Biological Resource Report / Preliminary Biological Assessment

Taft - West

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Mineral County, Montana

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FINAL REPORT

Prepared for: MONTANA MDT DEPARTMENT OF TRANSPORTATION

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1 Introduction

1.1 Project Description and Location

The Montana Department of Transportation (MDT) is proposing to reconstruct Interstate 90 (I-90) to current MDT design standards and replace the existing plant mix bituminous surface with Portland Cement Concrete Pavement (PCCP). The project will also include drainage, traffic, and safety improvements. The project will investigate whether realigning the Lookout Pass Interchange ramps is feasible and will also look at the possibility of installing new wildlife crossings.

The project is located in Mineral County on I-90 from the Idaho border at reference post (RP) 0.0 to the Taft Interchange at RP 5.7. The project is located within the Lolo National Forest. The project area is within Protracted Block 49 of Township 20 North, Range 32 West and Sections 2, 3, 4, 5, 11, and 12 of Township 19 North, Range 32 West, Montana Principal Meridian. The project area is approximately 323 acres encompassing a 200-foot buffer extending beyond either side of the highway centerline. The project area is shown in Figure 1-1.

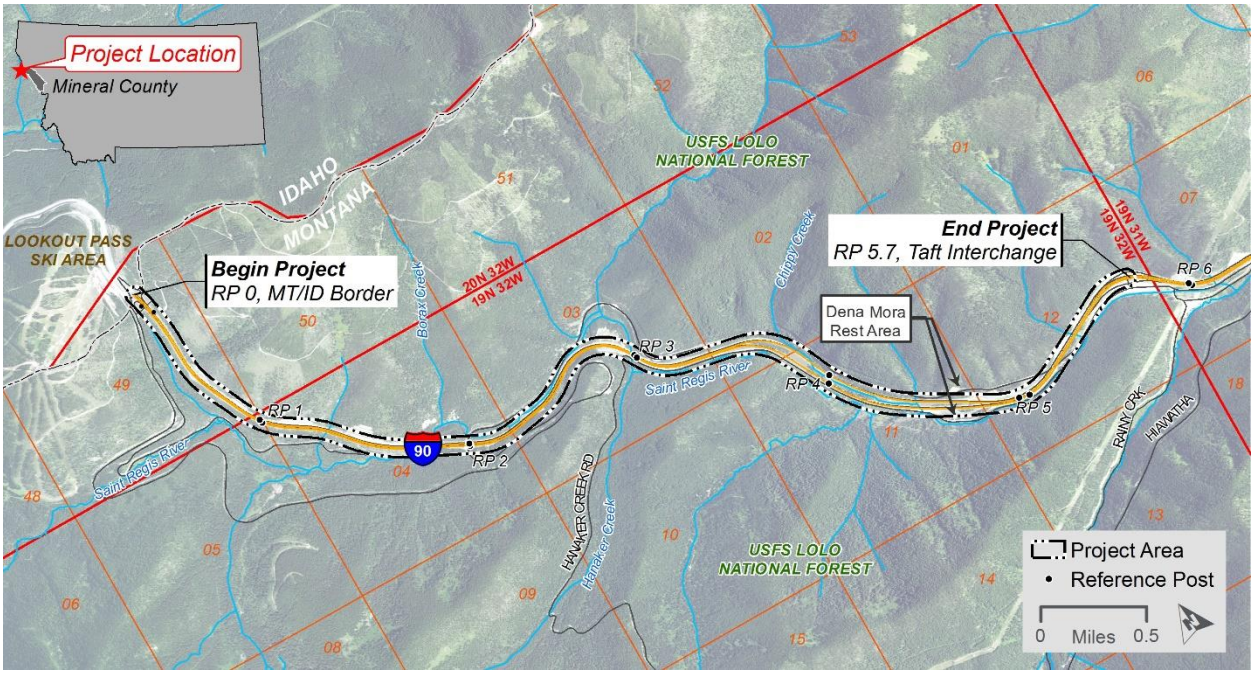

Figure 1-1. Project Area and Vicinity

1.2 Ecological Setting and General Area Description

1.2.1 Ecoregion

The project area is located predominantly within the Northern Rockies level 3 ecoregion and the Coeur d'Alene Metasedimentary Zone level 4 ecoregion (Woods et al. 2002, USEPA 2012). The Coeur d'Alene Metasedimentary Zone ecoregion physiography is paraphrased by the following excerpt:

> "*The mountainous, forested Coeur d'Alene Metasedimentary Zone is mantled by thick volcanic ash and underlain by fractured quartzite and argillaceous rock. It is lithologically*

unlike Ecoregions 15i and 15p. Pacific influence is stronger than to the south and Douglas-fir, grand fir, western redcedar, and western hemlock occur. Acid drainage from mine tailings and historic mining practices have left some streams nearly devoid of aquatic life. Smelter emissions have denuded hillslopes. Massive restoration efforts are now underway."

Climate in the vicinity of the project area is characterized by precipitation that averages 37.96 inches annually, with the wettest months occurring in November and December (US Climate Data 2021). Wintertime average low temperatures typically fall well below freezing (average low temperature in January is 24 degrees Fahrenheit), and summertime average temperatures peak in the low 80s.

1.2.2 Land Cover

The Montana Natural Heritage Program (MTNHP) provided a custom Environmental Summary report for the project area and vicinity that included a review of the MTNHP Land Cover framework layer. Land cover types are grouped into general ecological systems that represent groups of biological communities that are found in similar physical environments and are influenced by similar ecological processes. The project area vicinity is predominantly mapped as "Rocky Mountain Mesic Montane Mixed Conifer Forest" (MTNHP 2021a). Additional land cover types located in the project area vicinity include "Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland", "Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest", and "Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland".

1.2.3 Land Use and Land Ownership

Land use in the project area vicinity is predominantly undeveloped National Forest land. Within the immediate project area, transportation land uses include the interstate right-of-way (ROW), as well as some frontage roads and logging roads. The Lookout Pass Ski Area is located at the west end of the project area at the Idaho border, near RP 0.0. The Dena Mora Rest Area is located within the project area on both the eastbound and westbound directions at approximately RP 4.7 (see Figure 1-1). There is an MDT maintenance facility located at RP 5.7 at the east end of the project area. There are no residential or commercial land uses or structures in the project area.

The project is located within the Lolo National Forest and land ownership adjacent to MDT ROW is under the jurisdiction of the U.S. Forest Service (USFS). No private land exists within or adjacent to the project area. Interstate ROW is owned by MDT and no new ROW is anticipated to construct the project.

2 Terrestrial Resources

2.1 General Habitat and Vegetation Communities

2.1.1 Methods

Information reported within this section was obtained from a combination of literature and database searches and on-site field investigation. HDR environmental staff conducted a field investigation on June 19-20, 2021. General vegetative cover in the project area was documented during the site visit. Representative project area photos are provided in Appendix A. In general, vegetation nomenclature within this report follows Lesica (2012); however, vegetation nomenclature identified in the wetland

data forms (Appendix B) may differ slightly because the built-in drop-down list utilizes the National Wetland Plant List (Lichvar et al. 2016).

2.1.2 Species Presence and Distribution

Typical roadside vegetation consisted of several common grasses, forbs, and weeds. Grasses documented in the project area typically included a mix of meadow timothy (*Phleum pratense*), orchard grass (*Dactylis glomerata*), and western wheatgrass (*Elymus smithii*). Common forbs observed included yellow sweet-clover (*Melilotus officinalis*), common yarrow (*Achillea millefolium*), and Virginia strawberry (*Fragaria virginiana*). Common weeds observed included spotted knapweed (*Centaurea stoebe*), Canada thistle (*Cirsium arvense*), leafy spurge (*Euphorbia virgata*), oxeye daisy (*Leucanthemum vulgare*), and common tansy (*Tanacetum vulgare*) (note that noxious weeds are discussed in Section 2.2). Shrubs noted in the project area include common snowberry (*Symphoricarpos albus*), Douglas's hawthorn (*Crataegus douglasii*), red-osier dogwood (*Cornus sericea*), willow (*Salix spp.*), alderleaf buckthorn (*Rhamnus alnifolia*), Saskatoon serviceberry (*Amelanchier alnifolia*), common huckleberry (*Vaccinium membranaceum*), and speckled alder (*Alnus incana*). Forested habitat in the project area is predominantly lodgepole pine (*Pinus contorta*) dominated stands but also includes mixed stands of western larch (*Larix occidentalis*), Engelmann spruce (*Picea engelmannii*), western white pine (*Pinus monticola*), and Douglas-fir (*Pseudotsuga menziesii*). Wetland plant species are discussed in greater detail in Section 3.3.

2.1.3 Potential Impacts

Impact on project area vegetation is anticipated to be minor and primarily occur immediately adjacent to the roadway where grading within the shoulders will occur to complete drainage improvements. Work is anticipated to occur entirely within the existing ROW and impacts would be limited primarily to grasses, forbs, and weeds growing within the project ROW. Shrub and tree removal is anticipated to be relatively minor. Temporary impacts to vegetation are likely to occur during construction due to the moving and staging of equipment and materials within the project limits.

2.1.4 Avoidance and Minimization Recommendations

The following measures are proposed to minimize project impacts on general vegetation:

- Temporary clearing outside the construction limits but within the ROW of the project should be minimized and restored as soon as practicable following construction.
- Tree and large shrub removal should be minimized to the greatest extent practicable.
- Riparian areas affected during construction should be re-vegetated with appropriate species.

2.2 Noxious Weeds/Regulated Plants

Executive Order (EO) 13112 (February 3, 1999) was established to prevent the introduction of invasive species and to control and minimize the economic, ecological, and human health impacts caused by invasive species. As a partially federally funded action, the proposed project is subject to the provisions of EO 13112.

2.2.1 Methods

Information reported within this section was obtained from a combination of literature and database searches and on-site field investigation. The following documents and websites pertaining to noxious weeds were reviewed:

- Mineral County Weed District – Noxious Weeds
- Montana Department of Agriculture Noxious Weed List

HDR staff qualitatively documented noxious weed occurrence within the project area during the June 19-20, 2021, site visit.

2.2.2 Species Presence and Distribution

The Mineral County Weed District website provides a list of noxious weeds categorized by their priority status. The county weed list is lengthy and includes many of the noxious weeds listed on the state designated noxious weed list. Common weed species observed within the project area included spotted knapweed, Canada thistle, leafy spurge, oxeye daisy, and common tansy. Of these species, Mineral County identifies Canada thistle, leafy spurge, spotted knapweed, oxeye daisy, and common tansy as Priority 2B, which are defined as weeds that are abundant and widespread in many counties; management criteria will require eradication or containment where less abundant; and prevention, education and continued management are priorities for these weeds in Mineral County. Each of the weed species identified in the corridor are common along the interstate on disturbed cut and fill slopes, with spotted knapweed being the most prominent species.

2.2.3 Avoidance and Minimization Recommendations

The following conservation measures are proposed to prevent and to minimize spread of noxious weeds.

- In accordance with 7-22-2152 MCA, MDT will re-establish a permanent desirable vegetation community along areas temporarily disturbed by construction.
- All construction equipment and vehicles should be cleaned prior to their transport to the project site.

2.3 General Wildlife Species

2.3.1 Methods

Information reported within this section was obtained from a combination of database searches and on-site field investigation. Databases maintained by the MTNHP were searched to identify general wildlife species likely to occur in the project area vicinity. The following database was reviewed:

- MTNHP Natural Heritage Map Viewer, Generalized Observations (MTNHP 2021b)

MTNHP database results are followed by observations and sites notes from the on-site field investigation.

2.3.2 Mammals

Species observed/documented, general abundance, distribution, and habitat requirements

According to the MTNHP Generalized Observations database (MTNHP 2021b) the following mammal species are likely to be present in the project area vicinity: American black bear (*Ursus americanus*), mountain lion (*Puma concolor*), and North American porcupine (*Erethizon dorsatum*). Other species common in the project corridor include white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus)*, elk (*cervus canadensis*), moose (*Alces alces*), coyote (*Canis latrans*), red squirrel (*Tamiasciurus hudsonicus*), and beaver (*Castor canadensis*). Deer tracks and scat were observed along the interstate roadway in numerous locations during the field survey, including substantial deer sign in the forested median between RP 3.7 to 4.7. Elk tracks were observed near RP 1.0 and beaver activity was observed where a dam had been constructed on the St. Regis River near RP 2.4 (see Appendix A photos). Generally speaking, the relatively intact forested habitat on both sides of the interstate is suitable habitat for the aforementioned species.

The cleared interstate corridor, which at times includes a frontage road running parallel to the interstate, ranges from approximately 150 feet wide up to 400 feet wide and at a minimum includes four lanes of traffic. From RP 0.0 to 3.4, the east and west bound traveling lanes are undivided and include standard concrete barrier and at times tall jersey barrier separating the directions of travel. Jersey barrier is again utilized to separate traffic from RP 4.8 to 5.7. The heavily traveled interstate roadway (approximate ADT of 7,800) combined with the intermittent concrete barriers provides a formidable challenge to mammals attempting to make north/south movements across I-90. The jersey barriers, especially the taller variety, are especially challenging for young of the year mammals that are not large enough to jump or climb over the barriers. Additional discussion on highway/wildlife interactions, potential impacts, and wildlife accommodations are provided in Section 2.4.

Potential Impacts

Due to the nature and scope of the proposed project, impacts on individual mammals is anticipated to be minor and without long-term effects to local populations. New disturbance from the project is anticipated to be minor as is removal of vegetation that may affect available suitable habitat. Construction of the project may result in direct mortality of individual animals; however, ground disturbance would be limited to previously disturbed areas immediately adjacent to the existing highway and impacts to individual animals from grading is anticipated to be negligible.

An increase in noise levels during construction may temporarily disrupt mammals in the vicinity of the proposed project. Noise effects would be temporary and localized and would occur only during daylight working hours. Such disturbance would be temporary and alternative habitat similar to that which would be affected is abundant in the general area.

Habitat fragmentation can be defined as the separation of previously contiguous blocks of habitat into one or more disconnected pieces (Waller and Servheen 1999). Habitat fragmentation can result in impediments to wildlife dispersal and corresponding genetic exchange among populations. The existing interstate highway, in association with median concrete barriers, has long been a contributor to habitat fragmentation in the project area. The existing infrastructure is intimidating to cross for more secretive species and a physical challenge for all species having to cross four traveling lanes and negotiate median concrete barriers. Implementation of the proposed project will not likely add to

the habitat fragmentation in the project area because roadway width, clear zones, and fencing will not be increased.

Traffic volumes are likely to increase over time, increasing the chance for wildlife-vehicle conflicts (WVCs). The average daily traffic (ADT) count along this segment of I-90 was 7,520 vehicles per day in 2017. The ADT is projected to increase to 9,890 by the design year 2040 regardless of whether the project is implemented. The Interagency Lynx Biology Team (ILBT 2000) cites highway/carnivore research in Canada that suggests highway traffic volumes of 2,000-3,000 vehicles per day are problematic with respect to wildlife habitat fragmentation and mortality. Traffic volumes exceeding 4,000 vehicles per day may result in serious habitat fragmentation and mortality impacts. By these metrics, traffic volumes are already at a level that are twice that which is thought to cause significant habitat fragmentation. WVCs, wildlife accommodation needs, and potential strategies for decreasing the level of fragmentation caused by I-90 are discussed in greater detail in Section 2.4.

Avoidance and Minimization Recommendations

The following conservation measures are proposed to minimize project impacts on mammals and habitat. Addition measures are presented in Section 2.4.

- It is recommended that wildlife friendly ROW fence be utilized where fencing is proposed and those areas not currently fenced be left unfenced following construction.

2.3.3 Birds

Species observed/documented, general abundance, distribution, and habitat requirements

The MTNHP Generalized Observations database documents dozens of bird species in the vicinity of the project area dating back to as early as 1994. For the purposes of this report, an exhaustive list of these species is not presented; however, species documented multiple times (n > 10) over the past 10 years within the project area vicinity include: American Robin (*Turdus migratorius*), Chipping Sparrow (*Spizella passerina*), Dark-eyed Junco (*Junco hyemalis*), Golden-crowned Kinglet (*Regulus satrapa*), MacGillivray's Warbler (*Geothlypis tolmiei*), Olive-sided Flycatcher (*Contopus cooperi*), Orange-crowned Warbler (*Leiothlypis celata*), Pacific Wren (*Troglodytes pacificus*), Pine Siskin (*Spinus pinus*), Ruby-crowned Kinglet (*Regulus calendula*), Swainson's Thrush (*Catharus ustulatus*), Townsend's Warbler (*Setophaga townsendi*), Warbling Vireo (*Vireo gilvus*), White-crowned Sparrow (*Zonotrichia leucophrys*), Wilson's Warbler (*Cardellina pusilla*), and Yellow-rumped Warbler (*Setophaga coronata*). Species observed during the field surveys include the American Dipper (*Cinclus mexicanus*), Black-capped Chickadee (*Poecile atricapillus*), Common Raven (*Corvus corax*), and American Robin.

Potential Impacts

The proposed project is not anticipated to result in long-term negative impacts on any bird populations. Minimal impact on vegetation that may provide nesting, perching, and foraging habitat is expected to occur. Special provisions will be included as conservation measures to minimize impact on migratory birds by ensuring that tree and shrub removal occurs outside of the nesting period. Construction-related noise may temporarily disrupt birds in the vicinity of the project during construction activity.

Avoidance and Minimization Recommendations

The following conservation measures are proposed to minimize project impacts on bird species and habitat.

- Standard Specification 208.03.4(A)(2) includes the following construction requirements:
    - Perform required cutting of trees or shrubs between August 16 and April 15 and when no active nests are present;
    - Remove only those trees and shrubs in direct conflict with the permanent construction limits; and
    - Where possible, do not remove, but trim trees and shrubs as necessary for equipment access and construction activities.

2.3.4 Reptiles and Amphibians

Species observed/documented, general abundance, distribution, and habitat requirements

Reptiles documented in the project vicinity by MTNHP include common gartersnake (*Thamnophis sirtalis*) and terrestrial gartersnake (*Thamnophis elegans*) (MTNHP 2021b). Amphibians documented by the MTNHP include the Columbia spotted frog (*Rana luteiventris*) and Rocky Mountain tailed frog (*Ascaphus montanus*) (MTNHP 2021b). No amphibians were observed during the field investigation.

Potential Impacts

The proposed project is not anticipated to adversely affect any reptile or amphibian populations. The proposed project's potential effects on suitable habitat for reptiles and amphibians is anticipated to be minor. Potential impacts to wetlands and riparian areas are anticipated to be minor and negligible and therefore potential impacts on amphibian habitat is expected to be negligible.

Avoidance and Minimization Recommendations

No additional avoidance and minimization measures are recommended at this time.

2.4 Wildlife Accommodation Needs and Opportunities

2.4.1 Needs Analysis

Interstate 90 from Missoula to Lookout Pass at the Idaho state line has long been considered an important wildlife linkage zone for several species including grizzly bears and lynx. Servheen et al. conducted spatial analyses of habitat fragmentation within the I-90 corridor between St. Regis and Lookout Pass, which is an optimal corridor due to minimal development and vast federal land ownership, and identified the general Taft-West project area as one of three important grizzly bear linkage zones within the corridor (Servheen 2001). Further, the Northwestern Land Office of the Montana Department of Natural Resources and Conservation (DNRC) identifies this same stretch of I-90 as a wildlife linkage zone in their 2010 Habitat Conservation Plan Final EIS (DNRC 2010). To better understand wildlife movements along the I-90 corridor and identify linkage zones, the USFWS used GPS radio collar tracking technology to track black bears captured near the interstate (Kasworm et al. 2017). Results from 2016 indicate that several black bears were documented to have crossed I-90 in the Taft-West project area (Kasworm et al. 2017). The expected and

documented use of the project area as a wildlife linkage area was also brought to MDT's attention recently through a state legislator who encouraged MDT to look for ways to reduce animal/vehicle collisions during design of the Taft-West project. One suggestion through this correspondence, which is discussed in greater detail below, is to utilize existing local access bridges as wildlife crossings.

The MDT animal carcass GIS database was reviewed for the 10-year period of 2010 to 2019 to identify any trends related to WVCs. Figure 2-1 shows the 88 WVCs recorded within the project area over the past 10 years. The WVCs include 61 white-tailed deer, 13 mule deer, five wolves, one moose, two "other" (one beaver, one porcupine), and one unknown. As seen in Figure 2-1, a cluster of WVCs is documented between RP 3.4 to 4.8, which is comprised of 45 carcasses over the 10-year period. This stretch of divided interstate includes a vegetated median and no median concrete barriers. Montana Highway Patrol records for the five years between 2012 and 2016 showed 104 total crashes within project limits but WVCs were not specifically called out in the safety analysis other than to point out a concentration of WVCs in the vicinity of RP 4.0 where the interstate is divided. During the July 2021 field investigation, a total of three deer carcasses were observed, one at RP 3.5 and two between RP 4.3 and 4.4, and a single elk carcass was observed at RP 4.75.

The MDT carcass data is not considered all inclusive, as many animals struck on the roadway are thought to leave the ROW before dying in the surrounding forest or are picked up by other entities. The data does however show that over half of all records in the database over the last 10 years are from the 1.4-mile divided highway segment, which correlates well with MDT's traffic analysis. The data may suggest that animals have adapted to the concrete barriers and are choosing to cross the interstate more frequently in the divided segment, which provides adequate cover in the forested median and does not include concrete barriers to cross. Additionally, and as illustrated in Figure 2.1, there are two large interstate bridges over local access roads near RP 1.9 and 5.2. Both bridges are in undivided segments of the interstate and both were documented to receive use by local wildlife to cross under the interstate. Game trails and deer tracks were observed under both bridges during the field survey. Both bridges are likely serving to help reduce the overall fragmentation effect of the interstate in these road segments.

