datum: NAD 83	
Soil Map Unit Name: 98 - Harlem silty clay, 0 to 2 p						
Are climatic / hydrologic conditions on the site typical for th	is time of ve	ar? Ye	es 🗸	No	(If no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology						
Are Vegetation, Soil, or Hydrology					eeded, explain any answers in Remarks.)	
SUMMARY OF FINDINGS – Attach site map						c.
Hydrophytic Vegetation Present? Yes 1	No					_
	No			Sampled		
	No		within a	a Wetlar	nd? Yes V No No	
Remarks:					_	
PEM, depressional in a borrow ditch	۱.					
VEGETATION – Use scientific names of plan	nts.					
Tree Stratum (Plot size: 30 ft r	Absolute % Cover				Dominance Test worksheet:	
1				<u>riatao</u>	Number of Dominant Species That Are OBL, FACW, or FAC	
2.					(excluding FAC-): 1 (A)	
3.					Total Number of Dominant	
4					Species Across All Strata: 1 (B)	
0 1: (0) 1 0: (1) 15 ft r		= Tota	al Cover		Percent of Dominant Species	
Sapling/Shrub Stratum (Plot size: 15 ft r )  1. Populus deltoides	1		F	AC	That Are OBL, FACW, or FAC: 100.00 (A/B)	)
					Prevalence Index worksheet:	
2.					Total % Cover of: Multiply by:	
3					OBL species <u>70</u> x 1 = <u>70</u>	
5.		-			FACW species <u>0</u> x 2 = <u>0</u>	
	1	= Tota	al Cover		FAC species 1 x 3 = 3	
Herb Stratum (Plot size: 5 ft r )					FACU species <u>3</u> x 4 = <u>12</u>	
1. Eleocharis palustris	70			BL	UPL species $0 \times 5 = 0$	
2. Pascopyrum smithii	_ 3	. ——		ACU	Column Totals: <u>74</u> (A) <u>85</u> (B)	
3					Prevalence Index = B/A = 1.14	
4					Hydrophytic Vegetation Indicators:	
5					✓ 1 - Rapid Test for Hydrophytic Vegetation	
6					✓ 2 - Dominance Test is >50%	
7					✓ 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
8					4 - Morphological Adaptations <sup>1</sup> (Provide supporting	g
9					data in Remarks or on a separate sheet)	
10	70	= Tota	al Cover		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size: 30 ft r )					<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1						
2			ol Cover		Hydrophytic Vegetation	
% Bare Ground in Herb Stratum 27		- 10ta	ai Gover		Present? Yes No No	
Remarks:					1	
Nearly a pure stand of spikerush in her	baceous	lave	er. Evi	dence	e of hydrophytic vegetation includes a	

positive rapid test, a positive dominance test, and a prevalence index less than or equal to 3.0.

SOIL Sampling Point: DP03w

Profile Desc	cription: (Describe	to the depth ne	eded to docu	ment the i	ndicator	or confirn	n the absence	of indicators.)	
Depth	Matrix		Redo	x Feature					
(inches)	Color (moist)	%C	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remar	ks
0 - 15	N 4/0	100					Silty Clay	Gleyed	_
-									
_									
				_					
				-					
				_				-	
-									
_				-					
1Type: C=C	oncentration, D=De	nlotion DM=Dod	uood Matrix, C	S=Covered	d or Coato	d Sand Ci	raina <sup>2</sup> l o	cation: PL=Pore Lining	a M-Motriy
	Indicators: (Appli					u Sanu Gi		for Problematic Hyd	
Histosol		ouble to un Eith	Sandy					/luck (A9) ( <b>LRR I, J</b> )	
l —	pipedon (A2)			Redox (S5				Prairie Redox (A16) ( <b>I</b>	-RR F. G. H)
	istic (A3)			d Matrix (S				Surface (S7) (LRR G)	
l —	en Sulfide (A4)			Mucky Mir				lains Depressions (F1	6)
Stratified	d Layers (A5) ( <b>LRR</b>	F)	<u>✓</u> Loamy	Gleyed Ma	atrix (F2)		(LR	R H outside of MLR	A 72 & 73)
1 cm Mu	uck (A9) ( <b>LRR F, G</b> ,	H)	Deplete	d Matrix (	F3)			ed Vertic (F18)	
-	d Below Dark Surfa	ce (A11)		Dark Surfa	` ,			arent Material (TF2)	
l —	ark Surface (A12)				ırface (F7)		-	Shallow Dark Surface (	TF12)
	Mucky Mineral (S1)  Mucky Peat or Peat	(S2) (I BB C U)		Depressio	ns (F8) essions (F	16)		(Explain in Remarks) of hydrophytic vegeta	tion and
	ucky Peat or Peat (S			•	73 of LRR	,		d hydrology must be p	
5 611 1016	cky i cat of i cat (c	oo) (ERRT)	(IVIL		O LINI	•••		disturbed or problema	
Restrictive	Layer (if present):						1	alotarou or problem	
Type:	, , ,								
J	ches):						Hydric Soil	Present? Yes	, No
Remarks:			•				,		
Gleyed	soil matrix.								
<b>HYDROLO</b>	GY								
Wetland Hy	drology Indicators	:							
Primary India	cators (minimum of	one required; che	eck all that app	y)			Seconda	ary Indicators (minimu	m of two required)
✓ Surface	Water (A1)		Salt Crust	(B11)			Surf	face Soil Cracks (B6)	
	ater Table (A2)		Aquatic In		s (B13)			rsely Vegetated Conc	ave Surface (B8)
✓ Saturation			Hydrogen					inage Patterns (B10)	,
	larks (B1)		Dry-Seaso					dized Rhizospheres or	Living Roots (C3)
Sedimer	nt Deposits (B2)		Oxidized I	Rhizosphe	res on Livi	ing Roots	(C3) (w	here tilled)	
Drift Dep	posits (B3)		(where	not tilled)		_	Cra	yfish Burrows (C8)	
Algal Ma	at or Crust (B4)		Presence	of Reduce	ed Iron (C4	·)	Satu	uration Visible on Aeria	al Imagery (C9)
Iron Dep	oosits (B5)		Thin Mucl	Surface (	(C7)		<u>✔</u> Geo	morphic Position (D2)	
Inundati	on Vis ble on Aerial	Imagery (B7)	Other (Ex	olain in Re	emarks)		FAC	C-Neutral Test (D5)	
Water-S	tained Leaves (B9)						Fros	st-Heave Hummocks (	D7) ( <b>LRR F</b> )
Field Obser	vations:								
Surface Wat	er Present?	Yes 🖊 No _	Depth (in	ches): 2					
Water Table		Yes No _							
Saturation P		Yes No					and Hydrolog	y Present? Yes	No
(includes car	oillary fringe)								
Describe Re	corded Data (strear	n gauge, monitor	ing well, aerial	photos, pr	evious ins	pections),	if available:		
Remarks:									
Site is inu	ndated in patc	hes and satu	irated to su	rface th	rougho	ut. Evid	lence of we	tland hydrology	includes soil
	n, surface wate				_			, · · · · · · · · · · · · · · · · · · ·	
341414101	., 5aa55 Hate	, goomo.pn	20010011,	u p	33.1.70				