During the field survey, no wildlife crossing signs were observed that would serve to warn the traveling public of the risk of encountering wildlife on the roadway. Considering the number of downed or damaged roadway signs found in the roadside ditches during the field survey, it is possible that wildlife crossings signs have been used in the corridor but are no longer standing due to the harsh weather conditions on the pass.

The level of WVCs in the project areas is expected to remain relatively constant with annual fluctuations resulting from variable wildlife population levels and other natural and anthropogenic causes.

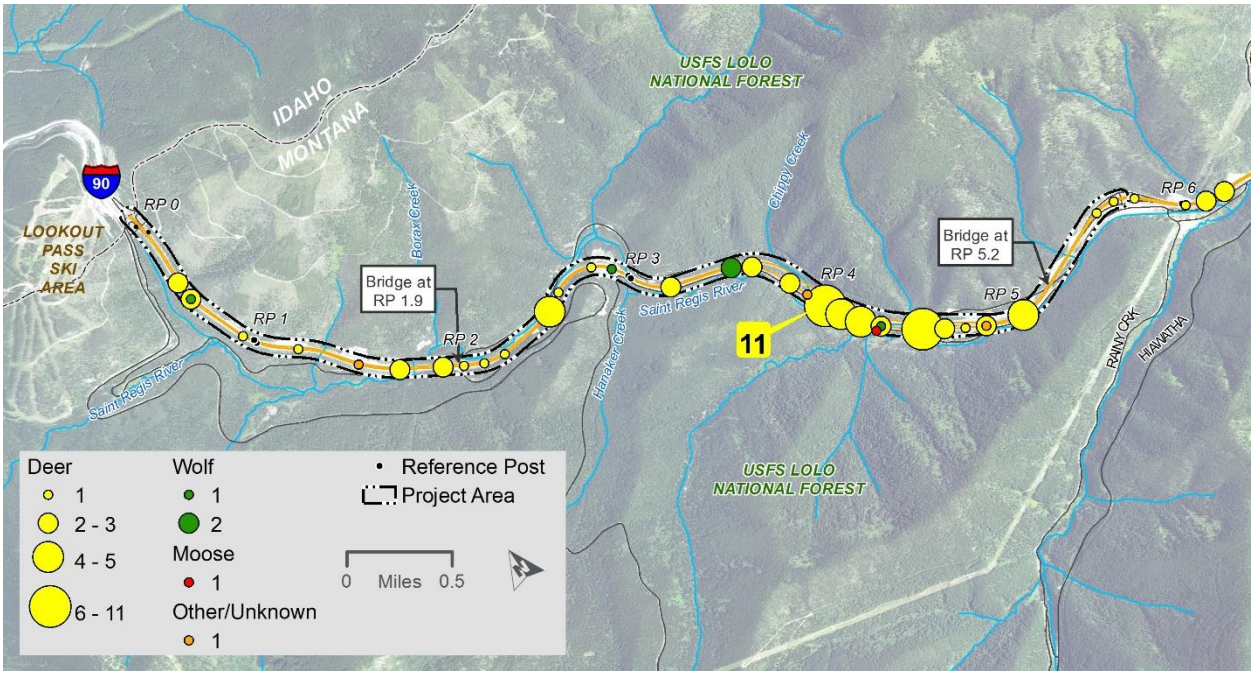

Figure 2-1. MDT Carcass Removal Data by Animal Type for 10-year Period, 2010 – 2019

2.4.2 General Recommendations

The scope of the proposed project is somewhat limited and does not include full reconstruction of the roadway, or the replacement of bridges or culverts carrying the St. Regis River under the interstate. In order to make the roadway more permeable to wildlife and to reduce the number of WVCs, there are a number of wildlife accommodations that could be implemented with the current project and in the future as funding allows. Opportunities within the scope of the current project include the following accommodations:

- Construct wildlife fencing for an appropriate distance on both sides of the existing bridges at RP 1.9 and 5.2 to guide wildlife to these existing under-crossings.
- Look at alternative methods to concrete barriers, especially the taller barriers in the undivided roadway segments. Taller barriers are difficult for wildlife to negotiate.
- To accommodate smaller wildlife, upsize mainline culverts from 24-inch to 36-inch, where practicable, to allow for smaller wildlife to pass under the roadway.
- Install and upgrade wildlife crossing signs, as appropriate, especially in the vicinity of the divided highway segment (RP 3.4 to 4.8). Permanent flashing signs and/or variable message signs (VMS) could be used to warn motorists of the potential danger.

Accommodations that might be beyond the scope of the current project but that could serve to significantly reduce WVCs include:

- Construct bridges (remove existing culverts) at one or both of the St. Regis River crossings near RPs 1.75 and 3.0. Existing culverts do not likely serve to pass wildlife under I-90.
- Construct a wildlife overpass and associated fencing in the vicinity of RP 4.0. Many collisions appear to be occurring in this area of divided highway and due to grade restrictions at this location, under-crossings do not appear feasible.

A Wildlife Accommodations Recommendations Memo (WARM) will be prepared for this project to fully analyze the opportunities identified above as well as other opportunities that may be identified as the project progresses. Accommodations presented in the WARM will be reviewed by the MDT design team to determine the feasibility of each and to determine which will move forward into design.

3 Aquatic Resources

3.1 Waterways

3.1.1 Methods

Information reported within this section was obtained from a combination of literature and database searches and on-site field investigation. Existing documentation reviewed for this section includes the following:

- U.S. Geological Survey National Hydrography Dataset
- Montana Department of Environmental Quality, Clean Water Act Information Center

3.1.2 Site Description

The St. Regis River is the most prominent surface water within the project area and generally flows southeasterly direction for nearly 39 miles before entering the Clark Fork River at St. Regis, MT. The St. Regis River originates at the St. Regis Lakes approximately 3 miles southwest of Lookout Pass and the St. Regis watershed encompasses 365 square miles of mostly federally owned land (DEQ 2008). The St. Regis River parallels I-90 throughout most of the project's 5.7-mile length and enters the project area and crosses I-90 from the south to the north side of the highway at approximately RP 1.75 through a single 108" corrugated metal pipe (CMP) culvert. The river parallels I-90 from approximately RP 2.0 to 2.7, flows outside the project area, then re-enters the project area and flows underneath I-90 at approximately RP 3.0 through two 180" CMPs and remains on the south side of I-90, intermittently passing in/out of the project area, and periodically is located directly adjacent to the highway embankment slope.

Other named creeks that pass through the project area include Chippy Creek and Mephisto Creek. Chippy Creek enters the project area from the north at approximately RP 3.9 and flows within the center median to approximately RP 4.5, then flows south under the eastbound lane and into the St. Regis River. The open channel portions of Chippy Creek were delineated as shown in Appendix B and includes fringing wetlands. Mephisto Creek flows from the north and under I-90 at approximately RP 5.35; no open channels of this creek were identified or delineated during the field investigation and this creek is likely confined to a culvert within the project limits.

Several other named creeks (i.e., Borax, Haun, Hanaker, Brimstone, Denna Mora, and Hilda) are tributaries to the St. Regis River that approach, but do not enter the project area. Numerous additional unnamed creeks and drainages were identified during the field investigation as shown by the ordinary high water mark (OHWM) delineation in the Appendix C maps.

3.1.3 Total Maximum Daily Load Listing 303(d)

The St. Regis River (assessment unit ID MT76M003_010) is listed as impaired by the Montana Department of Environmental Quality (DEQ) State's 303(d) list (DEQ 2021). Impairment information is provided in Table 3-1. The *St. Regis Watershed Total Maximum Daily Loads and Framework Water Quality Restoration Assessment* (DEQ 2008) was completed in September 2008 to establish total maximum daily loads (TMDLs) that address sediment and temperature and to provide an adaptive management strategy and water quality plan for the watershed. According to the 2008 DEQ report, MDT has a goal to reduce road sand and cut/fill sediment sources by ten percent along I-90 within the assessment area and explore alternatives for stabilizing key cut/fill slopes and capturing sediment (DEQ 2008).

Table 3-1. Impairment Information for St. Regis River

Probable Cause	Probable Sources	Associated Uses	TMDL Completed
Alteration in stream-side or littoral vegetative covers	Highways, Roads, Bridges, Infrastructure (new construction), Highway-Road-Bridge Runoff (Non-construction Related), Loss of Riparian Habitat, Channelization, Streambank Modifications-destabilization	Aquatic Life	N/A
Flow Regime Modification	Channelization, Highways, Roads, Bridges, Infrastructure (New Construction)	Aquatic Life	N/A
Sedimentation-Siltation	Loss of Riparian Habitat, Highways, Roads, Bridges, Infrastructure (new construction), Channelization, Streambank Modifications-destabilization	Aquatic Life	Yes
Temperature	Loss of Riparian Habitat	Aquatic Life	Yes
Source: DEQ 2021			

3.1.4 Potential Impacts

Preliminary design of the project is not yet completed and, therefore, the extent of potential impact on surface water resources is not currently known. In general, the proposed project is limited to reconstruction of the road surface and widening is not anticipated. Preliminary hydraulic recommendations include replacing or rehabilitating all cross-drain culverts throughout the length of the project. Currently, the two St. Regis River culvert crossings are recommended to be left as-is or rehabilitated and not replaced. Replacing all culverts is not practicable, however, due to many of them being within a deep fill section of the roadway, which can reach up to 60-feet deep in some locations, thus requiring excessive excavation work. In general, the project will be replacing all culverts that are approximately less than 15-feet deep, and, where deep fill situations exist, the culverts would be rehabilitated or abandoned and replaced. All existing 24-inch culverts to be replaced would be upsized to 30-inch. Existing 30- and 36-inch culverts to be replaced would be replaced with the same diameter culverts. Existing 48- and 54-inch culverts would be rehabilitated in place. Because there is no widening occurring with the project, none of the culvert lengths would be increased an appreciable amount.

Many of the existing culverts are cross drains that do not carry a surface water resource and were dry during the field investigations. Culvert improvements at these locations would have no direct impact on surface waters but could result in down gradient effects due to sedimentation. Culvert

replacement or rehabilitation of the perennial streams as identified by the OHWM delineations (see Appendix C) may require minor impacts and grading within the stream.

Options for rehabilitating the two St. Regis River culverts are still being evaluated to determine cost, environmental impacts, and effects to conveyance but may include slip lining, invert paving, or a combination. No permanent impact to the St. Regis River is anticipated; however, temporary impacts from in-stream disturbances at the inlets/outlets may occur depending on the type of rehabilitation and contractor means and methods.

The delineated OHWM will be included in the final design plans, and, once final design is complete and construction limits established, impacts on aquatic resources would be quantified and described in greater detail in the Aquatic Findings (AFR) Report and the Section 404 permit application.

Winter maintenance and application of sanding material has been an ongoing concern that is exacerbated by the proximity of the St. Regis River to the highway. The harsh climatic conditions require frequent application of sanding material to improve highway safety. Winter plowing activities can inadvertently cast snow containing sediments directly into the river or onto its banks. There is also substantial evidence of erosion and sanding material collected on shoulders and in ditches and culverts throughout the corridor (see Appendix A photos). The use of sanding material will continue to be a potential source of pollutants for project area aquatic resources.

3.1.5 Avoidance and Minimization Recommendations

Section 208.03.1 (Water Pollution Control) and Section 208.03.2 (Aquatic Resource Protection) of the current *MDT Standard and Supplemental Specifications for Road and Bridge Construction* specify the processes with which the contractor must comply to prevent or minimize pollution and control impacts on aquatic resources.

Water quality impacts would be substantially avoided and minimized by the use of standard best management practices (BMPs) that include erosion and sediment control(s) to minimize temporary impacts on adjacent properties and abate pollution of surface and ground water resources. Standard BMPs (e.g., silt fence, compost sock) would be installed and maintained during construction in accordance with the Montana Pollutant Discharge Elimination System (MPDES) General Permit to prevent erosion and sediment transport in the event of a runoff event. It is recommended that compost socks (with biodegradable netting) be installed near streams and be kept in place after construction and allowed to biodegrade to maximize the duration provided by this temporary sediment control measure. The contractor would be responsible for conducting routine site monitoring to ensure all pollution control measures are installed, maintained, and functioning correctly.

The proposed design will implement permanent erosion and sediment controls (PESC) where practicable. Given the harsh climatic conditions and high sediment loads both occurring naturally from erosion and from application of road sand, PESC measures would provide the greatest benefit in long-term sediment load reductions. PESC features for the project have not yet been identified and will be recommended and further developed as design progresses. Anticipated potential PESC features include seeding of disturbed areas, embankment protectors/culvert spillways or drainage chutes for steep fill slopes, lined/stabilized ditches and check dams, ditch blocks to direct flows into cross drainage culverts, and culvert outlet protection (and possibly velocity dissipation devices). To help mitigate sanding material/sediment loading into adjacent aquatic resources (e.g., St. Regis River), sediment basins will be considered where practicable based on roadside topography, in

addition to the incorporation and use of flatter natural vegetated areas and wetlands adjacent to the project.

3.1.6 Permitting Required

As previously noted, it is anticipated that existing culverts will be replaced with new culverts that are the same length or rehabilitated, some of which convey a perennial stream as identified by the OHWM delineations (see Appendix C maps). Due to this in-kind replacement, no permanent impacts to perennial streams are anticipated and water quality permits authorizing permanent features would not be necessary. This determination is subject to change as the design progresses and final hydraulic recommendations are made. Culvert replacement at these locations, including the St. Regis River culverts at RP 1.75 and RP 3.0, is likely to require minor grading and temporary impacts within the stream, and thus would require water quality permits obtained by the construction contractor to conduct this work. Stream mitigation requirements are not anticipated for the project.

A Stream Protection Act (SPA) 124 Notification through FWP is anticipated to be required for the project based on proposed improvements to the culverts carrying the St. Regis River and Chippy Creek. Additional permits, such as a 318 authorization for short-term water quality standard for turbidity related to construction activity, would be a contractor requirement to carry out any in-stream work.

3.2 General Aquatic Species

3.2.1 Methods

Information reported within this section was obtained from database searches. Existing documentation reviewed for this section includes the following:

- Montana Fish, Wildlife and Parks Fisheries Information System (FWP 2021)

3.2.2 Species documented in project area vicinity

The Montana Fish, Wildlife and Parks (FWP) MFISH database was reviewed to identify the fish species documented within the near the project area. The St. Regis River throughout the project area is documented to contain brook trout (*Salvelinus fontinalis*), westslope cutthroat trout (*Salvelinus confluentus*), longnose sucker (*Catostomus catostomus*), largescale sucker (*Catostomus macrocheilus*), and mottled sculpin (*Cottus bairdii*) (FWP 2021). Other fish bearing streams in the project vicinity include Copper Gulch, Borax Creek, Hannaker Creek, Brimstone Creek, and Dena Mora Creek, all of which contain westslope cutthroat trout. Hannaker Creek, Brimstone Creek, and Dena Mora Creek are also documented to contain brook trout. Chippy Creek and Mephisto Creek, both of which flow through the project area, are not documented to contain fish per the MFISH database. A BRR was completed by MDT on January 31, 2019 that notes MDT Environmental Resources is consulting with the FWP area fisheries biologist regarding potential effects of the project and mitigation strategies for genetically pure westslope cutthroat trout that inhabit the upper St. Regis River and its tributaries.

3.2.3 Potential Impacts

There is potential for temporary impacts to water quality during the culvert replacements occurring within the perennial streams identified in the project area. As noted in Section 3.1.5 above, standard

specifications included in the contract documents will ensure the contractor implements BMPs intended to reduce or eliminate temporary impacts from erosion and sedimentation. Similarly, PESC features will be implemented in the proposed design to the extent practicable. All in-stream work will be conducted in compliance with state and federal water quality regulations applicable for the project.

3.3 Wetlands

3.3.1 Methods

HDR staff conducted a field investigation in the project area on July 19 and 20, 2021, using the Routine Method as described in the *U.S. Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), as updated by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast* (USACE 2010). To be considered a wetland, an area must have hydrophytic vegetation (vegetation adapted to wetland conditions), hydric soils, and wetland hydrology. Areas within the project area were investigated for wetland indicators.

Vegetation nomenclature within this section follows Lesica (2012); however, vegetation nomenclature identified in the wetland data forms (Appendix B) may differ slightly because the built-in drop-down list utilizes the National Wetland Plant List (Lichvar et al. 2016).

3.3.2 Description of Wetlands

Thirteen (13) distinct wetlands with a cumulative area of 5.76 acres were delineated within the project area. Representative wetland photographs are presented in Appendix A. Refer to Appendix B for the completed USACE Wetland Determination Forms and the MDT Montana Wetland Assessment Method (MWAM) forms. Appendix C shows the delineated wetlands and USACE data form collection sites within the project area. Table 3-1 provides a summary of the wetland characteristics for each delineated wetland, including information on location, Hydrogeomorphic (HGM) class, Cowardin class, wetland area within the project area, hydrology, and a brief narrative description.

The MDT MWAM was used to determine the functional value and overall category rating for project area wetlands. The MWAM assesses individual wetlands and assigns ratings (low, moderate, high, or exceptional) and scores (0.1 to 1.0) to each of the 12 functions and values as identified in Table 3-2. Functional points are totaled and calculated as a percentage of total possible points for each wetland. Each wetland is then ranked according to the percentage and other criteria as either a Category I (highest quality), Category II, Category III, or Category IV (lowest quality).

Table 3-2. Project Area Wetland Characteristics

Wetland Number (WL)	Data Plot[a]	HGM[b]	Cowardin Code[c]	MDT Wetland Category[d]	Wetland Size[e] (acre)	Primary Source and Destination of Wetland Hydrology	Narrative Description
Wetland 1	WL-01	Riverine	PEM	III	0.01	**Source**: Perennial surface flow in narrow unnamed channel. **Destination**: Water flows into a tributary of the St. Regis River, which feeds the Clark Fork River.	Narrow emergent wetland fringe along narrow channel. **Dominant vegetation**: horsetail, meadow foxtail, sedge, rush.
Wetland 2	WL-02	Riverine	PEM/PSS	III	0.01	**Source**: Wetland fringe along banks of St. Regis River. Flowing water at time of survey. **Destination**: St. Regis River is a tributary of the Clark Fork River.	Narrow wetland fringe along banks of the St. Regis River **Dominant vegetation**: Drummond willow, water sedge, arrow-leaf groundsel.
Wetland 3	WL-03	Riverine	PEM/PSS	III	2.10	**Source**: Elevated groundwater and spring activity. Water flowing across interstate to the north. **Destination**: Water flows directly into the St. Regis River north of I-90.	Low marsh area fed by groundwater and seasonal runoff. **Dominant vegetation**: Drummond willow, blue-joint reedgrass, bulrush.
Wetland 4	WL-04	Riverine	PEM	III	0.01	**Source**: Perennial surface flow in narrow unnamed channel in roadside ditch. **Destination**: Water flows directly into the St. Regis River floodplain. Connected to WL-05.	Perennial surface flow in narrow unnamed channel in roadside ditch. **Dominant vegetation**: blue-joint reedgrass, bulrush, horsetail.
Wetland 5	WL-05	Riverine	PEM/PSS/ PFO	III	1.91	**Source**: Wetland receives surface water from the north and has elevated groundwater associated with nearby St. Regis River. **Destination**: Wetland is connected to the St. Regis River.	Large wet meadow complex in St. Regis River floodplain. **Dominant vegetation**: Spruce, Drummond willow, blue-joint reedgrass, bulrush.
Wetland 6	WL-06	Riverine	PEM/PSS	III	0.53	**Source**: Wetland has elevated groundwater associated with nearby St. Regis River. **Destination**: Wetland is connected to the St. Regis River.	Riparian bench south of frontage road. Wetland is adjacent to the active St. Regis River channel **Dominant vegetation**: Drummond willow and bulrush.
Wetland 7	WL-07	Riverine	PEM/PSS/ PFO	III	0.71	**Source**: Chippy Creek and Chippy Creek tributary join in the interstate median before flowing under I-90 into the St. Regis River. **Destination**: Chippy Creek flows into St. Regis River.	Wetland along banks of Chippy Creek and tributary stream. **Dominant vegetation**: Spruce, willow, bulrush, sedge.