## MDT Montana Wetland Assessment Form (revised March 2008)

8. Wetland size:

9. Assessment area (AA):

1. Project Name:Forsyth NW- West2. MDT Project #:STPP 14(9)259Control #:9680000

**3. Evaluation Date:** 06/11/2024 **4. Evaluator(s):** E Reynaud **5. Wetlands/Site #(s):** Forsyth NW- West **6. Wetland Location(s): i. Legal:** T7N,R39E,29 ;T7N,R39E,29 **Latitude/Longitude:** 46.338472, -106.874619: Center of AA

ii. Approx. Stationing or Mileposts: RP 280 on US 12

iii. Watershed: 14

Watershed Name, County: Middle Yellowstone, Rosebud

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
R	EM	Е	SI	13.4
R	UB	Е	SI	5
R	UB	I	SI	81.6

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)

4.010 acres (measured)

10.670 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	Predominant conditions adjacent to (within 500 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.): Construction activities in 2017 to repair the dike structure temporarily increased disturbance rating at the site to high in 2017, was reduced to moderate in 2018, and reduced to low in 2020.

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Euphorbia esula, Cirsium arvense, Tamarix chinensis

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes existing and constructed wetlands within floodplain of Big Spring Coulee and Big Porcupine Creek. Surrounding land includes US 12 and rangeland that supports livestock grazing

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 preventing (passive) existence of additional vegetated classes?		Modified Rating
>= 3 (or 2 if 1 is forested) classes	Н	NA	NA	NA
2 (or 1 if forested) classes	М	NA	NA	NA
1 class, but not a monoculture	M	< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

B-65

Comments: This site consists of a mosaic of emergent wetlands and open water.

1

#### **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 habitat (list species)

Monarch butterfly(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, 2024

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)
Scarlet Ammannia - Ammannia robusta

Secondary habitat (list species)
Incidental habitat (list species)
American Bittern(D) - S2S3
Great Blue Heron(S) - 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, 2024. American Bittern observed by MDT during October 2024 site visit.

#### 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]):
<ul> <li>X observations of abundant wildlife #s or high species diversity (during any period) abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.</li> <li>X presence of extremely limiting habitat features not available in the surrounding area interviews with local biologists with knowledge of the AA</li> </ul>	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, a dequate 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									Mod	erate				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	А
Low disturbance at AA (see #12i)	Е	Е	Е	Н	Е	Е	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)

Evidence 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: Many bird species were observed during the 2024 monitoring visit. Frogs, a turtle, and a raccoon were also observed.

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) Warm Water (WW) X 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	ttent		Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Opt	Optimal		luate	Poor		Optimal		Adequate		Poor		Opt	imal Ade		equate Poo		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: Direct observation

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: 0.3L

Comments: Increased inundation and bull rush establishment improved fish habitat in 2024. While the site was not designed to provide fish habitat, fish have been using the

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 tream 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.

64 /	42 =	1.52
Flood-prone	Bankfull	Entrenchment ratio
width	width	(FR)



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	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: The site provides flood attenuation functions for the adjacent Big Porcupine 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, **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: Site has been moved into the seasonal/intermittent category due to dry conditions observed by MDT in October, 2024.

**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,

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 n 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%	>=	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: Open/standing water was present across 48% of the site in 2024.

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

Comments: Shoreline has a significant amount of stabilizing vegetation when the water is high - at lower water levels, the shoreline is primarily bare mudflat.

#### 14I. Production Export/Food Chain Support:

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

General Fish Habitat	General \	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 (14I.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].)

A		Vegetated component >5 acres						Vegetated component 1-5 acres						Vegetated component < 1 acre						
В	Hi	gh	Mod	erate	Lo	w	High		Mode	Moderate		Low		High		Moderate		ow		
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).

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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: 0.70M Com

Comments: Upland buffer between northern boundary of AA and highway greater than 50ft.

14J. Groundwater Discharge/Recha	rge: (check t	the appropria	te indicators	in i & ii belov	v)								
i. Discharge Indicators  The AA is a slope wetland  Springs or seeps are known  Vegetation growing during do  Wetland occurs at the toe of  AA permanently flooded duri  Wetland contains an outlet, by	ormant seaso a natural slo ng drought p	ре		P	ii. Recharge Indicators  Permeable substrate present without underlying impeding layer  Wetland contains inlet but no outlet  Stream is a known 'losing' stream; discharge volume decreases  Other:								
X Shallow water table and the source Other:	site is satura	ted to the sur	face										
iii. Rating (use the information from i	and ii above	Duration	of saturation	ive at [circle] on at AA Wei /ITH WATER ROUNDWAT	tlands <u>FROI</u> THAT IS RE	M GROUNDV	<u>VATER</u>	]					
	_	P/P				<u>.</u>	Nama	_					
Criteria		1H		.7M	.4M		None .1L	1					
Groundwater Discharge or Rechai	rge	11.1					.1L	4					
Comments: Site hydrology is combined 14K. Uniqueness:	Insufficient Data/Information  Comments: Site hydrology is combination of seasonally high groundwater table and runoff. Water is held on the site via an impoundment 14K. Uniqueness:  i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating)												
Replacement potential	or matur wetland <b>or</b>	s fen, bog, w e (>80 yr-old r plant associ 61" by the MT	) forested iation listed	rare types (#13) is	t contain pre and structur high or conta on listed as "s MTNHP	al diversity ains plant	AA does not contain previously cited rare types or associations <b>and</b> structural diversity (#13) is low-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: AA is becoming less struis occurring in mesic are		erse as veget	ation intolera	nt to inundati	on dies off. F	However, sor	ne natural re	cruitment of d	cottonwoods				
14L. Recreation/Education Potentia i. Is the AA a known or potential recoverall summary and rating partial. Check categories that apply to the iii. Rating:	c./ed. site: (c age) ne AA:	•	if 'Yes' contin	ue with the e	valuation; if	No' then ma	_	nd proceed to	o the				
Known or Potential Recreation or Ed	lucation Area						Known	Potential	7				
Public ownership or public easem			access (no	permission i	required)		.2H	.15H	7				
Private ownership with general pu							.15H	.1M					
Private or public ownership witho Comments: Property is owned by Mi							.1M	.05L					
General Site Notes													
Site provided highly valuable habitat	to shorebird	s and waterfo	owl in 2024, a	along with flo	odwater stora	age.							

# FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Forsyth NW- West

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	L	0.10	1	0.40	
B. MT Natural Heritage Program Species Habitat	Н	0.90	1	3.61	*
C. General Wildlife Habitat	Н	0.90	1	3.61	*
D. General Fish Habitat	L	0.30	1	1.20	
E. Flood Attenuation	М	0.50	1	2.01	
F. Short and Long Term Surface Water Storage	Н	0.90	1	3.61	*
G. Sediment/Nutrient/Toxicant Removal	М	0.70	1	2.81	
H. Sediment/Shoreline Stabilization	М	0.60	1	2.41	
I. Production Export/Food Chain Support	М	0.70	1	2.81	*
J. Groundwater Discharge/Recharge	М	0.70	1	2.81	
K. Uniqueness	М	0.40	1	1.60	
L. Recreation/Education Potential (bonus points)	Н	0.20	1	0.80	
Totals: Percent of Possible Score		6.90	11.00 63%	27.68	

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  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  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: II

Summary Comments: This site continues to evolve and develop more complex wetland habitat following several years of inundation.

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## MDT Montana Wetland Assessment Form (revised March 2008)

1. Project Name: Forsyth NW - Middle 2. MDT Project #: STPP 14(9)259 Control #: 9680000

3. Evaluation Date: 06/10/2024 4. Evaluator(s): E Reynaud 5. Wetlands/Site #(s): Forsyth NW- Middle

6. Wetland Location(s): i. Legal: T7N,R39E,33 ;T7N,R39E,34 Latitude/Longitude: 46.323159, -106.84301 : Center of AA

ii. Approx. Stationing or Mileposts: ~262.3 on US 12

iii. Watershed: 4

Watershed Name, County: Middle Yellowstone, Rosebud

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

1. Wetlands potentially affected by MDT project
2. Mitigation wetlands; pre-construction

8. Wetland size:

0.550 acres (measured)

3. X Mitigation wetlands; post-construction 9. Assessment area (AA): 0.550 acres (measured)

4. Other:

#### 10. Classification of Wetland and Aquatic Habitats in AA

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% of AA
D	EM	E	SI	100.00

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

Aquatic Bed (**AB**), Unconsolidated Shore (**US**), Moss-lichen Wetland (**ML**), Emergent Wetland (**EM**), Scrub-Shrub Wetland (**SS**), Forested Wetland (**FO**)

 $\begin{tabular}{ll} \textbf{Modifiers:} & \textbf{Excavated (E)}, & \textbf{Impounded (I)}, & \textbf{Diked (D)}, & \textbf{Partly Drained (PD)}, & \textbf{Farmed (F)}, & \textbf{Artificial (A)} \\ \end{tabular}$ 

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)

ABUNDANT

#### 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.): Site is adjacent to a highway. The adjacent right-of-way is mowed, sprayed for weeds and played

ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Canada thistle and field bindweed cover have increased since 2023. iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA very similar to Forsyth NW - East, only smaller. AA includes a linear, excavated roadside depression parallel to US 12. Surrounding land includes agriculture (grazing) and 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	М	NA	NA	NA
1 class, but not a monoculture	M	< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	Ĺ	NA	NA	NA

Comments: PEM wetland, willow growth increasing yearly.

#### **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 habitat (list species)

Monarch butterfly(S)

World Cir butterily(0)

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

Highest Habitat Level	labitat Level doc/primary sus/primary d		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, 2024

#### 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 habi

Scarlet Ammannia - Ammannia robusta

Incidental habitat (list species)
Great Blue Heron(S) - 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, 2024

#### 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]):
observations of abundant wildlife #s or high species diversity (during any period) 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	X few or no wildlife observations during peak use periods     Iittle 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	•
:: Wildlife hebitet feetung (Menting from ton to better single communiste AA attributes)	in matrix to arrive at rating. Structural diversity is from #12. Fo

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										Mod	erate				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	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)

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

Comments: This area is close to the roadway and will likely never achieve a high wildlife habitat rating.