Wetland Number (WL)	Data Plot[a]	HGM[b]	Cowardin Code[c]	MDT Wetland Category[d]	Wetland Size[e] (acre)	Primary Source and Destination of Wetland Hydrology	Narrative Description
Wetland 8	WL-08	Riverine	PEM/PSS/ PFO	III	0.03	**Source:** Chippy Creek flows in the interstate median before flowing under I-90 into the St. Regis River. Stream periodically flows sub-surface. **Destination**: Chippy Creek flows into St. Regis River.	Wetland fringe along banks of Chippy Creek. **Dominant vegetation**: Spruce, cottonwood, willow, horsetail, sedge.
Wetland 9	WL-09	Slope	PEM/PSS	III	0.09	**Source:** Groundwater seeping out of highway cut slope. **Destination**: Water does not appear to flow in the highway ditch or join up with any other nearby channels or wetlands. It could be tied hydrologically to Chippy Creek but not certain.	Steep cutslope with seeping water and wetland vegetation. **Dominant vegetation**: Alder, cottonwood saplings, blue-joint reedgrass, sedge, and rush.
Wetland 10	WL-10	Riverine	PEM/PSS	III	0.05	**Source**: Chippy Creek flows in the interstate median before flowing under I-90 into the St. Regis River. Stream periodically flows sub-surface. **Destination**: Chippy Creek flows into St. Regis River.	Wetland fringe along banks of Chippy Creek north of the interstate. **Dominant vegetation**: Alder, cottonwood saplings, sedge, and rush.
Wetland 11	WL-11	Riverine	PEM/PSS	III	0.16	**Source**: Seepage from cutslope above interstate and perennial surface flow in tributary to Chippy Creek. **Destination**: Direct connection to Chippy Creek, which flows into the St. Regis River.	Hillside and ditch wetland fed by springs and perennial tributary to Chippy Creek. **Dominant vegetation**: Willow, cottonwood saplings, sedge, rush, and horsetail.
Wetland 12	WL-12	Riverine	PEM	III	0.07	**Source**: Water seeping from highway cutslope. **Destination**: Culvert under I-90 carries water directly to St. Regis River.	Slope and ditch wetland adjacent to I-90 on north side. Water flows under I-90 to St. Regis River. **Dominant vegetation**: Sedge and rush species.
Wetland 13	WL-13	Riverine	PEM	III	0.08	**Source:** Seasonal surface flow in roadside ditch ties into natural drainage feature **Destination**: Culvert under I-90 carries seasonal flow down to unnamed tributary of St. Regis River.	Seasonally wet roadside ditch connected to natural drainage feature. **Dominant vegetation**: Sedge and rush species.
TOTAL					**5.76**		

[a] See Appendix B for USACE Wetland Determination Forms; [b] MDT 2008; [c] Cowardin et al., 1979; [d] Refer to Appendix B for MDT Montana Wetland Assessment Method Forms; [e] Wetland size within the specific study area. Some delineated wetlands extend outside of the project area and thus are larger than reported in the table. Cumulative total area may vary based on rounding for individual wetlands.

Table 3-3. Summary of Wetland Function and Value and Overall Ratings

Function and Value Variables[1]	Wetlands 1, 4, 12, and 13	Wetlands 2, 3, 5, and 6	Wetland 9	Wetlands 7, 8, 10, and 11
A. Listed/Proposed T&E Species Habitat	Low (0.0)	Low (0.1)	Low (0)	Low (0.1)
B. MT Natural Heritage Program Species Habitat	Low (0.0)	High (0.9)	Low (0.0)	Mod (0.5)
C. General Wildlife Habitat	Low (0.2)	Mod (0.7)	Low (0.3)	Mod (0.5)
D. General Fish Habitat	NA	High (0.8)	NA	NA
E. Flood Attenuation	Mod (0.4)	Low (0.2)	NA	Mod (0.6)
F. Short and Long Term Surface Water Storage	Low (0.3)	High (0.8)	NA	High (0.8)
G. Sediment/Nutrient/Toxicant Removal	Mod (0.4)	Mod (0.4)	High (0.8)	Mod (0.4)
H. Sediment/Shoreline Stabilization	High (0.9)	High (1.0)	NA	High (1.0)
I. Production Export/Food Chain Support	Mod (0.4)	High (0.9)	Mod (0.4)	Mod (0.7)
J. Groundwater Discharge/Recharge	Mod (0.7)	NA	High (1.0)	NA
K. Uniqueness	Low (0.2)	Low (0.2)	Low (0.2)	Low (0.2)
L. Recreation/Education Potential (bonus points)	NA	High (0.2)	NA	High (0.2)
ACTUAL POINTS/POSSIBLE POINTS	3.5/10	6.2/10	2.7/7	4.8/9
PERCENT OF POSSIBLE SCORE ACHIEVED	35%	62%	39%	53%
OVERALL CATEGORY RATING (FUNCTIONAL RATING)	**III**	**III**	**III**	**III**
[1] Refer to Appendix B for MDT Montana Wetland Assessment Forms.				

3.3.3 Potential Impacts

Construction limits of the project are currently unavailable and, therefore, the potential impact on delineated wetlands is unknown. Given the location of some wetlands directly abutting the existing roadway, unavoidable impacts to wetlands are anticipated. However, given the limited scope of the project, wetland impacts are anticipated to be minor. Ground disturbance activities potentially impacting wetlands would be limited to shoulder grading for drainage improvements in areas where full reconstruction of the highway occurs and culvert replacement work in areas where wetlands are established directly at the culvert inlet/outlet. Based on this, minor impact to Wetlands 1, 4, 8, 9, 10, 11, 12, and 13 could occur. It is anticipated that impacts to Wetland 2, 3, 5, 6, and 7 can be avoided.

3.3.4 Avoidance and Minimization Recommendations

The project team will avoid and minimize impacts on wetlands to the greatest extent practicable as design progresses. Due to the location of some ditch wetlands immediately adjacent to the roadway, unavoidable wetland impacts are anticipated.

3.3.5 Required Permitting

Section 404 of the CWA requires approval prior to discharging dredged or fill material into waters of the United States, including wetlands. The project is anticipated to require a Section 404 permit. As previously noted, though, the project's impact on delineated wetlands is currently unknown. With the exception of Wetlands 9 and 12, all wetlands are adjacent to some form of stream (i.e., either the St. Regis River or a tributary) and may be considered "adjacent wetlands" and therefore jurisdictional.

Once final design is complete and construction limits established, impacts on aquatic resources would be quantified and described in greater detail in the Aquatic Resource Findings Report (AFR) and the Section 404 permit application. It is important to note that the USACE is responsible for making all final jurisdictional determinations. The proposed project is anticipated to meet the criteria for Section 404 authorization through use of a Nationwide Permit.

The proposed project is anticipated to require compliance with the MPDES General Permit administered by DEQ (see Section 10.1). A Stream Protection Act (SPA) 124 Notification through FWP is anticipated to be required for the project based on proposed improvements to the culverts carrying the St. Regis River and Chippy Creek. Additional permits, such as a 318 authorization for short-term water quality standard for turbidity related to construction activity, may be required depending on contractor methods. Stream mitigation requirements are not anticipated for the project

3.3.6 Proposed Compensatory Mitigation

Requirement for compensatory mitigation will be determined during final design and the permitting phase for the project. The project is located within the Lower Clark Fork watershed (#3), which contains six MDT wetland mitigation sites: Tucker Crossing, Lee Metcalf, Shammel, Lone Pine, Hoskins Landing, and Camp Creek. If the proposed project results in unavoidable loss of jurisdictional wetlands requiring compensatory mitigation, available credits at these sites would be reviewed and a mitigation plan will be developed accordingly in coordination with the USACE.

4 Species of Concern and Special Status Species

Montana Species of Concern (SOC) include native plants or animals considered "at risk" due to declining population trends, threats to their habitats, and/or restricted distribution. Designation of a species as a Montana SOC is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to proactively direct limited resources to priority data collection needs and address conservation needs.

4.1 Methods

Information reported within this section was obtained from a combination of literature and database information available from the MTNHP and on-site field investigation. An Environmental Summary Report was provided by the MTNHP on March 5, 2021 for the project area vicinity that included approximately 24 square miles surrounding the project area. The report includes database information on sensitive plant and animal species documented in the vicinity of the project area. Species occurrence data is supplied to MTNHP by a variety of different wildlife and plant professionals, private, and/or government entities. Results presented in Table 4-1 are summarized

from information obtained from the MTNHP Environmental Summary Report (MTNHP 2021a) and the Montana Field Guides (MTNHP 2021c).

The July 19 and 20, 2021 field investigations included documentation of observed animals and general vegetation communities. None of the SOC listed in Table 4-1 were observed during the field investigations. In addition, the Montana Sage Grouse Habitat Conservation Map was reviewed to identify any habitat areas overlapping the project area and the proposed project is not within Greater Sage-Grouse (*Centrocercus urophasianus*) habitat (MSGHCP 2021).

Table 4-1. Montana Natural Heritage Program Species of Concern with Documented Occurrences in the Project Area Vicinity

Species	State Rank[a]	General Habitat Requirements	May Affect (Yes or No)
Vascular Plants			
Whitebark Pine (*Pinus albicaulis*)	S3	Subalpine forest, timberline	No
Coville's Rush (*Juncus covillei*)	S2S3	Wetland/Riparian	No
Straightbeak Buttercup (*Ranunculus orthorhynchus*)	S1S2	Wetland/Riparian	No
Swamp Red Currant (*Ribes triste*)	S2	Forest openings (Mesic, montane/subalpine)	No
Mammals			
Fisher (*Pekania pennanti*)	S3	Mixed conifer forests	No
Wolverine (*Gulo gulo*)	S3	Boreal Forest and Alpine Habitats	No
Birds			
Pacific Wren (*Troglodytes pacificus*)	S3	Moist conifer forests	No
Varied Thrush (*Ixoreus naevius*)	S3B	Moist conifer forests	No
Pileated Woodpecker (*Dryocopus pileatus*)	S3	Moist conifer forests	No
Invertebrates			
Gillette's Checkerspot (*Euphydryas gillettii*)	S2	Wet meadows	No
Alberta Snowfly (*Isocapnia integra*)	S2	Mountain Streams to Rivers	No
Fish			
Westslope Cutthroat Trout (*Oncorhynhus clarkii lewisi*)	S2	St. Regis River	Yes

Sources: MTNHP 2021a
[a] *Refer to https://fieldguide.mt.gov/statusCodes.aspx#msrc for definitions*

4.2 Plants

4.2.1 Species observed/documented, general abundance, distribution, and habitat requirements

Four plant SOC are potentially occurring in the project vicinity as identified in Table 4-1 and include: whitebark pine, Coville's rush, straightbeak buttercup, and swamp red currant. Additional information on the species is summarized below. Note that whitebark pine is a proposed species under the Endangered Species Act and is discussed further in Section 5.

Coville's rush is rare in Montana and currently known from approximately a half-dozen widely scattered wetland/riparian sites in the mountainous portion of the state (MTNHP 2021c). Its general distribution is limited to the central portion of the far western mountain ranges. It is typically found in moist, gravelly or sandy soil along major water courses in the valley zone.

Straightbeak buttercup is also rare in Montana and little information exists on its abundance and habitat requirements. It is limited to the western portion of the state based on several specimen collections; however, only one collection has been made in the past two decades (MTNHP 2021c). This species prefers streambanks and moist meadows in the montane zone.

Swamp red current is also rare in Montana and is known from a few collections from the western portion of the state (MTNHP 2021c). Its general distribution is like Coville's rush and limited to the central portion of the far western mountain ranges. Its habitat requirements include moist soil of forest openings in the montane to lower subalpine zones.

4.2.2 Potential Impacts

Given the nature of the project, minimal construction disturbance area, and general lack of species presence, no impact on any plant SOC identified in Table 4-1 is expected to occur.

4.2.3 Avoidance and Minimization Recommendations

The recommendations provided in Section 2.1.4 would generally apply to and minimize potential impact on plant SOC. No specific avoidance or minimization measures are necessary.

4.3 Terrestrial Species

4.3.1 Species observed/documented, general abundance, distribution, and habitat requirements

Table 4-1 identifies seven terrestrial SOC that include two mammals (fisher and wolverine), three birds (pacific wren, varied thrush, and pileated woodpecker), and two invertebrates (Gillette's checkerspot and Alberta snowfly). Additional information on the species is summarized below.

Mammals

According to the MTNHP, **fisher** occur primarily in dense coniferous or mixed forests, including early successional forests with dense overhead cover (MTNHP 2021c). They commonly use hardwood stands in summer but prefer coniferous or mixed forests in winter and avoid open areas. Optimal conditions for fishers are forest tracts of 245 acres or more, interconnected with other large areas of suitable habitat. A dense understory of young conifers, shrubs, and herbaceous cover is important in summer. Fishers were extinct in Montana by the 1930's (MTNHP 2021c). Reintroduction efforts in 1959 and 1960 in Lincoln, Granite and Missoula counties resulted in the establishment of populations in those counties. More recent reintroductions were made in the Cabinet Mountains between 1988 and 1991 (MTNHP 2021c). The species is currently managed as a furbearer with a limited harvest of 7 animals.

Wolverine are larger (nearly 2x) than the related fisher. Wolverines in northwestern Montana are known to occupy higher elevations in summer and lower elevations in winter (MTNHP 2021c). Wolverines are limited to alpine tundra, and boreal and mountain forests (primarily coniferous) in the western mountains, especially large wilderness areas. However, dispersing individuals have been

found far outside of usual habitats. They are usually in areas with snow on the ground in winter. Riparian areas may be important winter habitat. When inactive, wolverines occupy dens in caves, rock crevices, under fallen trees, in thickets, or similar sites (MTNHP 2021c). The U.S. Fish and Wildlife Service (USFWS) released a final ruling on October 13, 2020 (85 FR 64618 64648), stating that the wolverine had been withdrawn from consideration as a threatened and endangered species, vacating its proposed status.

Birds

Pacific wrens prefer large uncut stands of old-growth and mature coniferous forests and also occur in riparian cottonwoods and aspens. In Montana they are especially common in cedar-hemlock, cedar-grand fir, and spruce-fir forests and are strongly associated with riparian areas within these forest types (MTNHP 2021c). This species generally occupies the western half of the state.

In Montana, the **varied thrush** breeds primarily in mature and old-growth mixed-coniferous forests of western Montana. Highest number of observations during the breeding season are in northwestern Montana (MTNHP 2021c). This species can travel widely during migration and winter, with observations as far east as Sheridan County. This species breeds in mixed-coniferous forests with a preference of Douglas-fir and western larch and in winter uses a wider variety of habitats, including suburban areas such as bird feeders and areas where fruits and berries are present (MTNHP 2021c). This species is more abundant in mature and old-growth forest stands than in younger forests.

The **pileated woodpecker** habitat includes late successional stages of coniferous or deciduous forest, but can also include younger forests that have scattered, large dead trees (MTNHP 2021c). In forests of northwestern Montana, this species is found predominantly in mixed coniferous forest dominated by western larch and Douglas-fir. This species distribution is limited to the western portion of the state.

Invertebrates

Gillette's checkerspot butterfly in Montana have been found in a variety of habitats: montane areas in wet meadows; marshy sites along small streams; open riparian habitat; tree canopy, predominantly lodgepole pine, Engelmann spruce, subalpine fir, and often in fire-disturbed locations (MTNHP 2021c).

Very little information exists about the ecology of the **Alberta snowfly**. This species generally inhabits small streams and large rivers. Early records reported members of this species to be found in Banff National Park and North Fork Flathead River, which are coldwater systems, but additional records have found them in transitional cold-cool water systems such as the Smith River and Missouri River (MTNHP 2021c).

4.3.2 Potential Impacts

Due to the lack of suitable habitat within the immediate project area and general scarcity of these species, neither the fisher nor wolverine are anticipated to be negatively impacted by the project. Impacts to vegetation will be negligible for the project and would not affect the quantity or quality of suitable habitat for any SOC species. No impacts to invertebrate SOC are anticipated.

4.3.3 Avoidance and Minimization Recommendations

No avoidance or minimization recommendations are provided at this time.

4.4 Aquatic Species

4.4.1 Species observed/documented, general abundance, distribution, and habitat requirements

The **westslope cutthroat trout** is one of two subspecies of native cutthroat found in Montana and can be found in the Kootenai watershed, the Clark Fork watershed, the headwaters of the Missouri River (MTNHP 2021c). Spawning and rearing streams tend to be cold and nutrient poor. This species seeks out gravel substrate in riffles and pool crests for spawning habitat. Cutthroat trout have long been regarded as sensitive to fine sediment (generally defined as 6.3 millimeters or less) (MTNHP 2021c). Westslope cutthroat trout tend to thrive in streams with more pool habitat and cover than uniform, simple habitat. Juvenile cutthroat trout overwinter in the interstitial spaces of large stream substrate. Adult cutthroat trout need deep, slow moving pools that do not fill with anchor ice in order to survive the winter (MTNHP 2021c). As previously discussed, the St. Regis River and most of its tributaries, except Chippy Creek and Mephisto Creek, are known to support westslope cutthroat trout in the project area.

4.4.2 Potential Impacts

Potential impacts to westslope cutthroat trout are anticipated to be limited to the culvert rehabilitation work occurring at the two St. Regis River crossings, which may result in short-term turbidity and sedimentation within the river due to in-stream disturbances. Culvert replacements or rehabilitations occurring at other perennial streams in the project area may affect, but likely less so, the water quality of the St. Regis River and potential effects would vary based on the distance and gradient between the culvert replacement and St. Regis River.

4.4.3 Avoidance and Minimization Recommendations

The recommendations provided in Section 3.1.5 are applicable for avoiding and minimizing water quality impacts that may affect westslope cutthroat trout.

5 Threatened and Endangered Species Preliminary Biological Assessment

Section 7 of the ESA [16 U.S.C. 1531 *et seq.*] outlines the procedures for Federal interagency cooperation to protect federally listed species and conserve designated critical habitats. Section 7 requires Federal agencies to determine the effects of the proposed action on threatened, endangered, and proposed species and to consult with the USFWS for concurrence on the determination of effect. This section provides the Preliminary Biological Assessment (PBA) of the proposed action’s effect on federally listed species and designated critical habitats.

5.1 Methods

Information reported within this section was obtained from a review of literature and database searches and on-site field observations. The October 1, 2021, publication of Endangered, Threatened, Proposed and Candidate Species by Montana County available through the USFWS's Montana Ecological Field Office (USFWS 2021a) was reviewed to determine the federally listed species potentially occurring in Mineral County. A list of federally listed endangered, threatened, proposed, and candidate species to be considered for this project was generated based on the USFWS data. Federally listed species potentially occurring in Mineral County are listed in Table 5-1 along with their respective federal status and presence of critical habitat in the project area.

Table 5-1. Federally Listed Species Occurring in Mineral County, MT

Common Name	Scientific Name	Status[a]	Critical Habitat in Action Area?
Canada Lynx	*Lynx canadensis*	LT	No
Grizzly Bear	*Ursus arctos horribilis*	LT	No
Bull Trout	*Salvelinus confluentus*	LT, CH	No
Whitebark Pine	*Pinus albicaulis*	P	No
Monarch Butterfly	*Danaus plexippus*	C	No

Sources: USFWS 2021a; USFWS 2021b
[a] LT = Listed Threatened; CH = Critical Habitat; P = Proposed; C = Candidate

The project area was reviewed using the USFWS Information for Planning and Consultation (IPaC) tool to confirm or to augment the county list of species. The IPaC identifies Canada lynx, bull trout, whitebark pine, and monarch butterfly as potentially affected by project activities; however, IPaC does not identify grizzly bear but does include the yellow-billed cuckoo (*Coccyzus americanus*) (USFWS 2021b). Because of this, yellow-billed cuckoo is also included in the PBA below.

The monarch butterfly has recently been listed as a candidate species and IPaC identifies the monarch butterfly as potentially affected by project activities. Monarch butterfly habitat preferences include open places, native prairie, foothills, open valley bottoms, open weedy fields, roadsides, pastures, marshes, suburban areas, rarely above treeline in alpine terrain during migration (MTNHP 2021c). They have been reported in Glacier National Park in mesic montane meadows (MTNHP 2021c) but are uncommon and very infrequently documented in western Montana. Due to the slow-moving nature of the work, which will involve negligible vegetation impacts and be limited primarily to the existing paved surface, no impacts to monarch butterfly are anticipated. As such, the monarch butterfly is not evaluated in this PBA and the project is not likely to jeopardize the continued existence of the monarch butterfly

5.2 Action Area and Environmental Baseline

The action area for the proposed project is defined as "all areas to be affected directly or indirectly by the proposed action and not merely the immediate area directly adjacent to the action" (50 CFR §402.02). Project components that pose potential effects include potential in-stream work for culvert rehabilitation/replacement, construction noise, clearing and grading resulting from construction activities, and operation of the highway facility.

Topography and site characteristics affect the propagation of sound, and the forested mountains surrounding the project area would reduce the extent of noise. For this analysis however, a simplified uniform distance of one-half mile is used as a terrestrial action area to assess potential impacts. The aquatic action area is defined to include the same general one-half mile distance, but for only surface water resources that are adjacent to or down gradient from the project. In essence, the aquatic action area includes the St. Regis River for one-half mile downstream from the project.

5.3 Preliminary Biological Assessment

5.3.1 Canada Lynx

Species status, distribution, habitat requirements, reasons for decline

The Canada lynx (*Lynx canadensis*) was listed as threatened under the ESA in 2000 (65 FR 16053 16086), and critical habitat was designated on November 9, 2006, and revised on February 24, 2009 and again on September 12, 2014. Critical habitat includes substantial areas of boreal forests in northwestern Montana and the Greater Yellowstone Ecosystem.

In general, lynx distribution in North America is closely associated with the distribution of North American boreal forest. Canada lynx west of the Continental Divide generally occur in subalpine forests at elevations between 4,000 and 7,000 feet in stands of lodgepole pine or mixed stands of subalpine fir, lodgepole pine, Douglas-fir, grand fir, western larch and hardwoods (Ruediger et al. 2000). In nearby neighboring northern Idaho, western redcedar and western hemlock habitat types support relatively high densities of snowshoe hares, and lynx appear to regularly use these habitat types (Ruediger et al. 2000).