**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						Seasonal / Intermittent						Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Opti	imal	Adeo	Adequate Poor		Optimal		Adequate		Poor		Optimal		Adequate		Poor			
Thermal cover optimal / suboptimal	0	S	0	S	0	S	0	S	0	S	0	S	0	S	0	S	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: Not applicable.

**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.

64 /	42 =	1.52
Flood-prone	Bankfull	Entrenchment ratio
width	width	(FR)



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	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:** AA is subject to overbank flows from Big Porcupine 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, **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			1.1 t	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 subject to ponding from snowmelt, precipitation and overland flow from adjacent roads and uplands.

**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,

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	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.				nutrients, or t use with po nutrients, o substantially	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%	>=	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: Enclosed basin will filter sediment, nutrients, and toxicants well.

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

Comments: Not applicable.

#### 14I. Production Export/Food Chain Support:

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

General Fish Habitat	Conorall	General Wildlife Habitat Pating (14C iii )							
	General	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		Vegetat	ed com	oonent >	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).

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

\_\_\_If yes, add 0.1 to the score in ii \_\_\_above.

iv. Final Score and Rating: 0.30L Comments: Site has limited food chain value.

#### 14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below) i. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet 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: AA permanently flooded during drought periods Wetland contains an outlet, but no inlet Shallow water table and the site is saturated to the surface Other: 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** P/P S/I None Criteria 1H .4M .7M .1L **Groundwater Discharge or Recharge** Insufficient Data/Information Comments: AA without permeable substrate, holds surface water eventually lost to evaporation. 14K. Uniqueness: i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating) AA does not contain previously cited AA contains fen, bog, warm springs AA does not contain previously cited rare types and structural diversity or mature (>80 yr-old) forested rare types or associations and Replacement potential (#13) is high or contains plant wetland or plant association listed structural diversity (#13) is lowassociation listed as "S2" by the as "S1" by the MTNHP moderate **MTNHP** Estimated relative abundance (#11) rare common abundant rare common abundant rare common abundant .8H .6M Low disturbance at AA (#12i) 1H .9H .8H .5M .5M .4M .3L .2L Moderate disturbance at AA (#12i) .9H .8H .7M .7M .5M 3L .4M .4M High disturbance at AA (#12i) .8H .6M .6M .4M .3L .3L .2L 1L 7M Comments: Habitat within AA typical of roadside wetland ditch 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) (if 'Yes' continue with the evaluation; if 'No' then mark X NA and proceed to the overall summary and rating page) ii. Check categories that apply to the AA: Educational/scientific study; Consumptive rec.; Non-consumptive rec.; Other: Known or Potential Recreation or Education Area Potential Known Public ownership or public easement with general public access (no permission required) .2H 15H 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 Comments: AA small, adjacent to highway, and with no recreation or education potential. **General Site Notes**

Wetland acreage decreased in 2024 by 0.03-acre. Noxious weed cover increased in 2024.

## FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Forsyth NW- Middle

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	L	0.10	1	0.06	
B. MT Natural Heritage Program Species Habitat	Н	0.90	1	0.50	*
C. General Wildlife Habitat	М	0.40	1	0.22	*
D. General Fish Habitat	NA				
E. Flood Attenuation	М	0.50	1	0.28	
F. Short and Long Term Surface Water Storage	L	0.30	1	0.17	*
G. Sediment/Nutrient/Toxicant Removal	Н	0.80	1	0.44	*
H. Sediment/Shoreline Stabilization	NA				
I. Production Export/Food Chain Support	L	0.30	1	0.17	
J. Groundwater Discharge/Recharge	NA				
K. Uniqueness	L	0.20	1	0.11	
L. Recreation/Education Potential (bonus points)	NA				
Totals:		3.50	8.00	1.95	
Percent of Possible Score			44%		

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  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  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)  X "Low" rating for Uniqueness; and  X 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: III

Summary Comments: Marginal wetland site that provides limited ecological value.

## MDT Montana Wetland Assessment Form (revised March 2008)

2. MDT Project #: 1. Project Name: Forsyth NW - East STPP 14(9)259 Control #: 9680000

06/10/2024 3. Evaluation Date: 4. Evaluator(s): E Revnaud 5. Wetlands/Site #(s): Forsyth NW - East

T7N,R39E,34 Latitude/Longitude: 46.319774, -106.836602 : Center of AA 6. Wetland Location(s): i. Legal:

ii. Approx. Stationing or Mileposts: ~262.3 on US 12

iii. Watershed:

Watershed Name, County: Middle Yellowstone, Rosebud

7. a. Evaluating Agency: CCI for MDT

b. Purpose of Evaluation:

Wetlands potentially affected by MDT project
 Mitigation wetlands; pre-construction

3. X Mitigation wetlands; post-construction

Other:

9. Assessment area (AA): 0.820 acres (measured)

10. Classification of Wetland and Aquatic Habitats in AA

**HGM Class** Class Modifier Water Regime % of AA (Brinson) (Cowardin) (Cowardin) D ΕM Ε 100.00 SI

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

0.820 acres (measured)

Wetland (FO)

8. Wetland size:

 $\textbf{Modifiers:} \ \, \textbf{Excavated} \ \, \textbf{(E)}, \ \, \textbf{Impounded} \ \, \textbf{(I)}, \ \, \textbf{Diked} \ \, \textbf{(D)}, \ \, \textbf{Partly Drained}$ 

(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) ABUNDANT

#### 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 i	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.): AA is a seasonal/intermittent depressional wetland adjacent to US 12.

- ii. Prominent noxious, aquatic nuisance, & other exotic vegetation species: Convolvulus arvensis
- iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA is a roadside depression excavated parallel to US 12. Surrounding land includes agriculture (grazing) and a secondary 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	М	NA	NA	NA
1 class, but not a monoculture	M	< NO	YES>	L
1 class, monoculture (1 species comprises >= 90% of total cover)	L	NA	NA	NA

Comments: Emergent vegetation is dominant but cottonwood saplings and willows are becoming well established. Some portions of the site may eventually transition to PSS.