Among the general forest types, lynx are most likely to persist in areas that receive deep snow and have high-density populations of snowshoe hares, the principal prey of lynx. Disturbances that create early successional stages such as fire, insect infestations, and timber harvest, provide foraging habitat for lynx by creating forage and cover for snowshoe hares (Ruediger et al. 2000). Without high densities of snowshoe hares, lynx are unable to sustain populations despite utilizing a multitude of other prey when snowshoe hare numbers are low.

Reasons for decline include incompatible land uses such as timber harvest and recreation and related activities. The primary factor that caused the lynx to be listed was the lack of guidance for the conservation of lynx and snowshoe hare habitat in plans for federally managed lands (USFWS 2017).

Occurrence in Project Area

Minimal data exists documenting lynx observations in the vicinity of the project area. The MTNHP database includes a few Canada lynx observations for Mineral County from 1991 and 1994, and several other data entries dating back to the 1980s based on furbearer harvest data. According to the MTNHP predicted habitat suitability model, the project area is moderately suitable habitat based on a few observations in the area (MTNHP 2016). Despite the lack of direct observations, the project vicinity includes substantial areas of suitable forest habitat and Canada lynx occurrence in the project area is possible.

Potential Impact Analysis

Given the presence of suitable forest habitat, it is reasonable to assume that Canada lynx movements through the project area may at least occasionally occur. The existing I-90 acts cumulatively with other human-induced activities and features (e.g., logging, recreation) to slow movement between forested communities in the vicinity of the project. Traffic volumes are projected to increase regardless of whether the proposed project is implemented and are likely to contribute to incrementally increase habitat fragmentation.

No impact on lynx critical habitat would occur because there is none within the project vicinity. Negligible vegetation impacts are expected and no reduction of available roadside cover that may increase the difficulty associated with cross-highway movements for lynx is expected to occur.

Construction activities would result in a temporary increase of noise levels. Construction would occur during normal daytime hours and the short-term noise increase is not anticipated to reach levels that would harm Canada lynx.

Conservation Measures

The following conservation measures are recommended to ensure that any impacts to Canada lynx are minimized:

- Clearing and grubbing should not be allowed within the ROW beyond the construction limits or required clear zone. Any temporary clearing outside the construction limits (e.g. for culvert installation, etc.) but within the ROW should be kept to the smallest area possible and reclaimed immediately following construction.

Determination of Effect

Due to the scope and anticipated duration of the project within suitable forest habitat, a preliminarily determination has been made that the proposed project ***may affect*** Canada lynx. A final determination of effect will be made at a later phase in project development in coordination/consultation with the USFWS.

5.3.2 Grizzly Bear

Species status, distribution, habitat requirements, reasons for decline

The grizzly bear (*Ursus arctos horribilis*) was listed as threatened under the ESA in 1975 in the conterminous 48 states (40 FR 31734). Habitat loss and human encroachment are the primary reasons for decline in grizzly bear populations (Reel et al. 1989). On June 30, 2017, the Greater Yellowstone Ecosystem (GYE) population of grizzly bears was removed from the federal list of endangered and threatened species. The USFWS June 30, 2017 final rule delisting the Greater Yellowstone Ecosystem grizzly bear population was vacated and remanded by the court on September 24, 2018. Therefore, grizzly bears throughout the lower 48 states are listed as threatened except where designated as an experimental population.

Grizzly bears are wide-ranging mammals requiring large areas of undisturbed habitat. Grizzlies occupy a wide range of habitat types and elevations throughout the year and will opportunistically occupy areas that can best meet their food requirements. Grizzlies prefer habitat that is forested and provides good cover (USFWS 1993). Home ranges can vary considerably from approximately 11 to

2,000 square kilometers (7 to 1,245 sq. mi.) and are dependent upon food distribution (Reel et al. 1989). No critical habitat for grizzly bear has been designated.

According to Kendall et. al. (2009), in 1998 and 2000 an estimated mean population of 241 grizzly bears occupied what was then termed the Greater Glacier Area. An increasing trend in grizzly bear numbers continued and, in 2004, the estimated number had increased to 765 individuals (Kendall et. al. 2009). By 2016, an estimated 1,800 grizzlies resided in the lower 48 states.

Presently, there are five regions where grizzlies are known to occur: Yellowstone ecosystem, Northern Continental Divide ecosystem (NCDE), Cabinet-Yaak ecosystem, Selkirk ecosystem, and Northern Cascades ecosystem. The project area is located south and outside of the Cabinet-Yaak Ecosystem Grizzly Bear Recovery Zone. The Cabinet-Yaak grizzly bear population is estimated to be approximately 50 individuals (USFWS 2021). The project area is situated between the Cabinet-Yaak and Bitterroot recovery areas in what has been identified as the Cabinet/Yaak to Bitterroot Linkage Area (Servheen and Waller 2001). The minimal development in the vicinity of the project along I-90 and federal ownership together create an opportunity for a linkage area between the two recovery zones.

Occurrence in Project Area

The MTNHP database does not include any grizzly bear observations in the vicinity of the project. The project area is not included in areas of grizzly bear estimated current distribution (USFWS 2021). In reviewing the Cabinet-Yaak Grizzly Bear Recovery Area 2019 Research and Monitoring Progress Report (Kasworm et al. 2020), and specifically Figure 3 showing grizzly bear observations from 1959-2019, the project area is located at the southern limits of the study area and no grizzly bear observations are identified within the project action area.

According to the USFWS “may be present” map, the project area appears to be situated in an area where grizzly bears are not present; however, areas where grizzly bears “may be present” surround the I-90 corridor in the project vicinity. Evidence from past studies suggest grizzly bears may be generally displaced from habitats within 0.5 to 1.0 mile of the existing highway. They are, however, known to frequently cross highways. Figure A101 in Kasworm et al., for instance, shows grizzly bear 927 having crossed I-90 many miles east of the project area. Despite the lack of direct evidence of grizzly bear in the project action area, the potential for grizzly bear to be present or pass through the project area during construction exists given the ample suitable habitat in the project vicinity, the project location just on the periphery of where grizzlies may be present and increasing populations and geographic distribution of grizzly bears.

Potential Impact Analysis

Based on available literature and research, the likelihood of grizzly bear within the project area is low. The limits of construction will stay within areas of previously disturbed highway ROW and the proposed project is not anticipated to result in the alteration, degradation, or removal of potential grizzly habitat. The proposed project is not expected to create or increase any new or existing barriers that would affect bear mobility or movements. The proposed improvements are not anticipated to encourage or exacerbate human development in the project area.

Construction activities would result in a temporary increase of noise levels. Construction would occur during normal daytime hours and the short-term noise increase is not anticipated to reach levels that would harm grizzly bear.

Conservation Measures

The presence of workers and associated bear attractants, such as food, petroleum products, etc., could increase the potential for bear-human conflict to occur. To minimize and avoid impacts to grizzly bear, the following Standard Specification 208.03.4(E) Bear Habitat will be incorporated into the final contract plans:

- Promptly clean up any project related spills or debris.
- Camping is allowed in designated camping areas only (for construction workers).
- Store all food, food related items, petroleum products, antifreeze, garbage, and personal hygiene items inside a closed, hard-sided vehicle or commercially manufactured bear resistant container.
- Remove garbage from the project site daily and dispose of it in accordance with all applicable regulations.
- Notify the Project Manager of any animal carcasses found in the area.
- Notify the Project Manager of any bears observed in the vicinity of the project.

The following Special Provision will be included in the contract documents to make clear the requirements above:

1. WORK IN BEAR HABITAT [208] (REVISED 9-9-21M)

This project is located within grizzly bear habitat. Conduct project-related activities outside of construction limits in a manner which will not adversely affect federally listed species and/or designated critical habitat. Follow the requirements of Subsection 208.03.4(E) for all project activities.

Determination of Effect

Based on available information, the possibility of grizzly bear to be present during construction cannot be fully discounted. It has been preliminarily determined that the proposed project ***may affect*** grizzly bear. A final determination of effect will be made at a later phase in project development in coordination/consultation with the USFWS.

5.3.3 Bull Trout

Species status, distribution, habitat requirements, reasons for decline

The USFWS defined a single distinct population segment (DPS) for bull trout (*Salvelinus confluentus*) within the conterminous United States and listed them as threatened under the ESA in 1999 (64 FR 58910). This single DPS is subdivided into six biologically based recovery units, of which the Columbia headwaters recovery unit contains the Clark Fork River population (USFWS 2015).

Bull trout occur in nearly all of the Columbia River Basin in higher elevation tributaries in Washington, Oregon, Idaho, Montana, and a small part of Nevada. The historical range of bull trout includes major river basins in the Pacific Northwest at about 41 to 60 degrees North latitude, from the southern limits in the McCloud River in northern California and the Jarbidge River in Nevada to the headwaters of the Yukon River in the Northwest Territories, Canada (Cavender 1978). Although

bull trout are presently widespread within their historical range, they have declined in overall distribution and abundance during the last century. Dams, forest management practices, agriculture, roads and mining are primary land and water management activities that threaten bull trout and degrade its habitat (USFWS 1998). In addition, native bull trout have been displaced in many areas through competitive interaction with introduced brook trout. Bull trout and brook trout can interbreed and the offspring are sterile hybrids, further contributing to bull trout population decline.

Spawning areas are often in headwater streams and associated with coldwater springs, groundwater infiltration, and the coldest streams in a given watershed (Rieman and McIntyre 1993). Spawning takes place between late August and early November, principally in third and fourth order streams. Bull trout prefer spawning habitat in low-gradient stream reaches with loose, clean gravel (Fraley and Shepard 1989) and do not tolerate high sediment levels in their spawning streams.

On October 18, 2010, the USFWS issued a final rule designating critical habitat for bull trout in the conterminous United States (75 FR 63898-64070), and developed implementation plans for the final bull trout recovery plan (USFWS 2015a). In freshwater areas, bull trout critical habitat includes the stream channels within the designated stream reaches and a lateral extent as defined by the bankfull elevation on one bank to the bankfull elevation on the opposite bank, or the OHWM if bankfull elevation in not evident on either bank (USFWS 2010). The final rule (75 FR 63926) further defines critical habitat to include, “the bed and banks of waterbodies, but actions that may destroy critical habitat could occur on lands adjacent to waterbodies, and, therefore, would be subject to regulation under this rule.”

Occurrence in Project Area

The MTNHP does not document any occurrences of bull trout in the vicinity of the project (MTNHP 2021b). A review of the MTNHP *Bull Trout (Salvelinus confluentus) Predicted Suitable Habitat Modeling* report indicates that the project area suitability for bull trout is “generally unsuitable” (MTNHP 2019). The bull trout suitability model is based on species presence confirmed through direct capture or where they are believed to be present based on the professional judgement of a fisheries biologist due to confirmed presence in adjacent areas (MTNHP 2019). The USFS Rocky Mountain Research Station the Range-Wide Bull Trout eDNA Project web application was also reviewed to determine bull trout presence/absence in the project area. Extensive sampling of the St. Regis River and its tributaries yielded no positive eDNA results (USFS 2021), providing further evidence that bull trout do not occur in the vicinity of the project.

No critical habitat is designated within the vicinity of the project. The St. Regis River is designated bull trout critical habitat from the confluence of Twelvemile Creek downstream to the confluence with the Clark Fork River. The confluence of Twelvemile Creek is approximately 17.5 river miles downstream from the eastern edge of the project area.

Potential Impact Analysis

No impact on bull trout or bull trout critical habitat is expected to occur due to implementation of the project. Minor water quality impacts may occur during culvert rehabilitation/replacements; however, water quality effects would negligible and would not reach downstream segments of the St. Regis River (approximately 17 miles downstream from the project) where bull trout are known to exist. No impact on bull trout critical habitat would occur because there is none in the project action area.

Conservation Measures

No conservation measures specific to bull trout are necessary.

Determination of Effect

Based on information presented above, a ***no effect*** determination is rendered relative to bull trout and bull trout critical habitat.

5.3.4 Whitebark Pine

Species status, distribution, habitat requirements, reasons for decline

Whitebark pine is a common component of subalpine forests and a dominant species of treeline and krummholtz habitats (MTNHP 2021c). It occurs in almost all major mountain ranges of western and central Montana. Populations of whitebark pine in Montana and across most of western North America have been severely impacted by past mountain pine beetle outbreaks and by the introduced pathogen, white pine blister rust. The results of which have been major declines in whitebark pine populations across large areas of its range. Additionally, negative impacts associated with encroachment and increased competition from other trees, primarily subalpine fir have occurred as a result of fire suppression in subalpine habitats.

Occurrence in Project Area

A review of the MTNHP *Pinus albicaulis (Whitebark Pine) Predicted Suitable Habitat Modeling* report indicates that the project area suitability for whitebark pine to occur ranges from low to unsuitable (MTNHP 2020). Per Figure 9 of the report, no species observations are documented in the vicinity of the project area. Based on this information and general lack of suitable habitat within the action area, whitebark pine are not expected to occur in the vicinity of the project.

Potential Impact Analysis

Negligible vegetation impacts are anticipated as a result of the project. Disturbance is expected to be limited to areas immediately adjacent the existing highway along the previously disturbed shoulders. No mature tree clearing is necessary for the project and no impact on whitebark pine is anticipated.

Conservation Measures

No conservation measures specific to whitebark pine are necessary.

Determination of Effect

Based on information presented above, the proposed project is ***not likely to jeopardize the continued existence*** of whitebark pine.

5.3.5 Yellow-billed Cuckoo

Species status, distribution, habitat requirements, reasons for decline

The western population of the yellow-billed cuckoo (*Coccyzus americanus occidentalis*) breeds along river systems west of the Rocky Mountains, which generally separate this population from its counterpart, the eastern yellow-billed cuckoo. Yellow-billed cuckoos breed throughout much of the eastern and central U.S., winter almost entirely in South America east of the Andes and migrate

through Central America. The USFWS identifies yellow-billed cuckoos west of the Continental Divide as a distinct population segment (DPS) for conservation purposes and this DPS has been listed as threatened under the ESA since 2014 (79 FR 59991 60038). The western subspecies has disappeared over much of the western U.S. and now occurs as a rare breeder in California, Arizona, New Mexico, and west Texas.

Throughout their range, preferred breeding habitat includes open woodland with thick undergrowth, parks, and deciduous riparian woodland. In the west, they nest in tall cottonwood riparian stands with willow understory. Nests are found in trees, shrubs or vines, an average of 1 to 3 meters above ground and typically in mature willows (MTNHP 2021c). The western subspecies typically requires patches of at least 10 hectares (25 acres) of dense, riparian forest with a canopy cover of at least 50 percent in both the understory and overstory. Migration and wintering habitat needs are not well known, although they appear to include a relatively wide variety of conditions. Migrating yellow-billed cuckoos have been found in coastal scrub, second-growth forests and woodlands, hedgerows, forest edges, and in smaller riparian patches than those used for breeding. Caterpillars and other insects, as well as some frogs and lizards, comprise the main diet while fruit and seeds are also eaten, more frequently on wintering grounds.

In the west, much of the riparian habitat preferred by the yellow-billed cuckoo has been converted to farmland and housing, leading to population declines and the possible extirpation of cuckoos from British Columbia, Washington, Oregon, and Nevada. In the listing decision, the U.S. Fish and Wildlife Service noted the primary factors threatening the western distinct population segment as loss and degradation of habitat for the species from altered watercourse hydrology and natural stream processes, livestock overgrazing, encroachment from agriculture, and conversion of native habitat (MTNHP 2021c).

Occurrence in Project Area

Only eight sightings have been reported by the MTNHP in western Montana since 1959 and zero sighting have been recorded in Mineral County. Regionally this species is considered a transient migrant in western Montana and, while suitable migratory habitat for the species does occur within the I-90 corridor along the St. Regis River near the project site, potential occurrences within the action area would be considered extremely rare. Critical habitat is proposed for this species (79 FR 48547 48652) but does not include any areas in the state of Montana and therefore does not include the project action area.

Potential Impact Analysis

No impact on the yellow-billed cuckoo is anticipated as a result of the proposed project. Suitable habitat of adequate size (i.e., 25-acre dense, riparian forest) does exist in the vicinity of the project; however, no impact on suitable riparian areas potentially used by migrating yellow-billed cuckoos would occur. The potential for a transient individual to be present during construction within the vicinity of the project is extremely low to non-existent due to the overall decline of species presence in western Montana and lack of suitable habitat within the immediate project limits. As such, potential impacts on the yellow-billed cuckoo due to in-air noise from construction activities are not expected to occur.

Conservation Measures

No specific conservation measures are recommended at this time with respect to the yellow-billed cuckoo.

Determination of Effect

Based on information presented above, a ***no effect*** determination is rendered relative to the yellow-billed cuckoo.

5.4 Potential Cumulative Effects Analysis

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this preliminary biological assessment (USFWS 1998b). Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA (USFWS 1998b). A cumulative impacts analysis examines the additive effect of the proposed action's residual impact (i.e., impacts remaining after applying avoidance and minimization measures) in relation to the residual impacts generated by past, present, and reasonably foreseeable actions within the cumulative analysis area.

The MDT Tentative Construction Projects 2021-2025 web application was reviewed on August 30, 2021, to identify any MDT-sponsored projects occurring in the vicinity of the proposed project. A single project was identified: Dena Mora Rest Area Rehab (project ID IM 90-1(236)4) between RP 4.4 and 4.8 is a minor rehabilitation funded for fiscal year 2021. No other transportation projects are identified in the web application.

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APPENDIX A: Representative Site Photos and Wetland Delineation Photos

REPRESENTATIVE SITE PHOTOS

Photo 1: Near RP 0 and Lookout Pass interchange at Idaho/Montana border.

Photo 2: Near RP 0.3, looking east. Typical roadside environment with heavy sanding material, steep grades, visible erosion, and sparse vegetation.

Photo 3: Near RP 1.7, looking east. Typical roadside environment with heavy sanding material, steep grades, visible erosion, and sparse vegetation.

Photo 4: Pullout near RP 1.7, looking west.

Photo 5: I-90 bridge with NORPAC road underneath, at RP 1.9.

Photo 6: St. Regis River located at tow of highway embankment, near RP 2.6.

Photo 7: St. Regis River culvert outlet at approximately RP 1.75.

Photo 8: St. Regis River double culverts outlet, near RP 3.0.

Photo 9: Overview of Chippy Creek and wetlands within divided highway section, near RP 4.3, looking east.

Photo 10: I-90 bridge with NORPAC road underneath, at RP 5.1. Note wildlife trail under bridge to right of roadway.

Photo 11: Beaver dam along St. Regis River at approximately RP 2.4.

WETLAND DELINEATION PHOTOS

Photo 12: Data plot WL-01 within Wetland 1.

Photo 13: Data plot UP-01, paired plot to WL-01.

Photo 14: Data plot WL-2 within Wetland 2 adjacent to St. Regis River.

Photo 15: Data plot UP-02, paired plot to WL-02.

Photo 16: Data plot WL-03 within Wetland 3.

Photo 17: Data plot UP-03, paired plot to WL-03.

Photo 18: Data plot WL-04 within Wetland 4.

Photo 19: Data plot UP-04, paired plot to WL-04.

Photo 20: Data plot WL-05 within Wetland 5.

Photo 21: Data plot UP-05, paired plot to WL-05.

Photo 22: Data plot WL-06 within Wetland 6.

Photo 23: Data plot UP-06, paired plot to WL-06.

Photo 24: Data plot WL-07 within Wetland 7.

Photo 25: Data plot UP-07, paired plot to WL-07.

Photo 26: Data plot WL-08 within Wetland 8.

Photo 27: Data plot UP-08, paired plot to WL-08.

Photo 28: Data plot WL-09 within Wetland 9.

Photo 29: Data plot UP-09, paired plot to WL-09.

Photo 30: Data plot WL-10 within Wetland 10.

Photo 31: Data plot UP-10, paired plot to WL-10.

Photo 32: Data plot WL-11 within Wetland 11.

Photo 33: Data plot UP-11, paired plot to WL-11.

Photo 34: Data plot WL-12 within Wetland 12.

Photo 35: Data plot UP-12, paired plot to WL-12.

Photo 36: Data plot WL-13 within Wetland 13.

Photo 37: Data plot UP-13, paired plot to WL-13.

APPENDIX B: USACE Wetland Determination Forms
MDT Montana Wetland Assessment Methodology Forms

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-01

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. PB49; T20N; R32W

Landform (hillside, terrace, etc.): slope | Local relief (concave, convex, none): concave | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.451203 | Long: -115.694164 | Datum: NAD83

Soil Map Unit Name: Vaywood family, glacial-valley floors, extremely bouldery | NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Near top of pass. Culvert outlet flowing water during survey. Narrow wetland fringe adjacent to channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Alopecurus arundinaceus*	30	Yes	FAC
2. *Equisetum arvense*	40	Yes	FAC
3. *Carex pachystachya*	10	No	FAC
4. *Carex aquatilis*	10	No	OBL
5. *Juncus torreyi*	5	No	FACW
6. *Bromus inermis*	5	No	UPL
7.			
8.			
9.			
10.			
11.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	100 (A)		285 (B)

Prevalence Index = B/A = 2.85

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Dominance of wetland vegetation.

SOIL

Sampling Point: WL-01

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Loamy/Clayey	laom with roots and gravel
4-14	10YR 4/2	95	10YR 5/6	5	D	PL	Loamy/Clayey	
14-20	10YR 5/1	95	10YR 5/8	5	D	PL	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Soil qualifies as Depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 16		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 10	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Flowing water in channel. Soil pit adjacent to flowing channel.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-01

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. PB49; T20N; R32W

Landform (hillside, terrace, etc.): road fill slope | Local relief (concave, convex, none): none | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.451232 | Long: -115.694205 | Datum: NAD83

Soil Map Unit Name: Vaywood family, glacial-valley floors, extremely bouldery | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Roadside fill slope adjacent to WL-01

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Centaurea stoebe*	30	Yes	UPL
2. *Achillea millefolium*	10	Yes	FACU
3. *Poa pratensis*	10	Yes	FAC
4. *Bromus inermis*	10	Yes	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	40	x 5 =	200
Column Totals:	60 (A)		270 (B)

Prevalence Index = B/A = 4.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vacular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Sparsely vegetated road fill slope. Upland grasses, forbs, and weeds.

SOIL

Sampling Point: UP-01

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/3	100					Sandy	Loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 4

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Soil comprised of highway fill material. No hydric indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

Dry fill slope - no wetland hydrology indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-02

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 04; T19N; R32W

Landform (hillside, terrace, etc.): floodplain | Local relief (concave, convex, none): concave | Slope (%): 2

Subregion (LRR): LRR E | Lat: 47.435288 | Long: -115.677683 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Upstream culvert crossing of St. Regis River near RP1.75. Data point along streambank of St. Regis River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. *Salix drummondiana*	50	Yes	FACW
2.			
3.			
4.			
5.			
	50	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Carex aquatilis*	50	Yes	OBL
2. *Senecio triangularis*	20	Yes	FACW
3. *Epilobium ciliatum*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		210 (B)

Prevalence Index = B/A = 1.62

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Wetland species in herb and shrub layers.

SOIL

Sampling Point: WL-02

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100					Loamy/Clayey	silt-loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rocks

Depth (inches): 4

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Shallow soil layer over river gravels and cobbles. Wetland vegetation and hydrology present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 3		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Plot adjacent to flowing water in St. Regis River.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-02

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 04; T19N; R32W

Landform (hillside, terrace, etc.): hillside | Local relief (concave, convex, none): none | Slope (%): 10

Subregion (LRR): LRR E | Lat: 47.435262 | Long: -115.677591 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
St. Regis River Inlet riprap protection extends for some distance upstream from culvert. Upland data point adjacent to wetland data point (WL-02) occurs within the riprap section.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus contorta*	5	Yes	FAC
2.			
3.			
4.			
	5	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. *Amelanchier alnifolia*	5	Yes	FACU
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Centaurea stoebe*	5	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 95

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	15 (A)		60 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Very little vegetation growing within the riprap.

SOIL

Sampling Point: UP-02

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20								rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Could not dig soil pit in riprap bank section. No Hydric indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

Dry riprap slope - no wetland hydrology indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-03

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 03; T19N; R32W

Landform (hillside, terrace, etc.): Mountain Meadow | Local relief (concave, convex, none): concave | Slope (%): 2

Subregion (LRR): LRR E | Lat: 47.434271 | Long: -115.662293 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS/PAB

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Wet Meadow with pockets of standing water and PAB habitat. Wetland approximately 40% PEM, 40% PSS, 20% PAB. Extensive wildlife sign in wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. *Salix drummondiana*	40	Yes	FACW
2.			
3.			
4.			
5.			
	40	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Calamagrostis canadensis*	50	Yes	FACW
2. *Schoenoplectus acutus*	50	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		230 (B)

Prevalence Index = B/A = 1.64

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Carex also in wetland but outside plot. Spruce around periphery of wet meadow.

SOIL

Sampling Point: WL-03

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-16	10YR 2/1	95	10YR 3/6	5			Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Hydric Soil - meets criteria for F3

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 10		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 6	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Wet meadow with standing pockets of surface water near wetland data plot.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-03

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 03; T19N; R32W

Landform (hillside, terrace, etc.): Roadside Fill Slope | Local relief (concave, convex, none): concave | Slope (%): 10

Subregion (LRR): LRR E | Lat: 47.434362 | Long: -115.662468 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Roadside fill slope adjacent to WL-03

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Achillea millefolium*	30	Yes	FACU
2. *Fragaria vesca*	30	Yes	FACU
3. *Centaurea stoebe*	15	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	15	x 5 =	75
Column Totals:	75 (A)		315 (B)

Prevalence Index = B/A = 4.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1](Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
upland forbs

SOIL

Sampling Point: UP-03

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Soil comprised of highway fill material. No hydric indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

Dry fill slope - no wetland hydrology indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-04

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec.11; T19N; R32W

Landform (hillside, terrace, etc.): drain ditch | Local relief (concave, convex, none): concave | Slope (%): 2

Subregion (LRR): LRR E | Lat: 47.423366 | Long: -115.635981 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Roadside ditch between old highway and interstate. Ditch approximately 2-3 feet wide across bottom.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Calamagrostis canadensis*	30	Yes	FACW
2. *Schoenoplectus acutus*	20	Yes	OBL
3. *Equisetum arvense*	20	Yes	FAC
4. *Heracleum maximum*	5	No	FAC
5. *Solidago canadensis*	5	No	FACU
6. *Castilleja miniata*	5	No	FACW
7.			
8.			
9.			
10.			
11.			
	85 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	35	x 2 =	70
FAC species	25	x 3 =	75
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	85 (A)		185 (B)

Prevalence Index = B/A = 2.18

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Dominanace of wetland vegetation. Plot includes some upland forbs because width of wetland is small.

SOIL

Sampling Point: WL-04

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10Yr 3/1	98	10YR 5/6	2	RM	M	Loamy/Clayey	Loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 6

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Meets hydric soil criteria F6.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Water seasonally flows though ditch.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-04

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 11; T19N; R32W

Landform (hillside, terrace, etc.): Roadway fill slope | Local relief (concave, convex, none): none | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.423355 | Long: -115.636008 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Data point on highway fill slope. Matching upland plot to WL-04

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea engelmannii*	1	No	FAC
2.			
3.			
4.			
	1	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Dactylis glomerata*	30	Yes	FACU
2. *Equisetum arvense*	30	Yes	FAC
3. *Leucanthemum vulgare*	10	No	FACU
4. *Castilleja miniata*	10	No	FACW
5. *Solidago canadensis*	10	No	FACU
6. *Centaurea stoebe*	2	No	UPL
7.			
8.			
9.			
10.			
11.			
	92	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 8

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	31	x 3 =	93
FACU species	50	x 4 =	200
UPL species	2	x 5 =	10
Column Totals:	93 (A)		323 (B)

Prevalence Index = B/A = 3.47

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Upland grasses, forbs and weedy species

SOIL

Sampling Point: UP-04

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	Loam with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Highway fill slope material. No hydrid soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrology on road slope.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-05

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec.11; T19N; R32W

Landform (hillside, terrace, etc.): Wet meadow | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): LRR E | Lat: 47.422776 | Long: -115.635464 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Large wetland meadow complex.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea engelmannii*	5	Yes	FAC
2. *Pinus contorta*	5	Yes	FAC
3.			
4.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. *Salix drummondiana*	10	Yes	FACW
2.			
3.			
4.			
5.			
	10	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Calamagrostis canadensis*	40	Yes	FACW
2. *Schoenoplectus acutus*	40	Yes	OBL
3. *Carex nebrascensis*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	50	x 2 =	100
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		180 (B)

Prevalence Index = B/A = 1.64

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Wetland dominated by Salix and various species in herbaceous layer.

SOIL

Sampling Point: WL-05

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 3/2	100					Loamy/Clayey	Loam with roots
7-20	10YR 2/2	95	10YR 5/6	5	D	PL/M	Loamy/Clayey	gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Faint redox below 7". Meets criteria for F3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 16		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 10	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

No surface water but water in pit and soil saturated at 10".

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-05

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec.11; T19N; R32W

Landform (hillside, terrace, etc.): hillside | Local relief (concave, convex, none): concave | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.422824 | Long: -115.63539 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Matching upland plot to WL-05

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea engelmannii*	5	Yes	FAC
2. *Pinus contorta*	5	Yes	FAC
3.			
4.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	20	Yes	UPL
2. *Equisetum arvense*	5	No	FAC
3. *Leucanthemum vulgare*	10	No	FACU
4. *Castilleja miniata*	10	No	FACW
5. *Phleum pratense*	5	No	FAC
6. *Achillea millefolium*	20	Yes	FACU
7.			
8.			
9.			
10.			
11.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	20	x 3 =	60
FACU species	30	x 4 =	120
UPL species	20	x 5 =	100
Column Totals:	80 (A)		300 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Mix upland grass and forbs

SOIL

Sampling Point: UP-05

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100					Loamy/Clayey	Loam with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock
Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
No hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No hydrology indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-06

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 04; T19N; R32W

Landform (hillside, terrace, etc.): Bench | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): LRR E | Lat: 47.418036 | Long: -115.622813 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Bench adjacent to St Regis River and standing water.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. *Salix drummondiana*	25	Yes	FACW
2.			
3.			
4.			
5.			
	25	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Schoenoplectus acutus*	80	Yes	OBL
2. *Mentha arvensis*	5	No	FACW
3. *Epilobium ciliatum*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	35	x 2 =	70
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		150 (B)

Prevalence Index = B/A = 1.30

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Wetland vegetation on bench above St. Regis River

SOIL

Sampling Point: WL-06

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100					Loamy/Clayey	roots and rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

No redox noted in dark surface layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 12		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Soil pit saturated to surface.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-06

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec.12; T19N; R32W

Landform (hillside, terrace, etc.): road slope | Local relief (concave, convex, none): concave | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.418132 | Long: -115.622764 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Matching upland plot to WL-06. Road slope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Centaurea stoebe*	40	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 60

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	40	x 5 =	200
Column Totals:	40 (A)		200 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vacular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
sparsely vegetated roadslope. Knapweed only species noted.

SOIL

Sampling Point: UP-06

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/3	100					Loamy/Clayey	loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No Hydric Soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No Hydrology noted.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-20-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-07

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 04; T19N; R32W

Landform (hillside, terrace, etc.): stream edge | Local relief (concave, convex, none): concave | Slope (%): 2

Subregion (LRR): LRR E | Lat: 47.421314 | Long: -115.631383 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS/PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:

Wetland along Chippy Creek (and a small tributary) within median separating east bound and west bound I-90 traffic. Wetland includes areas of PEM, PSS, and PFO wetland habitat. Data point taken where all three wetland types are present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Picea engelmannii*	5	Yes	FAC
2. *Pinus contorta*	5	Yes	FAC
3.			
4.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10)			
1. *Salix drummondiana*	5	Yes	FACW
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Carex aquatilis*	30	Yes	OBL
2. *Schoenoplectus acutus*	40	Yes	OBL
3. *Heracleum maximum*	10	No	FAC
4. *Platanthera stricta*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		160 (B)

Prevalence Index = B/A = 1.52

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vacular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:

Wetland trees, shrubs, and herbaceous species

SOIL

Sampling Point: WL-07

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/1	100					Loamy/Clayey	Heavy organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Meets criteria for A2

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No ___	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 0		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Water flowing in Chippy Creek and tributary that feeds Chippy in the median.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-07

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 11; T19N; R32W

Landform (hillside, terrace, etc.): Road Slope | Local relief (concave, convex, none): None | Slope (%): 3

Subregion (LRR): LRR E | Lat: 47.421379 | Long: -115.631371 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Matching upland plot to WL-07 on road fill slope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Centaurea stoebe*	20	Yes	UPL
2. *Leucanthemum vulgare*	20	Yes	FACU
3. *Phleum pratense*	10	No	FAC
4. *Solidago canadensis*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 40

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	30	x 4 =	120
UPL species	20	x 5 =	100
Column Totals:	60 (A)		250 (B)

Prevalence Index = B/A = 4.17

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Sparsely vegetated road slope. Upland grasses and weedy species.

SOIL

Sampling Point: UP-07

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	100					Loamy/Clayey	Loam with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 10

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-20-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-08

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 04; T19N; R32W

Landform (hillside, terrace, etc.): stream edge | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): LRR E | Lat: 47.427284 | Long: -115.638696 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS/PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Start of Chippy Creek in interstate median.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 20')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera*	20	Yes	FAC
2. *Picea engelmannii*	10	Yes	FAC
3. *Pinus contorta*	10	Yes	FAC
4.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 10')			
1. *Salix drummondiana*	5	Yes	FACW
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Carex utriculata*	60	Yes	OBL
2. *Platanthera stricta*	10	No	FACW
3. *Epilobium ciliatum*	10	No	FACW
4. *Equisetum arvense*	10	No	FAC
5. *Juncus torreyi*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	95	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	30	x 2 =	60
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		270 (B)

Prevalence Index = B/A = 1.93

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Wetland species dominant

SOIL

Sampling Point: WL-08

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Loamy/Clayey	heavy organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Meets criteria for A2

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1		
Water Table Present?	Yes X	No ___	Depth (inches): 0		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Chippy Creek flow

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-08

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 11; T19N; R32W

Landform (hillside, terrace, etc.): roads slope | Local relief (concave, convex, none): None | Slope (%): 8

Subregion (LRR): LRR E | Lat: 47.427258 | Long: -115.638664 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Highway fill slope. Paired upland data point to WL-08

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	20	Yes	UPL
2. *Dactylis glomerata*	20	Yes	FACU
3. *Centaurea stoebe*	20	Yes	UPL
4. *Achillea millefolium*	10	No	FACU
5. *Fragaria virginiana*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	75	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	40	x 5 =	200
Column Totals:	75 (A)		340 (B)

Prevalence Index = B/A = 4.53

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Upland grasses, forbs, and weedy species

SOIL

Sampling Point: UP-08

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Loamy/Clayey	Loam with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rocks
Depth (inches): 8

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
No Hydric Soil Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No Hydrology Indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-09

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 02; T19N; R32W

Landform (hillside, terrace, etc.): Hillside | Local relief (concave, convex, none): concave | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.430169 | Long: -115.640967 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:
Steep hillside wetland with water seeping out of cut slope

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. *Alnus incana*	5	Yes	FACW
2. *Populus balsamifera*	15	Yes	FAC
3.			
4.			
5.			
	20 =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Juncus torreyi*	30	Yes	FACW
2. *Carex pachystachya*	30	Yes	FAC
3. *Calamagrostis canadensis*	5	No	FACW
4. *Platanthera stricta*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		225 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vacular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Cottonwoods are samplings in the shrub layer.

SOIL

Sampling Point: WL-09

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	100					Loamy/Clayey	peat loam
8-12	10YR 4/2	100					Loamy/Clayey	peat loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Heavy organics in upper 8 inches of profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1		
Water Table Present?	Yes X	No ___	Depth (inches): 0		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Very wet hillslope

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-09

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 02; T19N; R32W

Landform (hillside, terrace, etc.): Road slope | Local relief (concave, convex, none): concave | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.430177 | Long: -115.641002 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Road slope - paired upland plot to WL-09

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Dactylis glomerata*	15	Yes	FACU
2. *Melilotus officinalis*	10	Yes	FACU
3. *Leucanthemum vulgare*	5	No	FACU
4. *Centaurea stoebe*	1	No	UPL
5. *Achillea millefolium*	1	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	32	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 68

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	31	x 4 =	124
UPL species	1	x 5 =	5
Column Totals:	32 (A)		129 (B)

Prevalence Index = B/A = 4.03

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Sparsely vegetated road slope. Upland grasses, forbs, and weeds.

SOIL

Sampling Point: UP-09

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	Loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No Hydric Soil Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No Hyrology Indicators.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-10

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 11; T19N; R32W

Landform (hillside, terrace, etc.): Drainage | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): LRR E | Lat: 47.427779 | Long: -115.638563 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Steep drainage that flows into highway ditch and across interstate to St. Regis River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. *Populus balsamifera*	10	Yes	FAC
2. *Alnus incana*	10	Yes	FACW
3. *Salix drummondiana*	5	Yes	FACW
4.			
5.			
	25 =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Equisetum arvense*	25	Yes	FAC
2. *Platanthera stricta*	10	Yes	FACW
3. *Juncus torreyi*	5	No	FACW
4. *Carex aquatilis*	10	Yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	30	x 2 =	60
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		175 (B)

Prevalence Index = B/A = 2.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vacular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Bare ground is covered by moss.

SOIL

Sampling Point: WL-10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Mucky Peat	Heavy organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Heavy organics in upper 12"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___		
Water Table Present?	Yes X	No ___	Depth (inches): 0		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

Water in pit to the surface and standing surface water nearby.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-10

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 11; T19N; R32W

Landform (hillside, terrace, etc.): Road Slope | Local relief (concave, convex, none): None | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.427744 | Long: -115.638619 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Road slope. Upland plot paired with WL-10

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	20	Yes	UPL
2. *Dactylis glomerata*	20	Yes	FACU
3. *Melilotus officinalis*	15	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 45

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	20	x 5 =	100
Column Totals:	55 (A)		240 (B)

Prevalence Index = B/A = 4.36

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Sparsley vegetated road slope. Upland grasses and forbs.

SOIL

Sampling Point: UP-10

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	100					Loamy/Clayey	Loam with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No Hydric Soil Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrology indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-11

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 11; T19N; R32W

Landform (hillside, terrace, etc.): Roadside Ditch | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): LRR E | Lat: 47.421455 | Long: -115.630719 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM/PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No _____ (If no, explain in Remarks.)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:
Roadside ditch west of rest area on north side of interstate. Water flows under interstate and joins Chippy Creek.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 10')			
1. *Salix drummondiana*	5	Yes	FACW
2. *Populus balsamifera*	5	Yes	FAC
3.			
4.			
5.			
	10 =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Equisetum arvense*	25	Yes	FAC
2. *Juncus torreyi*	40	Yes	FACW
3. *Carex aquatilis*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	75 =Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ =Total Cover		

% Bare Ground in Herb Stratum 25

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	45	x 2 =	90
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		190 (B)

Prevalence Index = B/A = 2.24

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vacular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** _____

Remarks:
Heavy moss cover in wetland also

SOIL

Sampling Point: WL-11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/1	100					Peat	Heavy organics

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- X Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Heavy organics upper 8"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1		
Water Table Present?	Yes X	No ___	Depth (inches): 0		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

spring seep from hillside above. Additional hydrology from perennial tributary to Chippy Creek.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-11

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 11; T19N; R32W

Landform (hillside, terrace, etc.): Road slope | Local relief (concave, convex, none): concave | Slope (%): 2

Subregion (LRR): LRR E | Lat: 47.421466 | Long: -115.630797 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Roadway fill slope. Paired with WL-11

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Agrostis stolonifera*	40	Yes	FAC
2. *Melilotus officinalis*	40	Yes	FACU
3. *Centaurea stoebe*	5	No	UPL
4. *Trifolium hybridum*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	40	x 4 =	160
UPL species	5	x 5 =	25
Column Totals:	90 (A)		320 (B)

Prevalence Index = B/A = 3.56

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Upland grasses and forbs

SOIL

Sampling Point: UP-11

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 5/1	100					Loamy/Clayey	Loam with rocks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 6"

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

No Hydric Soil Indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-12

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 3; T19N; R32W

Landform (hillside, terrace, etc.): Roadside Ditch | Local relief (concave, convex, none): concave | Slope (%): 1

Subregion (LRR): LRR E | Lat: 47.431655 | Long: -115.64764 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Roadside ditch wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Carex aquatilis*	30	Yes	OBL
2. *Juncus torreyi*	30	Yes	FACW
3. *Juncus nevadensis*	30	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	60	x 2 =	120
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		150 (B)

Prevalence Index = B/A = 1.67

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Wetland dominated by sedge and rush

SOIL

Sampling Point: WL-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Peat	gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- X Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 8

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Heavy organics in upper 8".

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- X Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes	X	No ___	Depth (inches):	1
Water Table Present?	Yes	X	No ___	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes	X	No ___	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Seep in roadside ditch

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-12

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. 3; T19N; R32W

Landform (hillside, terrace, etc.): Road fill slope | Local relief (concave, convex, none): concave | Slope (%): 5

Subregion (LRR): LRR E | Lat: 47.431639 | Long: -115.647679 | Datum: NAD83

Soil Map Unit Name: Kawuneeche family, stream bottoms | NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Road slope. Paired with WL-12

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	20	Yes	UPL
2. *Melilotus officinalis*	30	Yes	FACU
3. *Centaurea stoebe*	10	No	UPL
4. *Dactylis glomerata*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	30	x 5 =	150
Column Totals:	70 (A)		310 (B)

Prevalence Index = B/A = 4.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Upland grasses and forbs

SOIL

Sampling Point: UP-12

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	loam with rock

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock fill
Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
Road fill material. No hydric soil indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No Hydrology Indicators

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-19-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: WL-13

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. PB49; T20N; R32W

Landform (hillside, terrace, etc.): Roadside Ditch | Local relief (concave, convex, none): concave | Slope (%): 3

Subregion (LRR): LRR E | Lat: 47.449173 | Long: -115.693489 | Datum: NAD83

Soil Map Unit Name: Vaywood family, glacial-valley floors, extremely bouldery | NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Roadside ditch connects to natural channel.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ =Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Carex aquatilis*	30	Yes	OBL
2. *Carex bebbii*	20	Yes	OBL
3. *Juncus torreyi*	20	Yes	FACW
4. *Juncus nevadensis*	10	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ =Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	80 (A)		110 (B)

Prevalence Index = B/A = 1.38

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vacular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks:
Sedge and rush dominant

SOIL

Sampling Point: WL-13

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	95	10YR 5/8	5	D	PL	Sandy	sandy loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 10

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Heavy roadway sanding material in pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Soil moist to surface. Seasonal surface flow in ditch.