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#### **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 habitat (list species)

Monarch butterfly(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, 2024

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) Scarlet Ammannia - Ammannia robusta,

Incidental habitat (list species)

Great Blue Heron(S) - 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
<b>S2 and S3 Species:</b> Functional Points and Rating	.9Н	.7M	.6M	.5M	.2L	.1L	0L

Sources for documented use (e.g. observations, records, etc): MTNHP, 2024

#### 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]):
observations of abundant wildlife #s or high species diversity (during any period) 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	X few or no wildlife observations during peak use periods     X 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	g peak periods
common occurrence of wildlife sign such as scat, tracks, nest structures, game trails,	etc.
adequate adjacent upland food sources	
interviews with local biologists with knowledge of the AA	
<del>_</del>	

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)				Hi	gh							Mod	erate					Lo	)W	
Class cover distribution (all vegetated classes)		Even				Une	even			Ev	en			Une	even		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	Е	Е	Н	Е	Е	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)

Evidence 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: This area is close to the roadway and will likely never achieve a high wildlife habitat rating.

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**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	sonal /	Intermi	ttent		Temporary / Ephemeral					
Aquatic hiding / resting / escape cover	Opti	imal	Adec	luate	Po	or	Opt	imal	Adec	quate	Po	or	Opti	imal	Adec	juate	Po	or
Thermal cover optimal / suboptimal	0	S	0	Ø	0	S	0	S	0	Ø	0	S	0	S	0	S	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 exists on site.
- **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.

 64 /
 42 =
 1.52

 Flood-prone width
 Bankfull bank



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	F stream type	G stream type				
	<b>****</b>					<b>—</b>				

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: AA subject to overbank flows from Big Porcupine 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, **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: AA subject to ponding following large precipitation or runoff events. Portions of depression inundated during 2024 monitoring visit.

**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, \_\_\_\_\_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])

		·	1/					
Sediment, nutrient, and toxicant input levels within AA	potential to or compour are n sedimentat	deliver levels ds at levels ot substantia ion, sources	ounding land s of sediment such that oth illy impaired. of nutrients of phication pres	er functions Minor or toxicants,	developmen nutrients, or t use with po nutrients, o substantially	t for "probable of coxicants or AA otential to delive r compounds so impaired. Majo	waterbodies in r causes" related receives or surier 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%	>= 1	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: Portions of depression inundated on 06/10/2024.

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,

X 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 ve	egetation
shoreline by species with stability ratings of >=6 (see <b>Appendix F</b> ).	Permanent / Perennial	Seasonal / Intermittent	Temporary / Ephemeral
>= 65%	1H	.9H	.7M
35-64%	.7M	.6M	.5M
35%	.3L	.2L	.1L

Comments: NA - no open water exists on site.

#### 14I. Production Export/Food Chain Support:

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

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

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 (14I.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		,	Vegetat	ed comp	onent 1	-5 acres	3	Vegetated component < 1 acre						
В			Hi	gh	Mode	erate	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

iv. Final Score and Rating: 0.40M
Comments: Food chain support and production and export is limited due to the size and location of the site.

# i. Discharge Indicators ii. Recharge Indicators The AA is a slope wetland Permeable substrate present without underlying impeding layer Springs or seeps are known or observed Wetland contains inlet but no outlet Vegetation growing during dormant season/drought Stream is a known 'losing' stream; discharge volume decreases

Wetland occurs at the toe of a natural slope

AA permanently flooded during drought periods

Other:

14J. Groundwater Discharge/Recharge: (check the appropriate indicators in i & ii below)

Wetland contains an outlet, but no inlet

X Shallow water table and the site is saturated to the surface

X Other: AA hydrologically connected to a historic oxbow.

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				
Criteria	P/P	S/I	T	None	
Groundwater Discharge or Recharge	1H	.7M	.4M	.1L	
Insufficient Data/Information		N	/A		

Comments: Inundation was observed on site in 2024.

#### 14K. Uniqueness:

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

Replacement potential	or mature wetland <b>or</b>	s fen, bog, w e (>80 yr-old plant associ 1" by the MT	) forested ation listed	AA does not contain previously cited rare types <b>and</b> structural diversity (#13) is high <b>or</b> contains plant association listed as "S2" by the MTNHP		AA does not contain previously cited rare types or associations <b>and</b> structural diversity (#13) is low-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: AA is part of a roadside ditch.

14L. Recreation/Education Potential:	(affords "bonus"	points if AA r	provides recreation	or education opportunity

i. Is the AA a known or potential rec./ed. site: (circle)	(if 'Yes' continue with the evaluation; if 'No' then mark X	$\boldsymbol{NA}$ and proceed to the
overall summary and rating page)		

ii. Check categories that apply to the AA:	Educational/scientific study;	Consumptive rec.;	Non-consumptive rec.
	Other:		

### iii. Rating:

Known	Potential
.2H	.15H
.15H	.1M
.1M	.05L
	.15H

**Comments:** AA small, adjacent to highway, and with no recreation or education potential.

General Site Notes
Wetland acreage decreased by 0.04-acre in 2024.