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

Project/Site: Taft - West | City/County: Lookout Pass/Mineral | Sampling Date: 7-20-2021

Applicant/Owner: Montana Department of Transportation | State: MT | Sampling Point: UP-13

Investigator(s): Mark Traxler & Jon Schick - HDR | Section, Township, Range: Sec. PB49; T20N; R32W

Landform (hillside, terrace, etc.): cut slope | Local relief (concave, convex, none): concave | Slope (%): 10

Subregion (LRR): LRR E | Lat: 47.449154 | Long: -115.693462 | Datum: NAD83

Soil Map Unit Name: Vaywood family, glacial-valley floors, extremely bouldery | NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____ , Soil____ , or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x 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?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Steep cut slope above highway. Paired with WL-13.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____	=Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Melilotus officinalis*	20	Yes	FACU
2. *Trifolium hybridum*	20	Yes	FAC
3. *Centaurea stoebe*	10	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	=Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	10	x 5 =	50
Column Totals:	50 (A)		190 (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vacular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Sparsley vegetated with upland forbs.

SOIL

Sampling Point: UP-13

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	Loam with gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ 2.5 cm Mucky Peat or Peat (S2) **(LRR G)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22)
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: gravel
Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:
No Hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)
___ High Water Table (A2)
___ Saturation (A3)
___ Water Marks (B1)
___ Sediment Deposits (B2)
___ Drift Deposits (B3)
___ Algal Mat or Crust (B4)
___ Iron Deposits (B5)
___ Surface Soil Cracks (B6)
___ Inundation Visible on Aerial Imagery (B7)
___ Sparsely Vegetated Concave Surface (B8)
___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
___ Salt Crust (B11)
___ Aquatic Invertebrates (B13)
___ Hydrogen Sulfide Odor (C1)
___ Oxidized Rhizospheres on Living Roots (C3)
___ Presence of Reduced Iron (C4)
___ Recent Iron Reduction in Tilled Soils (C6)
___ Stunted or Stressed Plants (D1) (**LRR A**)
___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

___ Water-Stained Leaves (B9) (**MLRA 1, 2 4A, and 4B**)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Saturation Visible on Aerial Imagery (C9)
___ Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ FAC-Neutral Test (D5)
___ Raised Ant Mounds (D6) (**LRR A**)
___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___
Water Table Present? Yes ___ No X Depth (inches): ___
Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:
No Hydrology indicators.

MDT MONTANA WETLAND ASSESSMENT FORM (revised March 2008)

1. Project Name: Taft - West **2. MDT Project #:** IM 90-1(227)0 **3. Control #:** 9487000

3. Evaluation Date: 07/19/2021 **4. Evaluator(s):** M. Traxler, J. Schick - HDR Engineering **5. Wetland/Site #(s):** WL-01, 04, 12, 13

6. Wetland Location(s): Township 20 N, Range 32 W, Section 49 Protracted; Township 19 N, Range 32 W, Section 3, 11

Approximate Stationing or Roadposts: Interstate 90: WL-01 @ RP 0.2; WL-04 @ RP 4.2; WL-12 @ RP 3.3; WL-13 @ RP 0.3

Watershed: 3 - Lower Clark Fork **County:** Mineral

7. Evaluating Agency: MDT

Purpose of Evaluation:

- ☒ **Wetland potentially affected by MDT project**
- ☐ **Mitigation wetlands; pre-construction**
- ☐ **Mitigation wetlands; post-construction**
- ☐ **Other** _____

8. Wetland Size (acre): _____ (visually estimated)
0.01 - 0.8 (measured, e.g. GPS)

9. Assessment Area (AA) Size (acre): 0.5 - 1.0 (visually estimated)
(see manual for determining AA) _____ (measured, e.g. GPS)

10. CLASSIFICATION OF WETLAND AND AQUATIC HABITATS IN AA (See manual for definitions.)

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% OF AA
Riverine	Emergent Wetland		Permanent / Perennial	90
Riverine	Rock Bottom		Permanent / Perennial	10

Comments: Perennial surface flows and seeps in the I-90 ROW - dominated by PEM habitat

11. ESTIMATED RELATIVE ABUNDANCE (of similarly classified sites within the same Major Montana Watershed Basin; see manual.)
common

12. GENERAL CONDITION OF AA

i. Disturbance: Use matrix below to select the appropriate response; see manual for Montana listed noxious weed and aquatic nuisance vegetation species lists.

Conditions within AA	Predominant Conditions Adjacent to (within 500 feet of) 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%.	---	---	---
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 ≤30%.	---	---	---
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

Comments (types of disturbance, intensity, season, etc.)**:** Wetlands all occur with in the existing I-90 ROW. Wetlands subject to winter sanding and summer mowing.

ii. Prominent noxious, aquatic nuisance, and other exotic vegetation species: _____

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA is comprised of 4 separate roadside ditch wetlands that are fed by runoff and spring flows. Surrounding land includes the I-90 corridor and forested habitat outside the ROW.

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 one is forested) classes	---	NA	NA	NA
2 (or 1 if forested) classes	---	NA	NA	NA
1 class, but not a monoculture	mod	←NO	YES→	---
1 class, monoculture (1 species comprises ≥90% of total cover)	---	NA	NA	NA

Comments: All wetlands within the AA are PEM with no aquatic trees or shrubs present.

Wetland/Site #(s): WL-01, 04, 12, 13

14A. HABITAT FOR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED PLANTS OR ANIMALS

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☐ D ☐ S _____
Secondary habitat (**list species**) ☐ D ☐ S _____
Incidental habitat (**list species**) ☐ D ☐ S _____
No usable habitat ☒ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
Functional Point/Rating	---	---	---	---	---	---	0L

Sources for documented use (e.g. observations, records): These wetland are small and located within the I-90 Right-of-way. There is no usable habitat for T&E species.

14B. HABITAT FOR PLANTS OR ANIMALS RATED S1, S2, OR S3 BY THE MONTANA NATURAL HERITAGE PROGRAM
Do not include species listed in 14A above.

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☐ D ☐ S _____
Secondary habitat (**list species**) ☐ D ☐ S _____
Incidental habitat (**list species**) ☐ D ☐ S _____
No usable habitat ☒ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
S1 Species Functional Point/Rating	---	---	---	---	---	---	---
S2 and S3 Species Functional Point/Rating	---	---	---	.5M	---	---	---

Sources for documented use (e.g. observations, records): These wetland are small and located within the I-90 Right-of-way. There is no usable habitat for sensitive species.

14C. GENERAL WILDLIFE HABITAT RATING

i. Evidence of Overall Wildlife Use in the AA: Check substantial, moderate, or low based on supporting evidence.

☐ ***Substantial:*** 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
- ☐ interview with local biologist with knowledge of the AA

☒ ***Minimal:*** Based on any of the following [check].
- ☐ few or no wildlife observations during peak use periods
- ☐ little to no wildlife sign
- ☐ sparse adjacent upland food sources
- ☐ interview with local biologist with knowledge of 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, etc.
- ☐ adequate adjacent upland food sources
- ☐ interview with local biologist with knowledge of the AA

ii. Wildlife Habitat Features: Working from top to bottom, check 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 in terms 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 manual for further definitions of these terms].

Structural Diversity (see #13)	☐ High				☒ Moderate								☐ Low			
Class Cover Distribution (all vegetated classes)	☐ Even				☐ Uneven				☒ Even				☐ Uneven				☐ Even			
Duration of Surface Water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
☐ **Low Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	M	---	---	---	---	---	---	---	---	---	---	---

iii. Rating: Use the conclusions from i and ii above and the matrix below to select the functional point and rating.

Evidence of Wildlife Use (i)	Wildlife Habitat Features Rating (ii)			
	☐ Exceptional	☐ High	☒ Moderate	☐ Low
☐ Substantial	---	---	---	---
☐ Moderate	---	---	---	---
☒ Minimal	---	---	.2L	---

Comments: Wetland occurs within the Right-of-way of I-90. Low value to local wildlife.

Wetland/Site #(s): WL-01, 04, 12, 13

14D. GENERAL FISH HABITAT ☒ **NA** (proceed to 14E)

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 check the NA box and proceed to 14E.

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].

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

i. Habitat Quality and Known / Suspected Fish Species in AA: Use matrix to select the functional point and rating.

Duration of Surface Water in AA	☐ **Permanent / Perennial**						☐ **Seasonal / Intermittent**						☐ **Temporary / Ephemeral**					
Aquatic Hiding / Resting / Escape Cover	☐ **Optimal**		☐ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**	
Thermal Cover: optimal / suboptimal	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**
FWP Tier I fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier II or **Native Game** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier III or **Introduced Game** fish	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Non-Game Tier IV or **No** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Sources used for identifying fish spp. potentially found in AA: _____

ii. Modified Rating: NOTE: Modified score cannot exceed 1.0 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?* ☐ **YES**, reduce score in **i** by 0.1 = __ or ☐ **N0**

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area; specify in comments) for native fish or introduced game fish? ☐ **YES**, add to score in **i** or **iia** 0.1 = __ or ☐ **N0**

iii. Final Score and Rating: _ **Comments:** _____

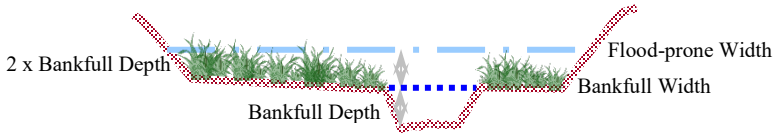
14E. FLOOD ATTENUATION ☐ **NA** (proceed to 14F)

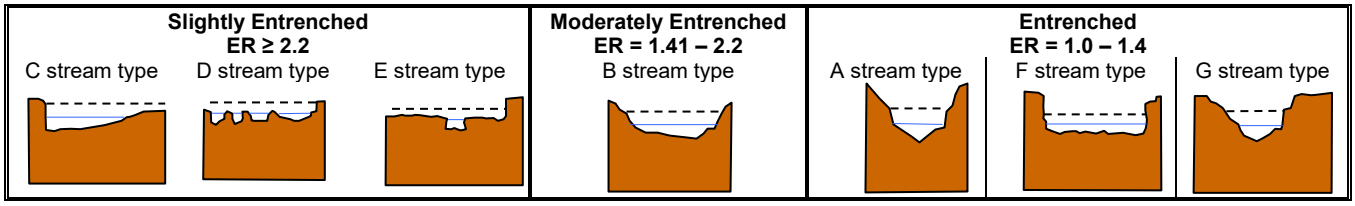
Applies only to wetlands that are subject to flooding via in-channel or overbank flow.
If wetlands in AA are not flooded from in-channel or overbank flow, check the NA box and proceed to 14F.

Entrenchment Ratio (ER) Estimation (see 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.

4 / 2 = 2

flood prone width / bankfull width = entrenchment ratio





i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	☐ Slightly Entrenched C, D, E stream types			☒ Moderately Entrenched B stream type			☐ Entrenched A, F, G stream types		
Percent 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**	---	---	---	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	---	.4M	---	---	---

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? ☐ YES ☒ NO **Comments:** Very small channels associated with these four wetlands.

Wetland/Site #(s): WL-01, 04, 12, 13

14F. SHORT AND LONG TERM SURFACE WATER STORAGE ☐ **NA** (proceed to 14G)

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, then check the NA box and proceed to 14G.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see manual 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 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**	---	---	---	---	---	---	---	.3L	---
Wetlands in AA flood or pond **< 5 out of 10 years**	---	---	---	---	---	---	---	---	---

Comments: Wetlands subject to annual flooding during spring runoff period.

14G. SEDIMENT / NUTRIENT / TOXICANT / RETENTION AND REMOVAL ☐ **NA** (proceed to 14H)

Applies to wetland 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, check the NA box and proceed to 14H.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Sediment, Nutrient, and Toxicant Input Levels within AA	**AA receives or surrounding land use has potential to deliver 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.**				**Waterbody is on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use has 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	☐ **≥ 70%**		☐ **< 70%**		☒ **≥ 70%**		☐ **< 70%**	
Evidence of Flooding / Ponding in AA	☐ **Yes**	☐ **No**	☐ **Yes**	☐ **No**	☒ **Yes**	☐ **No**	☐ **Yes**	☐ **No**
AA contains **no or restricted outlet**	---	---	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	.4M	---	---	---

Comments: Wetland are subject to heavy sanding of I-90 during winter months.

14H. SEDIMENT / SHORELINE STABILIZATION ☐ **NA** (proceed to 14I)

Applies only if AA occurs on or within the banks of 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, check the NA box and proceed to 14I.

% Cover of Wetland Streambank or Shoreline by Species with Stability Ratings of ≥6 (see Appendix F).	**Duration of Surface Water Adjacent to Rooted Vegetation**		
	☐ **Permanent / Perennial**	☐ **Seasonal / Intermittent**	☐ **Temporary / Ephemeral**
☒ **≥ 65%**	---	.9H	---
☐ **35-64%**	---	---	---
☐ **< 35%**	---	---	---

Comments: _____

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT

i. Level of Biological Activity: Synthesis of wildlife and fish habitat rates (select).

General Fish Habitat Rating (14Diii)	**General Wildlife Habitat Rating (14Ciii)**		
	☐ **E/H**	☐ **M**	☒ **L**
☐ **E/H**	---	---	---
☐ **M**	---	---	---
☐ **L**	---	---	---
☒ **NA**	---	---	L

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

A	☐ **Vegetated Component >5 acres**						☐ **Vegetated Component 1-5 acres**						☒ **Vegetated Component <1 acre**					
B	☐ **High**		☐ **Moderate**		☐ **Low**		☐ **High**		☐ **Moderate**		☐ **Low**		☐ **High**		☐ **Moderate**		☒ **Low**	
C	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
P/P	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
S/I	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	.3L	---
T/E/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Wetland/Site #(s): WL-01, 04, 12, 13

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT (continued)

iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.

Vegetated Upland Buffer: 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).
Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? ☒ **YES**, add 0.1 to score in **ii** = 0.00 ☐ **NO**

iv. Final Score and Rating: .4M **Comments:** _____

14J. GROUNDWATER DISCHARGE / RECHARGE
Check the appropriate indicators in i and ii below.

i. Discharge Indicators
- ☐ The AA is a slope wetland.
- ☒ Springs or seeps are known or observed.
- ☐ Vegetation growing during dormant season/drought.
- ☐ Wetland occurs at the toe of a natural slope.
- ☐ Seeps are present at the wetland edge.
- ☐ 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: _____

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: _____

iii. Rating: Use the information from i and ii above and the table below to select the functional point and rating.

Criteria	Duration of Saturation at AA Wetlands ***FROM GROUNDWATER DISCHARGE*** or ***WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*** ☐ P/P	☒ S/I	☐ T	☐ None
☒ **Groundwater Discharge or Recharge**	---	.7M	---	---
☐ **Insufficient Data/Information**	---			

Comments: Ditches flowing water in July after runoff period.

14K. UNIQUENESS

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Replacement Potential	**AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland** OR **plant association listed as "S1" by the MTNHP**			**AA does not contain previously cited rare types** AND **structural diversity (#13) is high** OR **contains plant association listed as "S2" by the MTNHP**			**AA does not contain previously cited rare types** OR **associations** AND **structural diversity (#13) is low-moderate**		
Estimated Relative Abundance (#11)	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☒ Common	☐ Abundant
☐ **Low Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (#12i)	---	---	---	---	---	---	---	.2L	---

Comments: _____

14L. RECREATION / EDUCATION POTENTIAL ☒ NA (proceed to Overall Summary and Rating page)
Affords 'bonus' points if AA provides a recreational or educational opportunity.

i. Is the AA a known or potential recreational or educational site? ☐ **YES**, go to ii. ☐ **NO**, check the NA box.

ii. Check categories that apply to the AA: ☐ Educational/Scientific Study ☐ Consumptive Recreational ☐ Non-consumptive recreational
☐ Other: _____

iii. Rating: Use the matrix below to select the functional point and rating.

Known or Potential Recreational or Educational Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	---	---
Private ownership with general public access (no permission required)	---	---
Private or public ownership without general public access, or requiring permission for public access	---	---

Comments: _____

15. GENERAL SITE NOTES: _____

Wetland/Site #(s): WL-01, 04, 12, 13

Function & Value Variables	Rating – Actual Functional Points	Possible Functional Points	Functional Units: Actual Points x Estimated AA Acreage	Indicate the Four Most Prominent Functions with an Asterisk
A. Listed / Proposed T&E Species Habitat	low 0.00	1.00		
B. MT Natural Heritage Program Species Habitat	low 0.00	1.00		
C. General Wildlife Habitat	low 0.20	1.00		
D. General Fish Habitat	NA	NA		
E. Flood Attenuation	mod 0.40	1.00		*
F. Short and Long Term Surface Water Storage	low 0.30	1.00		
G. Sediment / Nutrient / Toxicant Removal	mod 0.40	1.00		*
H. Sediment / Shoreline Stabilization	high 0.90	1.00		*
I. Production Export / Food Chain Support	mod 0.40	1.00		
J. Groundwater Discharge / Recharge	mod 0.70	1.00		*
K. Uniqueness	low 0.20	1.00		
L. Recreation / Education Potential (bonus point)	NA			
Total Points	**3.5**	**10**	**Total Functional Units**	
Percent of Possible Score 35% (round to nearest whole number)				

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; if not 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 (AA) RATING: Check the appropriate category based on the criteria outlined above.

☐ **I** ☐ **II** ☒ **III** ☐ **IV**

MDT MONTANA WETLAND ASSESSMENT FORM (revised March 2008)

1. Project Name: Taft - West **2. MDT Project #:** IM 90-1(227)0 **3. Control #:** 9487000

3. Evaluation Date: 07/19/2021 **4. Evaluator(s):** M. Traxler, J. Schick - HDR Engineering **5. Wetland/Site #(s):** WL-02, 03, 05, 06

6. Wetland Location(s): Township 19 N, Range 32 W, Section 3, 4, 11, 12; Township ___N, Range ___E, Section _____

Approximate Stationing or Roadposts: Interstate 90: WL-02 @ RP 1.8; WL-03 @ RP 2.6;WL-05 @ RP 4.3; WL-06 @ RP 5.0

Watershed: 3 - Lower Clark Fork **County:** _ Mineral _ _____

7. Evaluating Agency: MDT

Purpose of Evaluation:

- ☒ **Wetland potentially affected by MDT project**
- ☐ **Mitigation wetlands; pre-construction**
- ☐ **Mitigation wetlands; post-construction**
- ☐ **Other** _____

8. Wetland Size (acre): _____ (visually estimated)
0.01 - 2.0 (measured, e.g. GPS)

9. Assessment Area (AA) Size (acre): 1.0 - 5.0 (visually estimated)
(see manual for determining AA) _____ (measured, e.g. GPS)

10. CLASSIFICATION OF WETLAND AND AQUATIC HABITATS IN AA (See manual for definitions.)

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% OF AA
Riverine	Emergent Wetland		Permanent / Perennial	40
Riverine	Scrub-Shrub Wetland		Permanent / Perennial	30
Riverine	Forested Wetland		Permanent / Perennial	20
Riverine	Rock Bottom		Permanent / Perennial	10

Comments: AA includes the St. Regis River channel and fringe/floodplain wetlands immediately adjacent to the river. WL-03 flows into St. Regis River from the south.

11. ESTIMATED RELATIVE ABUNDANCE (of similarly classified sites within the same Major Montana Watershed Basin; see manual.)
common

12. GENERAL CONDITION OF AA

i. Disturbance: Use matrix below to select the appropriate response; see manual for Montana listed noxious weed and aquatic nuisance vegetation species lists.

Conditions within AA	Predominant Conditions Adjacent to (within 500 feet of) 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%.	---	---	---
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 ≤30%.	---	---	---
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

Comments (types of disturbance, intensity, season, etc.)**:** The original construction of I-90 had significant impacts to the St. Regis River and its associated wetlands.

ii. Prominent noxious, aquatic nuisance, and other exotic vegetation species: knapweed

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes the St. Regis River channel and adjacent fringe and floodplain wetlands. Adjacent land includes the I-90 corridor and forested mountains.

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 one is forested) classes	high	NA	NA	NA
2 (or 1 if forested) classes	---	NA	NA	NA
1 class, but not a monoculture	---	←NO	YES→	---
1 class, monoculture (1 species comprises ≥90% of total cover)	---	NA	NA	NA

Comments: Fringe and floodplain wetlands are a combination of PEM, PSS, and PFO

Wetland/Site #(s): WL-02, 03, 05, 06

14A. HABITAT FOR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED PLANTS OR ANIMALS

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☐ D ☐ S _____
Secondary habitat (**list species**) ☐ D ☐ S _____
Incidental habitat (**list species**) ☐ D ☒ S grizzly bear
No usable habitat ☐ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
Functional Point/Rating	---	---	---	---	---	.1L	---

Sources for documented use (e.g. observations, records): Grizzly bears may use the St. Regis River riparian area as a travel corridor. Grizzlies are uncommon in this area.

14B. HABITAT FOR PLANTS OR ANIMALS RATED S1, S2, OR S3 BY THE MONTANA NATURAL HERITAGE PROGRAM
Do not include species listed in 14A above.

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☒ D ☐ S westslope cutthroat trout
Secondary habitat (**list species**) ☐ D ☐ S _____
Incidental habitat (**list species**) ☐ D ☐ S _____
No usable habitat ☐ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
S1 Species Functional Point/Rating	---	---	---	---	---	---	---
S2 and S3 Species Functional Point/Rating	.9H	---	---	---	---	---	---

Sources for documented use (e.g. observations, records): FWP online database and MTNHP records

14C. GENERAL WILDLIFE HABITAT RATING

i. Evidence of Overall Wildlife Use in the AA: Check substantial, moderate, or low based on supporting evidence.

☐ ***Substantial:*** 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
- ☐ interview with local biologist with knowledge of the AA

☐ ***Minimal:*** Based on any of the following [check].
- ☐ few or no wildlife observations during peak use periods
- ☐ little to no wildlife sign
- ☐ sparse adjacent upland food sources
- ☐ interview with local biologist with knowledge of 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, etc.
- ☒ adequate adjacent upland food sources
- ☐ interview with local biologist with knowledge of the AA

ii. Wildlife Habitat Features: Working from top to bottom, check 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 in terms 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 manual for further definitions of these terms].

Structural Diversity (see #13)	☒ High				☐ Moderate				☐ Moderate				☐ Low			
Class Cover Distribution (all vegetated classes)	☐ Even				☒ Uneven				☐ Even				☐ Uneven				☐ Even			
Duration of Surface Water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
☐ **Low Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (see #12i)	---	---	---	---	M	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

iii. Rating: Use the conclusions from i and ii above and the matrix below to select the functional point and rating.

Evidence of Wildlife Use (i)	Wildlife Habitat Features Rating (ii)			
	☐ Exceptional	☒ High	☐ Moderate	☐ Low
☐ Substantial	---	---	---	---
☒ Moderate	---	.7M	---	---
☐ Minimal	---	---	---	---

Comments: Wetlands adjacent to the St. Regis River provide habitat for a number of mammals and birds in the area.

Wetland/Site #(s): WL-02, 03, 05, 06

14D. GENERAL FISH HABITAT ☐ **NA** (proceed to 14E)

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 check the NA box and proceed to 14E.

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].

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

i. Habitat Quality and Known / Suspected Fish Species in AA: Use matrix to select the functional point and rating.

Duration of Surface Water in AA	☒ **Permanent / Perennial**						☐ **Seasonal / Intermittent**						☐ **Temporary / Ephemeral**					
Aquatic Hiding / Resting / Escape Cover	☐ **Optimal**		☒ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**	
Thermal Cover: optimal / suboptimal	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**
FWP Tier I fish species	---	---	.8H	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier II or **Native Game** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier III or **Introduced Game** fish	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Non-Game Tier IV or **No** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Sources used for identifying fish spp. potentially found in AA: FWP online database and MTNHP database

ii. Modified Rating: NOTE: Modified score cannot exceed 1.0 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?* ☒ **YES**, reduce score in **i** by 0.1 = .7 or ☐ **N0**

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area; specify in comments) for native fish or introduced game fish? ☒ **YES**, add to score in **i** or **iia** 0.1 = .8 or ☐ **N0**

iii. Final Score and Rating: .8H **Comments:** _____

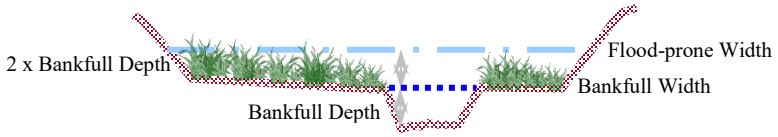
14E. FLOOD ATTENUATION ☐ **NA** (proceed to 14F)

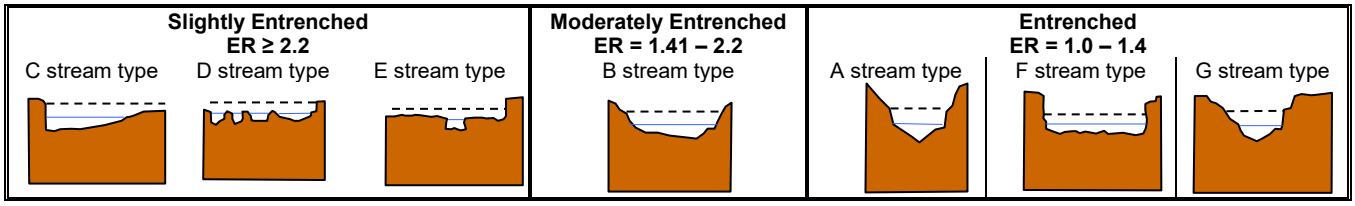
Applies only to wetlands that are subject to flooding via in-channel or overbank flow.
If wetlands in AA are not flooded from in-channel or overbank flow, check the NA box and proceed to 14F.

Entrenchment Ratio (ER) Estimation (see 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.

12 / 10 = 1.2

flood prone width / bankfull width = entrenchment ratio





i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	☐ Slightly Entrenched C, D, E stream types			☐ Moderately Entrenched B stream type			☒ Entrenched A, F, G stream types		
Percent 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**	---	---	---	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	---	---	---	.2L	---

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? ☐ YES ☒ NO **Comments:** St. Regis is entrenched as a result of past impacts from I-90. This project occurs in the headwaters of the St. Regis River.

Wetland/Site #(s): WL-02, 03, 05, 06

14F. SHORT AND LONG TERM SURFACE WATER STORAGE ☐ **NA** (proceed to 14G)

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, then check the NA box and proceed to 14G.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see manual 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 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**	---	---	---	.8H	---	---	---	---	---
Wetlands in AA flood or pond **< 5 out of 10 years**	---	---	---	---	---	---	---	---	---

Comments: Wetlands subject to annual flooding during spring runoff period.

14G. SEDIMENT / NUTRIENT / TOXICANT / RETENTION AND REMOVAL ☐ **NA** (proceed to 14H)

Applies to wetland 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, check the NA box and proceed to 14H.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Sediment, Nutrient, and Toxicant Input Levels within AA	**AA receives or surrounding land use has potential to deliver 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.**				**Waterbody is on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use has 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	☐ **≥ 70%**		☐ **< 70%**		☒ **≥ 70%**		☐ **< 70%**	
Evidence of Flooding / Ponding in AA	☐ **Yes**	☐ **No**	☐ **Yes**	☐ **No**	☒ **Yes**	☐ **No**	☐ **Yes**	☐ **No**
AA contains **no or restricted outlet**	---	---	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	.4M	---	---	---

Comments: _____

14H. SEDIMENT / SHORELINE STABILIZATION ☐ **NA** (proceed to 14I)

Applies only if AA occurs on or within the banks of 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, check the NA box and proceed to 14I.

% Cover of Wetland Streambank or Shoreline by Species with Stability Ratings of ≥6 (see Appendix F).	**Duration of Surface Water Adjacent to Rooted Vegetation**		
	☒ **Permanent / Perennial**	☐ **Seasonal / Intermittent**	☐ **Temporary / Ephemeral**
☒ **≥ 65%**	1H	---	---
☐ **35-64%**	---	---	---
☐ **< 35%**	---	---	---

Comments: _____

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT

i. Level of Biological Activity: Synthesis of wildlife and fish habitat rates (select).

General Fish Habitat Rating (14Diii)	**General Wildlife Habitat Rating (14Ciii)**		
	☐ **E/H**	☒ **M**	☐ **L**
☒ **E/H**	---	H	---
☐ **M**	---	---	---
☐ **L**	---	---	---
☐ **NA**	---	---	---

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

A	☐ **Vegetated Component >5 acres**						☒ **Vegetated Component 1-5 acres**						☐ **Vegetated Component <1 acre**					
B	☐ **High**		☐ **Moderate**		☐ **Low**		☒ **High**		☐ **Moderate**		☐ **Low**		☐ **High**		☐ **Moderate**		☐ **Low**	
C	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
P/P	---	---	---	---	---	---	.9H	---	---	---	---	---	---	---	---	---	---	---
S/I	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
T/E/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Wetland/Site #(s): WL-02, 03, 05, 06

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT (continued)

iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.

Vegetated Upland Buffer: 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).
Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? ☐ **YES**, add 0.1 to score in **ii** = ___ ☒ **NO**

iv. Final Score and Rating: .9H **Comments:** _____

14J. GROUNDWATER DISCHARGE / RECHARGE
Check the appropriate indicators in i and ii below.

i. Discharge Indicators
- ☐ The AA is a slope wetland.
- ☐ Springs or seeps are known or observed.
- ☐ Vegetation growing during dormant season/drought.
- ☐ Wetland occurs at the toe of a natural slope.
- ☐ Seeps are present at the wetland edge.
- ☐ 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: _____

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: _____

iii. Rating: Use the information from i and ii above and the table below to select the functional point and rating.

Criteria	Duration of Saturation at AA Wetlands ***FROM GROUNDWATER DISCHARGE*** or ***WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*** ☐ P/P	☐ S/I	☐ T	☐ None
☐ **Groundwater Discharge or Recharge**	---	---	---	---
☒ **Insufficient Data/Information**	NA			

Comments: _____

14K. UNIQUENESS

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Replacement Potential	**AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland** OR **plant association listed as "S1" by the MTNHP**			**AA does not contain previously cited rare types** AND **structural diversity (#13) is high** OR **contains plant association listed as "S2" by the MTNHP**			**AA does not contain previously cited rare types** OR **associations** AND **structural diversity (#13) is low-moderate**		
Estimated Relative Abundance (#11)	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☒ Common	☐ Abundant
☐ **Low Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (#12i)	---	---	---	---	---	---	---	.2L	---

Comments: _____

14L. RECREATION / EDUCATION POTENTIAL ☐ NA (proceed to Overall Summary and Rating page)
Affords 'bonus' points if AA provides a recreational or educational opportunity.

i. Is the AA a known or potential recreational or educational site? ☒ **YES**, go to ii. ☐ **NO**, check the NA box.

ii. Check categories that apply to the AA: ☒ Educational/Scientific Study ☒ Consumptive Recreational ☐ Non-consumptive recreational
☐ Other: _____

iii. Rating: Use the matrix below to select the functional point and rating.

Known or Potential Recreational or Educational Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	.2H	---
Private ownership with general public access (no permission required)	---	---
Private or public ownership without general public access, or requiring permission for public access	---	---

Comments: _____

15. GENERAL SITE NOTES: Public can access the river for fishing and scientific study.

Wetland/Site #(s): WL-02, 03, 05, 06

Function & Value Variables	Rating – Actual Functional Points	Possible Functional Points	Functional Units: Actual Points x Estimated AA Acreage	Indicate the Four Most Prominent Functions with an Asterisk
A. Listed / Proposed T&E Species Habitat	low 0.10	1.00		
B. MT Natural Heritage Program Species Habitat	high 0.90	1.00		*
C. General Wildlife Habitat	mod 0.70	1.00		
D. General Fish Habitat	high 0.80	1.00		
E. Flood Attenuation	low 0.20	1.00		
F. Short and Long Term Surface Water Storage	high 0.80	1.00		*
G. Sediment / Nutrient / Toxicant Removal	mod 0.40	1.00		
H. Sediment / Shoreline Stabilization	high 1.00	1.00		*
I. Production Export / Food Chain Support	high 0.90	1.00		*
J. Groundwater Discharge / Recharge	NA	NA		
K. Uniqueness	low 0.20	1.00		
L. Recreation / Education Potential (bonus point)	high 0.20			
Total Points	**6.2**	**10**	**Total Functional Units**	
Percent of Possible Score 62% (round to nearest whole number)				

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; if not 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 (AA) RATING: Check the appropriate category based on the criteria outlined above.

☐ **I** ☐ **II** ☒ **III** ☐ **IV**

MDT MONTANA WETLAND ASSESSMENT FORM (revised March 2008)

1. Project Name: Taft - West **2. MDT Project #:** IM 90-1(227)0 **3. Control #:** 9487000

3. Evaluation Date: 07/19/2021 **4. Evaluator(s):** M. Traxler, J. Schick - HDR Engineering **5. Wetland/Site #(s):** WL-07, 08, 10, 11

6. Wetland Location(s): Township 19 N, Range 32 W, Section 11; Township ___N, Range ___W, Section _____

Approximate Stationing or Roadposts: Interstate 90: WL-07 @ RP 4.4; WL-08 @ RP 3.9; WL-10 @ RP 3.9; WL-11 @ RP 4.5

Watershed: 3 - Lower Clark Fork **County:** _ Mineral _ _____

7. Evaluating Agency: MDT

Purpose of Evaluation:

- ☒ **Wetland potentially affected by MDT project**
- ☐ **Mitigation wetlands; pre-construction**
- ☐ **Mitigation wetlands; post-construction**
- ☐ **Other** _____

8. Wetland Size (acre): _____ (visually estimated)
0.03 - 0.71 (measured, e.g. GPS)

9. Assessment Area (AA) Size (acre): 0.5 - 1.0 (visually estimated)
(see manual for determining AA) _____ (measured, e.g. GPS)

10. CLASSIFICATION OF WETLAND AND AQUATIC HABITATS IN AA (See manual for definitions.)

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% OF AA
Riverine	Emergent Wetland		Permanent / Perennial	30
Riverine	Scrub-Shrub Wetland		Permanent / Perennial	40
Riverine	Forested Wetland		Permanent / Perennial	20
Riverine	Rock Bottom		Permanent / Perennial	10

Comments: Wetland associated with the Chippy Creek channel and its tributaries.

11. ESTIMATED RELATIVE ABUNDANCE (of similarly classified sites within the same Major Montana Watershed Basin; see manual.)
common

12. GENERAL CONDITION OF AA

i. Disturbance: Use matrix below to select the appropriate response; see manual for Montana listed noxious weed and aquatic nuisance vegetation species lists.

Conditions within AA	Predominant Conditions Adjacent to (within 500 feet of) 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%.	---	---	---
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 ≤30%.	---	---	---
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

Comments (types of disturbance, intensity, season, etc.)**:** The original construction of I-90 had significant impacts to Chippy Creek and its associated wetlands.

ii. Prominent noxious, aquatic nuisance, and other exotic vegetation species: knapweed and thistle

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: AA includes the Chippy Creek channel and adjacent fringe and floodplain wetlands. Adjacent land includes the I-90 corridor and forested mountains.

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 one is forested) classes	high	NA	NA	NA
2 (or 1 if forested) classes	---	NA	NA	NA
1 class, but not a monoculture	---	←NO	YES→	---
1 class, monoculture (1 species comprises ≥90% of total cover)	---	NA	NA	NA

Comments: Fringe and floodplain wetlands are a combination of PEM, PSS, and PFO

Wetland/Site #(s): WL-07, 08, 10, 11

14A. HABITAT FOR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED PLANTS OR ANIMALS

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☐ D ☐ S _____
Secondary habitat (**list species**) ☐ D ☐ S _____
Incidental habitat (**list species**) ☐ D ☒ S _____
No usable habitat ☐ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
Functional Point/Rating	---	---	---	---	---	---	0L

Sources for documented use (e.g. observations, records): Grizzly bears may use the St. Regis River riparian area as a travel corridor. Grizzlies are uncommon in this area.

14B. HABITAT FOR PLANTS OR ANIMALS RATED S1, S2, OR S3 BY THE MONTANA NATURAL HERITAGE PROGRAM
Do not include species listed in 14A above.

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☐ D ☐ S _____
Secondary habitat (**list species**) ☐ D ☒ S pileated woodpecker
Incidental habitat (**list species**) ☐ D ☐ S _____
No usable habitat ☐ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
S1 Species Functional Point/Rating	---	---	---	---	---	---	---
S2 and S3 Species Functional Point/Rating	---	---	---	.5M	---	---	---

Sources for documented use (e.g. observations, records): MTNHP database search

14C. GENERAL WILDLIFE HABITAT RATING

i. Evidence of Overall Wildlife Use in the AA: Check substantial, moderate, or low based on supporting evidence.

☐ ***Substantial:*** 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
- ☐ interview with local biologist with knowledge of the AA

☐ ***Minimal:*** Based on any of the following [check].
- ☐ few or no wildlife observations during peak use periods
- ☐ little to no wildlife sign
- ☐ sparse adjacent upland food sources
- ☐ interview with local biologist with knowledge of 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, etc.
- ☒ adequate adjacent upland food sources
- ☐ interview with local biologist with knowledge of the AA

ii. Wildlife Habitat Features: Working from top to bottom, check 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 in terms 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 manual for further definitions of these terms].

Structural Diversity (see #13)	☒ High				☐ Moderate				☐ Moderate				☐ Low			
Class Cover Distribution (all vegetated classes)	☐ Even				☒ Uneven				☐ Even				☐ Uneven				☐ Even			
Duration of Surface Water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
☐ **Low Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (see #12i)	---	---	---	---	M	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

iii. Rating: Use the conclusions from i and ii above and the matrix below to select the functional point and rating.

Evidence of Wildlife Use (i)	Wildlife Habitat Features Rating (ii) ☐ Exceptional	☐ High	☒ Moderate	☐ Low
☐ Substantial	---	---	---	---
☒ Moderate	---	---	.5M	---
☐ Minimal	---	---	---	---

Comments: Wetlands adjacent to Chippy Creek provide habitat for a number of mammals and birds in the area.

Wetland/Site #(s): WL-07, 08, 10, 11

14D. GENERAL FISH HABITAT ☒ **NA** (proceed to 14E)

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 check the NA box and proceed to 14E.

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].

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

i. Habitat Quality and Known / Suspected Fish Species in AA: Use matrix to select the functional point and rating.

Duration of Surface Water in AA	☐ **Permanent / Perennial**						☐ **Seasonal / Intermittent**						☐ **Temporary / Ephemeral**					
Aquatic Hiding / Resting / Escape Cover	☐ **Optimal**		☐ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**	
Thermal Cover: optimal / suboptimal	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**
FWP Tier I fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier II or **Native Game** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier III or **Introduced Game** fish	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Non-Game Tier IV or **No** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Sources used for identifying fish spp. potentially found in AA: _____

ii. Modified Rating: NOTE: Modified score cannot exceed 1.0 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?* ☐ **YES**, reduce score in **i** by 0.1 = __ or ☐ **N0**

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area; specify in comments) for native fish or introduced game fish? ☐ **YES**, add to score in **i** or **iia** 0.1 = __ or ☐ **N0**

iii. Final Score and Rating: _ **Comments:** _____

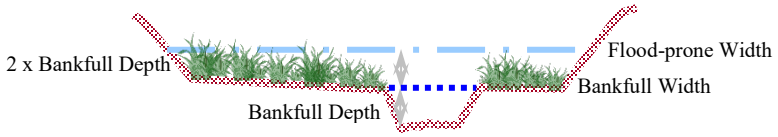
14E. FLOOD ATTENUATION ☐ **NA** (proceed to 14F)

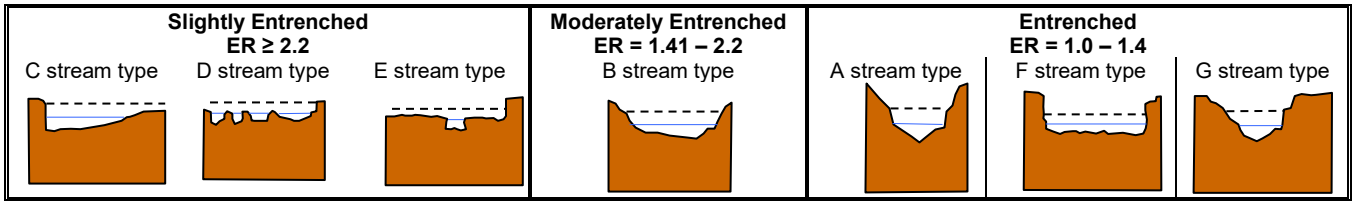
Applies only to wetlands that are subject to flooding via in-channel or overbank flow.
If wetlands in AA are not flooded from in-channel or overbank flow, check the NA box and proceed to 14F.

Entrenchment Ratio (ER) Estimation (see 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.

5 / 3 = 1.7

flood prone width / bankfull width = entrenchment ratio





i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	☐ Slightly Entrenched C, D, E stream types			☒ Moderately Entrenched B stream type			☐ Entrenched A, F, G stream types		
Percent 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**	---	---	---	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	.6M	---	---	---	---

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? ☐ YES ☒ NO **Comments:** _____

Wetland/Site #(s): WL-07, 08, 10, 11

14F. SHORT AND LONG TERM SURFACE WATER STORAGE ☐ **NA** (proceed to 14G)

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, then check the NA box and proceed to 14G.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see manual 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 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**	---	---	---	.8H	---	---	---	---	---
Wetlands in AA flood or pond **< 5 out of 10 years**	---	---	---	---	---	---	---	---	---

Comments: Wetlands subject to annual flooding during spring runoff period.

14G. SEDIMENT / NUTRIENT / TOXICANT / RETENTION AND REMOVAL ☐ **NA** (proceed to 14H)

Applies to wetland 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, check the NA box and proceed to 14H.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Sediment, Nutrient, and Toxicant Input Levels within AA	**AA receives or surrounding land use has potential to deliver 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.**				**Waterbody is on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use has 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	☐ **≥ 70%**		☐ **< 70%**		☒ **≥ 70%**		☐ **< 70%**	
Evidence of Flooding / Ponding in AA	☐ **Yes**	☐ **No**	☐ **Yes**	☐ **No**	☒ **Yes**	☐ **No**	☐ **Yes**	☐ **No**
AA contains **no or restricted outlet**	---	---	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	.4M	---	---	---

Comments: _____

14H. SEDIMENT / SHORELINE STABILIZATION ☐ **NA** (proceed to 14I)

Applies only if AA occurs on or within the banks of 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, check the NA box and proceed to 14I.