5

## FUNCTION & VALUE SUMMARY & OVERALL RATING FOR WETLAND/SITE #(S): Forsyth NW - East

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	L	0.10	1	0.08	
B. MT Natural Heritage Program Species Habitat	Н	0.90	1	0.74	*
C. General Wildlife Habitat	М	0.40	1	0.33	
D. General Fish Habitat	NA				
E. Flood Attenuation	М	0.50	1	0.41	
F. Short and Long Term Surface Water Storage	М	0.60	1	0.49	*
G. Sediment/Nutrient/Toxicant Removal	Н	1.00	1	0.82	*
H. Sediment/Shoreline Stabilization	NA				
I. Production Export/Food Chain Support	М	0.40	1	0.33	
J. Groundwater Discharge/Recharge	М	0.70	1	0.57	*
K. Uniqueness	L	0.20	1	0.16	
L. Recreation/Education Potential (bonus points)	NA				
Totals:		4.80	9.00	3.93	
Percent of Possible Score			53%		

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  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  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)  X "Low" rating for Uniqueness; and  X 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: III

**Summary Comments:** The site remains a Category III wetland. No substantial changes were made from 2023 to 2024.

Table B-1. FNW-West Species List

Scientific Names	Common Names	GP Indicator Status <sup>(a)</sup>
Agropyron cristatum	Crested Wheatgrass	UPL
Algae, green	Algae, green	OBL
Alisma triviale	Northern Water-Plantain	OBL
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FACW
Alopecurus pratensis	Field Meadow-Foxtail	FACW
Ambrosia psilostachya	Perennial Ragweed	FACU
Ammannia robusta	Grand Redstem	OBL
Artemisia frigida	Fringed Sage	UPL
Bassia scoparia	Mexican-Fireweed	FACU
Bromus arvensis	Japanese Brome	UPL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	UPL
Bromus tectorum	Cheatgrass	UPL
Chenopodium album	Lamb's-Quarters	FACU
Chorispora tenella	Crossflower	UPL
Convolvulus arvensis	Field Bindweed	UPL
Descurainia pinnata	Western tanseymustard	UPL
Descurainia sophia	Herb Sophia	UPL
Echinochloa crus-galli	Large Barnyard Grass	FAC
Eleocharis palustris	Common Spike-Rush	OBL
Elymus canadensis	Nodding Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus sp.	Wild Rye	UPL
Elymus trachycaulus	Slender Wild Rye	FACU
Euphorbia esula	Leafy Spurge	UPL
Filago arvensis	Field Fluffweed	UPL
Glyceria elata	Tall Manna Grass	OBL
Grindelia squarrosa	Curly-Cup Gumweed	UPL
Helianthus annuus	Common Sunflower	FACU
Hesperostipa comata	Needle-and-Thread	UPL
Hordeum jubatum	Fox-Tail Barley	FACW
Lactuca serriola	Prickly Lettuce	FAC
Lepidium perfoliatum	Clasping Pepperwort	FAC
Linum lewisii	Prairie Flax	UPL
Medicago sativa	Alfalfa	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU

Muhlenbergia asperifolia	Alkali Muhly	FACW	
Pascopyrum smithii	Western-Wheat Grass	FACU	
Poa compressa	Flat-stem Blue Grass	FACU	
Poa pratensis	Kentucky Blue Grass	FACU	
Polygonum aviculare	Yard Knotweed	FACU	
Populus deltoides	Eastern Cottonwood	FAC	
Puccinellia nuttalliana	Nuttall's Alkali Grass	OBL	
Ratibida columnifera	Prairie Coneflower	UPL	
Rumex acetosella	Common Sheep Sorrel	FAC	
Rumex crispus	Curly Dock	FAC	
Sagittaria cuneata	Arum-Leaf Arrowhead	OBL	
Salix exigua	Narrow-Leaf Willow	FACW	
Salix fragilis	Fragile Willow	FAC	
Schedonorous pratensis	Meadow False Rye Grass	FACU OBL	
Schoenoplectus maritimus	Saltmarsh Club-Rush		
Sisymbrium altissimum	Tall Hedge-Mustard	FACU	
Solanum rostratum	Buffalo Bur	UPL	
Spartina pectinata	Freshwater Cord Grass	FACW	
Tamarix chinensis	Five-Stamen Tamarisk	UPL	
Taraxacum officinale	Common Dandelion	FACU	
Thlaspi arvense	Field Pennycress	FACU	
Tragopogon dubius	Meadow Goat's-beard	UPL	
Typha angustifolia	Narrow-Leaf Cat-Tail	OBL	
Typha latifolia	Broad-Leaf Cat-Tail	OBL	
Veronica sp.	Speedwell	UPL	
	·	•	

<sup>(</sup>a)2020 NWPL (USACE, 2020)

New species identified in 2024 are **bolded** 

Table B-2. FNW-Middle Species List

Scientific Names	Common Names	GP Indicator Status <sup>(a)</sup>
Alisma triviale	Northern Water-Plantain	OBL
Alopecurus pratensis	Field Meadow-Foxtail	FACW
Ambrosia psilostachya	Perennial Ragweed	FACU
Ammannia robusta	Grand Redstem	OBL
Avena fatua	Wild Oats	UPL
Bassia scoparia	Mexican-Fireweed	FACU
Bromus arvensis	Japanese Brome	UPL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	UPL
Bromus tectorum	Cheatgrass	UPL
Chenopodium album	Lamb's-Quarters	FACU
Cirsium arvense	Canadian Thistle	FACU
Convolvulus arvensis	Field Bindweed	UPL
Deschampsia caespitosa	Tufted Hair Grass	FACW
Deschampsia elongata	Slender Hair Grass	FAC
Echinochloa crus-galli	Large Barnyard Grass	FAC
Eleocharis palustris	Common Spike-Rush	OBL
Elymus canadensis	Nodding Wild Rye	FACU
Elymus elymoides	Western-Bottlebrush grass	FACU
Elymus lanceolatus	Streamside Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus trachycaulus	Slender Wild Rye	FACU
Euphorbia esula	Leafy Spurge	UPL
Filago arvensis	Field Fluffweed	UPL
Glyceria grandis	American Manna Grass	OBL
Grindelia squarrosa	Curly-Cup Gumweed	UPL
Helianthus annuus	Common Sunflower	FACU
Hordeum jubatum	Fox-Tail Barley	FACW
lva axillaris	Povertyweed	FAC
Lactuca serriola	Prickly Lettuce	FAC
Lepidium perfoliatum	Clasping Pepperwort	FAC
Linum lewisii	Prairie Flax	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU
Muhlenbergia asperifolia	Alkali Muhly	FAC
Nassella viridula	Barkworth Green Needlegrass	UPL
Panicum capillare	Common Panic Grass	FAC

Panicum virgatum	Switchgrass	FAC	
Pascopyrum smithii	Western-Wheat Grass	FACU	
Poa compressa	Flat-Stem Blue Grass	FACU	
Poa palustris	Fowl Blue Grass	FACW	
Poa pratensis	Kentucky Blue Grass	FACU	
Polygonum aviculare	Yard Knotweed	FACU	
Populus deltoides	Eastern Cottonwood	FAC	
Puccinellia nuttalliana	Nuttall's Alkali Grass	OBL	
Ratibida columnifera	Prairie Coneflower	UPL	
Rosa arkansana	Prairie Rose	FACU	
Rumex acetosella	Common Sheep Sorrel	FAC	
Rumex crispus	Curly Dock	FAC	
Salix amygdaloides	Peach-Leaf Willow	FACW	
Salix exigua	Narrow-Leaf Willow	FACW	
Salix fragilis	Fragile Willow	FAC	
Salix lutea	Yellow Willow	FACW	
Sarcobatus vermiculatus	Greasewood	FAC	
Schedonorus pratensis	Meadow False Rye Grass	FACU	
Schoenoplectus maritimus	Saltmarsh Club-Rush	OBL	
Setaria pumila	Yellow Bristle Grass	FACU	
Solanum rostratum	Buffalo Bur	UPL	
Symphoricarpos albus	Common Snowberry	UPL	
Tamarix chinensis	Five-Stamen Tamarisk	UPL	
Thlaspi arvense	Field Pennycress	FACU	
Tragopogon dubius	Meadow Goat's-beard	UPL	
Typha latifolia	Broad-Leaf Cat-Tail	OBL	
Xanthium strumarium	Rough Cockleburr	FAC	

<sup>(</sup>a)2020 NWPL (USACE, 2020)

New species identified in 2024 are **bolded** 

Table B-3. FNW-East Species List

Scientific Names	Common Names	GP Indicator Status <sup>(a)</sup>
Agropyron cristatum	Crested Wheatgrass	UPL
Algae, green	Algae, green	UPL
Alisma triviale	Northern Water-Plantain	OBL
Alopecurus arundinaceus	Creeping Meadow-Foxtail	FACW
Alopecurus pratensis	Field Meadow-Foxtail	FACW
Ambrosia psilostachya	Perennial Ragweed	FACU
Ammannia robusta	Grand Redstem	OBL
Artemisia frigida	Fringed Sage	UPL
Bassia scoparia	Mexican-Fireweed	FACU
Bromus arvensis	Japanese Brome	UPL
Bromus carinatus	California Brome	UPL
Bromus inermis	Smooth Brome	UPL
Bromus japonicus	Japanese Brome	UPL
Bromus tectorum	Cheatgrass	UPL
Chenopodium album	Lamb's-Quarters	FACU
Convolvulus arvensis	Field Bindweed	UPL
Descurainia sophia	Herb Sophia	UPL
Echinochloa crus-galli	Large Barnyard Grass	FAC
Eleocharis palustris	Common Spike-Rush	OBL
Elymus canadensis	Nodding Wild Rye	FACU
Elymus repens	Creeping Wild Rye	FACU
Elymus sp.	Wild Rye	UPL
Elymus trachycaulus	Slender Wild Rye	FACU
Euphorbia esula	Leafy Spurge	UPL
Filago arvensis	Field Fluffweed	UPL
Glyceria elata	Tall Manna Grass	OBL
Grindelia squarrosa	Curly-Cup Gumweed	UPL
Helianthus annuus	Common Sunflower	FACU
Hesperostipa comata	Needle-and-Thread	UPL
Hordeum jubatum	Fox-Tail Barley	FACW
Lactuca serriola	Prickly Lettuce	FAC
Lepidium perfoliatum	Clasping Pepperwort	FAC
Linum lewisii	Prairie Flax	UPL
Medicago sativa	Alfalfa	UPL
Melilotus officinalis	Yellow Sweet-Clover	FACU
Muhlenbergia asperifolia	Alkali Muhly	FACW

Panicum virgatum	Switchgrass	FAC	
Pascopyrum smithii	Western-Wheat Grass	FACU	
Poa compressa	Flat-stem Blue Grass	FACU	
Poa pratensis	Kentucky Blue Grass	FACU	
Polygonum aviculare	Yard Knotweed	FACU	
Populus deltoides	Eastern Cottonwood	FAC	
Puccinellia nuttalliana	Nuttall's Alkali Grass	OBL	
Ratibida columnifera	Prairie Coneflower	UPL	
Rumex acetosella	Common Sheep Sorrel	FAC	
Rumex crispus	Curly Dock	FAC	
Sagittaria cuneata	Arum-Leaf Arrowhead	OBL	
Salix amygdaloides	Peachleaf Willow	FACW	
Salix exigua	Narrow-Leaf Willow	FACW	
Salix fragilis	Fragile Willow	FAC	
Schedonorous pratensis	Meadow False Rye Grass	FACU	
Schoenoplectus maritimus	Saltmarsh Club-Rush	OBL	
Sisymbrium altissimum	Tall Hedge-Mustard	FACU	
Solanum rostratum	Buffalo Bur	UPL	
Spartina pectinata	Freshwater Cord Grass	FACW	
Tamarix chinensis	Five-Stamen Tamarisk	UPL	
Taraxacum officinale	Common Dandelion	FACU	
Thlaspi arvense	Field Pennycress	FACU	
Tragopogon dubius	Meadow Goat's-beard	UPL	
Typha angustifolia	Narrow-Leaf Cat-Tail	OBL	
Typha latifolia	Broad-Leaf Cat-Tail	OBL	
Veronica sp.	Speedwell	UPL	

<sup>(</sup>a)2020 NWPL (USACE, 2020)

New species identified in 2024 are **bolded** 

# APPENDIX C PROJECT AREA PHOTOGRAPHS

MDT Wetland Mitigation Monitoring Forsyth Northwest – West, Middle, and East Sites Rosebud County, Montana

#### Forsyth Northwest – West Site: Photo Point Photographs



Photo Point 1: Located near NE Corner of SE End; Bearing 270 degrees; Year: 2013



Photo Point 1: Located near NE Corner of SE End; Bearing 270 degrees; Year: 2024



Photo Point 2: Located near SW Corner of SE End; Bearing 350 degrees; Year: 2013



Photo Point 2: Located near SW Corner of SE End; Bearing 350 degrees; Year: 2024

### Forsyth Northwest - West Site: Photo Point Photographs



Photo Point 3: Located on NE side near middle of site; Bearing 230 degrees; Year: 2013



Photo Point 3: Located on NE side near middle of site; Bearing 230 degrees; Year: 2024



Photo Point 4: Located near NE corner of NW end; Bearing 210 degrees; Year: 2013



Photo Point 4: Located near NE corner of NW end; Bearing 210 degrees; Year: 2024

#### Forsyth Northwest - West Site: Photo Point Photographs



Photo Point 5: Located on SW side near middle of site; Bearing 45 degrees; Year: 2013



Photo Point 5: Located on SW side near middle of site; Bearing 45 degrees; Year: 2024



Photo Point 6
Bearing: 300 degrees

**Location:** Center of new dike **Year:** 2017





Photo Point 6
Bearing: 120 degrees

**Location:** Center of new dike **Year:** 2017



Photo Point 6 Bearing: 120 degrees

**Location:** Center of new dike **Year:** 2024

# Forsyth Northwest – West Site: Transect Photographs



Transect 1: Start Bearing: 25 degrees

Location: SE end of site Year: 2013



Transect 1: Start Bearing: 25 degrees

Location: SE end of site

Year: 2024



Transect 1: End Bearing: 205 degrees

Location: SE end Year: 2013



Transect 1: End Bearing: 205 degrees

Year: 2024

Transect 2: Start Bearing: 25 degrees

Location: NW End Year: 2013

Transect 2: Start Bearing: 25 degrees

Location: NW End Year: 2024

### Forsyth Northwest – West Site: Transect and Data Point Photographs



Transect 2: End Bearing: 205 degrees

Location: Northwest End Year: 2013



Transect 2: End Bearing: 205 degrees

Location: Northwest End Year: 2024



Data Point: DP01w Year: 2024

Location: SE side of site



Data Point: DP01u Year: 2024



Data point: DP02w

Year: 2024

Location: SW Side

Data point: DP02u Year: 2024

Location: SW Side

### Forsyth Northwest – West Site: Data Point Photographs



Data Point: DP03w Year: 2024





**Additional Photo 1: Location:** SE side of site bank erosion along S fence line

Year: 2024



Data Point: DP03u Year: 2024



Location: SE side of site

Additional Photo 2: bank erosion along dike

Year: 2024

### Forsyth Northwest – Middle: Photo Point and Transect Photographs



Photo Point: 1 Bearing: 120 degrees

Location: Northwest End

Year: 2013



Photo Point: 1 Bearing: 120 degrees

Location: Northwest End

Year: 2024



Photo Point: 2 Bearing: 300 degrees

Location: Southeast end

Year: 2013



Photo Point: 2 Bearing: 300 degrees

Location: Southeast end

Year: 2024



Transect 1: Start Bearing: 205 degrees

Location: Middle of Site

Year: 2013



Transect 1: Start Bearing: 205 degrees

Location: Middle of Site

Year: 2024

#### Forsyth Northwest - Middle: Transect and Data Point Photographs



Transect 1: End Bearing: 25 degrees

Location: Middle of Site

Year: 2013



Transect 1: End Bearing: 25 degrees

Location: Middle of Site

Year: 2024



Data Point: DP01w Year: 2024

Location: Southwest end

Data Point: DP01u Year: 2024

Location: Southwest end



Data Point: DP02w Year: 2024

Location: Northeast end



Data Point: DP02u

Location: Northeast end

Year: 2024

#### Forsyth Northwest - East Site: Photo Point Photographs



Photo Point: 1
Bearing: 125 degrees

Location: NW end of site

Year: 2013



Photo Point: 1
Bearing: 125 degrees

Location: NW end of site

Year: 2024



Photo Point 2: Located near Center of Site along the northwest boundary; Bearing 210 degrees; Year: 2013



Photo Point 2: Located near Center of Site along the northwest boundary; Bearing 210 degrees; Year: 2024



Photo Point: 3

Bearing: 305 degree

Location: SE end of site

Bearing: 305 degrees Year: 2013



Photo Point: 3

Location: SE end of site

Bearing: 305 degrees Year: 2024

### Forsyth Northwest – East Site: Transect Photographs



**Transect 1: Start** Bearing: 145 degrees



Location: NW end of site Year: 2013



**Transect 1: Start** Bearing: 145 degrees





Transect 1: End Bearing: 325 degrees



Location: NW end of site Year: 2013



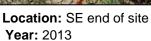
Bearing: 325 degrees



Year: 2024



Transect 2: Start Bearing: 280 degrees





Transect 2: Start Bearing: 280 degrees

Location: SE end of site Year: 2024

### Forsyth Northwest – East Site: Transect and Data Point Photographs



Transect 2: End Bearing: 100 degrees

Location: SE end of site Year: 2013



Transect 2: End Bearing: 100 degrees

Location: SE end of site Year: 2024



Data point: DP01w Year: 2024

Location: NW end of site



Data point: DP01u Year: 2024





Data point: DP02w Year: 2024

Location: N side of site



Data point: DP02u

Location: N side of site

Year: 2024

# Forsyth Northwest – East Site: Data Point Photographs



Location: SE side of site

Data point: DP03w Year: 2024



Data point: DP03u Year: 2024