% Cover of Wetland Streambank or Shoreline by Species with Stability Ratings of ≥6 (see Appendix F).	**Duration of Surface Water Adjacent to Rooted Vegetation**		
	☒ **Permanent / Perennial**	☐ **Seasonal / Intermittent**	☐ **Temporary / Ephemeral**
☒ **≥ 65%**	1H	---	---
☐ **35-64%**	---	---	---
☐ **< 35%**	---	---	---

Comments: _____

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT

i. Level of Biological Activity: Synthesis of wildlife and fish habitat rates (select).

General Fish Habitat Rating (14Diii)	**General Wildlife Habitat Rating (14Ciii)**		
	☐ **E/H**	☒ **M**	☐ **L**
☐ **E/H**	---	---	---
☐ **M**	---	---	---
☐ **L**	---	---	---
☒ **NA**	---	M	---

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

A	☐ **Vegetated Component >5 acres**						☒ **Vegetated Component 1-5 acres**						☐ **Vegetated Component <1 acre**					
B	☐ **High**		☐ **Moderate**		☐ **Low**		☐ **High**		☒ **Moderate**		☐ **Low**		☐ **High**		☐ **Moderate**		☐ **Low**	
C	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
P/P	---	---	---	---	---	---	---	---	.7M	---	---	---	---	---	---	---	---	---
S/I	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
T/E/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Wetland/Site #(s): WL-07, 08, 10, 11

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT (continued)

iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.

Vegetated Upland Buffer: 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).
Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? ☐ **YES**, add 0.1 to score in **ii** = ___ ☒ **NO**

iv. Final Score and Rating: .7M **Comments:** _____

14J. GROUNDWATER DISCHARGE / RECHARGE
Check the appropriate indicators in i and ii below.

i. Discharge Indicators
- ☐ The AA is a slope wetland.
- ☐ Springs or seeps are known or observed.
- ☐ Vegetation growing during dormant season/drought.
- ☐ Wetland occurs at the toe of a natural slope.
- ☐ Seeps are present at the wetland edge.
- ☐ 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: _____

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: _____

iii. Rating: Use the information from i and ii above and the table below to select the functional point and rating.

Criteria	Duration of Saturation at AA Wetlands ***FROM GROUNDWATER DISCHARGE*** or ***WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*** ☐ P/P	☐ S/I	☐ T	☐ None
☐ **Groundwater Discharge or Recharge**	---	---	---	---
☒ **Insufficient Data/Information**	NA			

Comments: _____

14K. UNIQUENESS

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Replacement Potential	**AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland** OR **plant association listed as "S1" by the MTNHP**			**AA does not contain previously cited rare types** AND **structural diversity (#13) is high** OR **contains plant association listed as "S2" by the MTNHP**			**AA does not contain previously cited rare types** OR **associations** AND **structural diversity (#13) is low-moderate**		
Estimated Relative Abundance (#11)	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☒ Common	☐ Abundant
☐ **Low Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (#12i)	---	---	---	---	---	---	---	.2L	---

Comments: _____

14L. RECREATION / EDUCATION POTENTIAL ☒ NA (proceed to Overall Summary and Rating page)
Affords 'bonus' points if AA provides a recreational or educational opportunity.

i. Is the AA a known or potential recreational or educational site? ☐ **YES**, go to ii. ☐ **NO**, check the NA box.

ii. Check categories that apply to the AA: ☐ Educational/Scientific Study ☐ Consumptive Recreational ☐ Non-consumptive recreational
☐ Other: _____

iii. Rating: Use the matrix below to select the functional point and rating.

Known or Potential Recreational or Educational Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	---	---
Private ownership with general public access (no permission required)	---	---
Private or public ownership without general public access, or requiring permission for public access	---	---

Comments: _____

15. GENERAL SITE NOTES: _____

Wetland/Site #(s): WL-07, 08, 10, 11

Function & Value Variables	Rating – Actual Functional Points	Possible Functional Points	Functional Units: Actual Points x Estimated AA Acreage	Indicate the Four Most Prominent Functions with an Asterisk
A. Listed / Proposed T&E Species Habitat	low 0.10	1.00		
B. MT Natural Heritage Program Species Habitat	mod 0.50	1.00		*
C. General Wildlife Habitat	mod 0.50	1.00		*
D. General Fish Habitat	NA	NA		
E. Flood Attenuation	mod 0.60	1.00		*
F. Short and Long Term Surface Water Storage	high 0.80	1.00		
G. Sediment / Nutrient / Toxicant Removal	mod 0.40	1.00		*
H. Sediment / Shoreline Stabilization	high 1.00	1.00		
I. Production Export / Food Chain Support	mod 0.70	1.00		
J. Groundwater Discharge / Recharge	NA	NA		
K. Uniqueness	low 0.20	1.00		
L. Recreation / Education Potential (bonus point)	NA			
Total Points	**4.8**	**9**	**Total Functional Units**	
Percent of Possible Score 53% (round to nearest whole number)				

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; if not 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 (AA) RATING: Check the appropriate category based on the criteria outlined above.

☐ **I** ☐ **II** ☒ **III** ☐ **IV**

MDT MONTANA WETLAND ASSESSMENT FORM (revised March 2008)

1. Project Name: Taft - West **2. MDT Project #:** IM 90-1(227)0 **3. Control #:** 9487000

3. Evaluation Date: 07/19/2021 **4. Evaluator(s):** M. Traxler, J. Schick - HDR Engineering **5. Wetland/Site #(s):** WL-09

6. Wetland Location(s): Township 19 N, Range 32 W, Section 2; Township ___N, Range ___W, Section _____

Approximate Stationing or Roadposts: Interstate 90: WL-09 @ RP 3.7

Watershed: 3 - Lower Clark Fork **County:** _ Mineral _ _____

7. Evaluating Agency: MDT

Purpose of Evaluation:

- ☒ **Wetland potentially affected by MDT project**
- ☐ **Mitigation wetlands; pre-construction**
- ☐ **Mitigation wetlands; post-construction**
- ☐ **Other** _____

8. Wetland Size (acre): _____ (visually estimated)
0.09 (measured, e.g. GPS)

9. Assessment Area (AA) Size (acre): 1.0 (visually estimated)
(see manual for determining AA) _____ (measured, e.g. GPS)

10. CLASSIFICATION OF WETLAND AND AQUATIC HABITATS IN AA (See manual for definitions.)

HGM Class (Brinson)	Class (Cowardin)	Modifier (Cowardin)	Water Regime	% OF AA
Slope	Emergent Wetland		Permanent / Perennial	50
Slope	Scrub-Shrub Wetland		Permanent / Perennial	50

Comments: Slope wetland on north side of interstate. Water seeping from roadway cutslope.

11. ESTIMATED RELATIVE ABUNDANCE (of similarly classified sites within the same Major Montana Watershed Basin; see manual.)
common

12. GENERAL CONDITION OF AA

i. Disturbance: Use matrix below to select the appropriate response; see manual for Montana listed noxious weed and aquatic nuisance vegetation species lists.

Conditions within AA	Predominant Conditions Adjacent to (within 500 feet of) 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%.	---	---	---
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 ≤30%.	---	---	---
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

Comments (types of disturbance, intensity, season, etc.)**:** This wetland occurs on a steep I-90 cut slope and water drains into roadside ditch. High disturbance associated with this wetland.

ii. Prominent noxious, aquatic nuisance, and other exotic vegetation species: NA

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: This wetland occurs on a steep I-90 cut slope and water drains into roadside ditch. Wetland extends outside ROW a short distance but does not appear to have a downstream connection to any WUS. Surrounding land includes the I-90 corridor to the south and forested lands to the north.

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 one is forested) classes	---	NA	NA	NA
2 (or 1 if forested) classes	mod	NA	NA	NA
1 class, but not a monoculture	---	←NO	YES→	---
1 class, monoculture (1 species comprises ≥90% of total cover)	---	NA	NA	NA

Comments: Wetland is a mix of PEM and PSS habitat.

Wetland/Site #(s): WL-09

14A. HABITAT FOR FEDERALLY LISTED OR PROPOSED THREATENED OR ENDANGERED PLANTS OR ANIMALS

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☐ D ☐ S _____
Secondary habitat (**list species**) ☐ D ☐ S _____
Incidental habitat (**list species**) ☐ D ☐ S _____
No usable habitat ☒ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
Functional Point/Rating	---	---	---	---	---	---	0L

Sources for documented use (e.g. observations, records): This wetland is small, isolated and located within the I-90 Right-of-way. There is no usable habitat for T&E species.

14B. HABITAT FOR PLANTS OR ANIMALS RATED S1, S2, OR S3 BY THE MONTANA NATURAL HERITAGE PROGRAM
Do not include species listed in 14A above.

i. AA is Documented (D) or Suspected (S) to contain: Check box based on definitions in manual.

Primary or critical habitat (**list species**) ☐ D ☐ S _____
Secondary habitat (**list species**) ☐ D ☐ S _____
Incidental habitat (**list species**) ☐ D ☐ S _____
No usable habitat ☒ S

ii. Rating: Based on the strongest habitat chosen in 14A(i) above, select the corresponding functional point and rating.

Highest Habitat Level	Doc/Primary	Sus/Primary	Doc/Secondary	Sus/Secondary	Doc/Incidental	Sus/Incidental	None
S1 Species Functional Point/Rating	---	---	---	---	---	---	.0L
S2 and S3 Species Functional Point/Rating	---	---	---	---	---	---	---

Sources for documented use (e.g. observations, records): This wetland is small, isolated and located within the I-90 Right-of-way. There is no usable habitat for sensitive species.

14C. GENERAL WILDLIFE HABITAT RATING

i. Evidence of Overall Wildlife Use in the AA: Check substantial, moderate, or low based on supporting evidence.

☐ ***Substantial:*** 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
- ☐ interview with local biologist with knowledge of the AA

☒ ***Minimal:*** Based on any of the following [check].
- ☒ few or no wildlife observations during peak use periods
- ☒ little to no wildlife sign
- ☐ sparse adjacent upland food sources
- ☐ interview with local biologist with knowledge of 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, etc.
- ☐ adequate adjacent upland food sources
- ☐ interview with local biologist with knowledge of the AA

ii. Wildlife Habitat Features: Working from top to bottom, check 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 in terms 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 manual for further definitions of these terms].

Structural Diversity (see #13)	☐ High				☒ Moderate				☐ Low											
Class Cover Distribution (all vegetated classes)	☐ Even				☐ Uneven				☒ Even				☐ Uneven				☐ Even			
Duration of Surface Water in ≥ 10% of AA	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A	P/P	S/I	T/E	A
☐ **Low Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (see #12i)	---	---	---	---	---	---	---	---	M	---	---	---	---	---	---	---	---	---	---	---

iii. Rating: Use the conclusions from i and ii above and the matrix below to select the functional point and rating.

Evidence of Wildlife Use (i)	Wildlife Habitat Features Rating (ii)			
	☐ Exceptional	☐ High	☐ Moderate	☒ Low
☐ Substantial	---	---	---	---
☒ Moderate	---	---	---	.3L
☐ Minimal	---	---	---	---

Comments: Wetland occurs within the Right-of-way of I-90. Low value to local wildlife.

Wetland/Site #(s): WL-09

14D. GENERAL FISH HABITAT ☒ **NA** (proceed to 14E)

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 check the NA box and proceed to 14E.

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].

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

i. Habitat Quality and Known / Suspected Fish Species in AA: Use matrix to select the functional point and rating.

Duration of Surface Water in AA	☐ **Permanent / Perennial**						☐ **Seasonal / Intermittent**						☐ **Temporary / Ephemeral**					
Aquatic Hiding / Resting / Escape Cover	☐ **Optimal**		☐ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**		☐ **Optimal**		☐ **Adequate**		☐ **Poor**	
Thermal Cover: optimal / suboptimal	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**	**O**	**S**
FWP Tier I fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier II or **Native Game** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Tier III or **Introduced Game** fish	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
FWP Non-Game Tier IV or **No** fish species	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Sources used for identifying fish spp. potentially found in AA: _____

ii. Modified Rating: NOTE: Modified score cannot exceed 1.0 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?* ☐ **YES**, reduce score in **i** by 0.1 = __ or ☐ **N0**

b) Does the AA contain a documented spawning area or other critical habitat feature (i.e., sanctuary pool, upwelling area; specify in comments) for native fish or introduced game fish? ☐ **YES**, add to score in **i** or **iia** 0.1 = __ or ☐ **N0**

iii. Final Score and Rating: _ **Comments:** _____

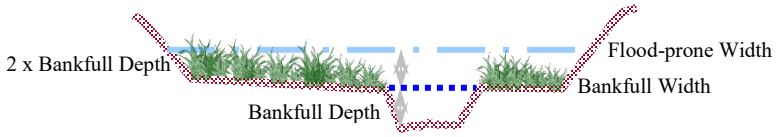
14E. FLOOD ATTENUATION ☒ **NA** (proceed to 14F)

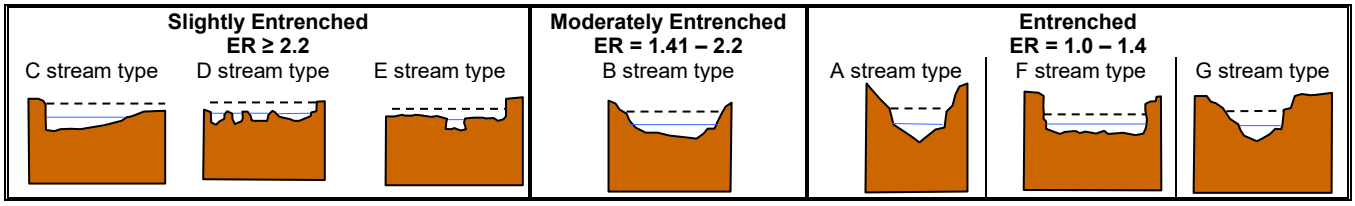
Applies only to wetlands that are subject to flooding via in-channel or overbank flow.
If wetlands in AA are not flooded from in-channel or overbank flow, check the NA box and proceed to 14F.

Entrenchment Ratio (ER) Estimation (see 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.

_____ / _____ = _____

flood prone width / bankfull width = entrenchment ratio





i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Estimated or Calculated Entrenchment (Rosgen 1994, 1996)	☐ Slightly Entrenched C, D, E stream types			☐ Moderately Entrenched B stream type			☐ Entrenched A, F, G stream types		
Percent 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**	---	---	---	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	---	---	---	---	---

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? ☐ YES ☐ NO **Comments:** _____

Wetland/Site #(s): WL-09

14F. SHORT AND LONG TERM SURFACE WATER STORAGE ☒ **NA** (proceed to 14G)

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, then check the NA box and proceed to 14G.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see manual 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 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**	---	---	---	---	---	---	---	---	.2L
Wetlands in AA flood or pond **< 5 out of 10 years**	---	---	---	---	---	---	---	---	---

Comments: This wetland is not subject to annual flooding.

14G. SEDIMENT / NUTRIENT / TOXICANT / RETENTION AND REMOVAL ☐ **NA** (proceed to 14H)

Applies to wetland 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, check the NA box and proceed to 14H.

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Sediment, Nutrient, and Toxicant Input Levels within AA	**AA receives or surrounding land use has potential to deliver 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.**				**Waterbody is on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use has 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	☒ **≥ 70%**		☐ **< 70%**		☐ **≥ 70%**		☐ **< 70%**	
Evidence of Flooding / Ponding in AA	☐ **Yes**	☒ **No**	☐ **Yes**	☐ **No**	☐ **Yes**	☐ **No**	☐ **Yes**	☐ **No**
AA contains **no or restricted outlet**	---	.8H	---	---	---	---	---	---
AA contains **unrestricted outlet**	---	---	---	---	---	---	---	---

Comments: Wetland appears isolated with good retention and removal of sediment.

14H. SEDIMENT / SHORELINE STABILIZATION ☒ **NA** (proceed to 14I)

Applies only if AA occurs on or within the banks of 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, check the NA box and proceed to 14I.

% Cover of Wetland Streambank or Shoreline by Species with Stability Ratings of ≥6 (see Appendix F).	**Duration of Surface Water Adjacent to Rooted Vegetation**		
	☐ **Permanent / Perennial**	☐ **Seasonal / Intermittent**	☐ **Temporary / Ephemeral**
☐ **≥ 65%**	---	---	---
☐ **35-64%**	---	---	---
☐ **< 35%**	---	---	---

Comments: _____

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT

i. Level of Biological Activity: Synthesis of wildlife and fish habitat rates (select).

General Fish Habitat Rating (14Diii)	**General Wildlife Habitat Rating (14Ciii)**		
	☐ **E/H**	☐ **M**	☒ **L**
☐ **E/H**	---	---	---
☐ **M**	---	---	---
☐ **L**	---	---	---
☒ **NA**	---	---	L

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

A	☐ **Vegetated Component >5 acres**						☐ **Vegetated Component 1-5 acres**						☒ **Vegetated Component <1 acre**					
B	☐ **High**		☐ **Moderate**		☐ **Low**		☐ **High**		☐ **Moderate**		☐ **Low**		☐ **High**		☐ **Moderate**		☒ **Low**	
C	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
P/P	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	.3L	---
S/I	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
T/E/A	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Wetland/Site #(s): WL-09

14I. PRODUCTION EXPORT / FOOD CHAIN SUPPORT (continued)

iii. Modified Rating: Note: Modified score cannot exceed 1.0 or be less than 0.1.

Vegetated Upland Buffer: 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).
Is there an average ≥ 50-foot wide vegetated upland buffer around ≥ 75% of the AA's perimeter? ☒ **YES**, add 0.1 to score in **ii** = 0.00 ☐ **NO**

iv. Final Score and Rating: .4M **Comments:** _____

14J. GROUNDWATER DISCHARGE / RECHARGE
Check the appropriate indicators in i and ii below.

i. Discharge Indicators
- ☒ The AA is a slope wetland.
- ☐ Springs or seeps are known or observed.
- ☐ Vegetation growing during dormant season/drought.
- ☐ Wetland occurs at the toe of a natural slope.
- ☐ Seeps are present at the wetland edge.
- ☐ 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: _____

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: _____

iii. Rating: Use the information from i and ii above and the table below to select the functional point and rating.

Criteria	Duration of Saturation at AA Wetlands ***FROM GROUNDWATER DISCHARGE*** or ***WITH WATER THAT IS RECHARGING THE GROUNDWATER SYSTEM*** ☒ **P/P**	☐ **S/I**	☐ **T**	☐ **None**
☒ **Groundwater Discharge or Recharge**	1H	---	---	---
☐ **Insufficient Data/Information**	---			

Comments: _____

14K. UNIQUENESS

i. Rating: Working from top to bottom, use the matrix below to select the functional point and rating.

Replacement Potential	**AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland** OR **plant association listed as "S1" by the MTNHP**			**AA does not contain previously cited rare types** AND **structural diversity (#13) is high** OR **contains plant association listed as "S2" by the MTNHP**			**AA does not contain previously cited rare types** OR **associations** AND **structural diversity (#13) is low-moderate**		
Estimated Relative Abundance (#11)	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☐ Common	☐ Abundant	☐ Rare	☒ Common	☐ Abundant
☐ **Low Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☐ **Moderate Disturbance** at AA (#12i)	---	---	---	---	---	---	---	---	---
☒ **High Disturbance** at AA (#12i)	---	---	---	---	---	---	---	.2L	---

Comments: _____

14L. RECREATION / EDUCATION POTENTIAL ☒ NA (proceed to Overall Summary and Rating page)
Affords 'bonus' points if AA provides a recreational or educational opportunity.

i. Is the AA a known or potential recreational or educational site? ☐ **YES**, go to ii. ☐ **NO**, check the NA box.

ii. Check categories that apply to the AA: ☐ Educational/Scientific Study ☐ Consumptive Recreational ☐ Non-consumptive recreational
☐ Other: _____

iii. Rating: Use the matrix below to select the functional point and rating.

Known or Potential Recreational or Educational Area	Known	Potential
Public ownership or public easement with general public access (no permission required)	---	---
Private ownership with general public access (no permission required)	---	---
Private or public ownership without general public access, or requiring permission for public access	---	---

Comments: _____

15. GENERAL SITE NOTES: _____

Wetland/Site #(s): WL-09

Function & Value Variables	Rating – Actual Functional Points	Possible Functional Points	Functional Units: Actual Points x Estimated AA Acreage	Indicate the Four Most Prominent Functions with an Asterisk
A. Listed / Proposed T&E Species Habitat	low 0.00	1.00		
B. MT Natural Heritage Program Species Habitat	low 0.00	1.00		
C. General Wildlife Habitat	low 0.30	1.00		*
D. General Fish Habitat	NA	NA		
E. Flood Attenuation	NA	NA		
F. Short and Long Term Surface Water Storage	NA	NA		
G. Sediment / Nutrient / Toxicant Removal	high 0.80	1.00		*
H. Sediment / Shoreline Stabilization	NA	NA		
I. Production Export / Food Chain Support	mod 0.40	1.00		*
J. Groundwater Discharge / Recharge	high 1.00	1.00		*
K. Uniqueness	low 0.20	1.00		
L. Recreation / Education Potential (bonus point)	NA			
Total Points	**2.7**	**7**	**Total Functional Units**	
Percent of Possible Score 39% (round to nearest whole number)				

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 #).

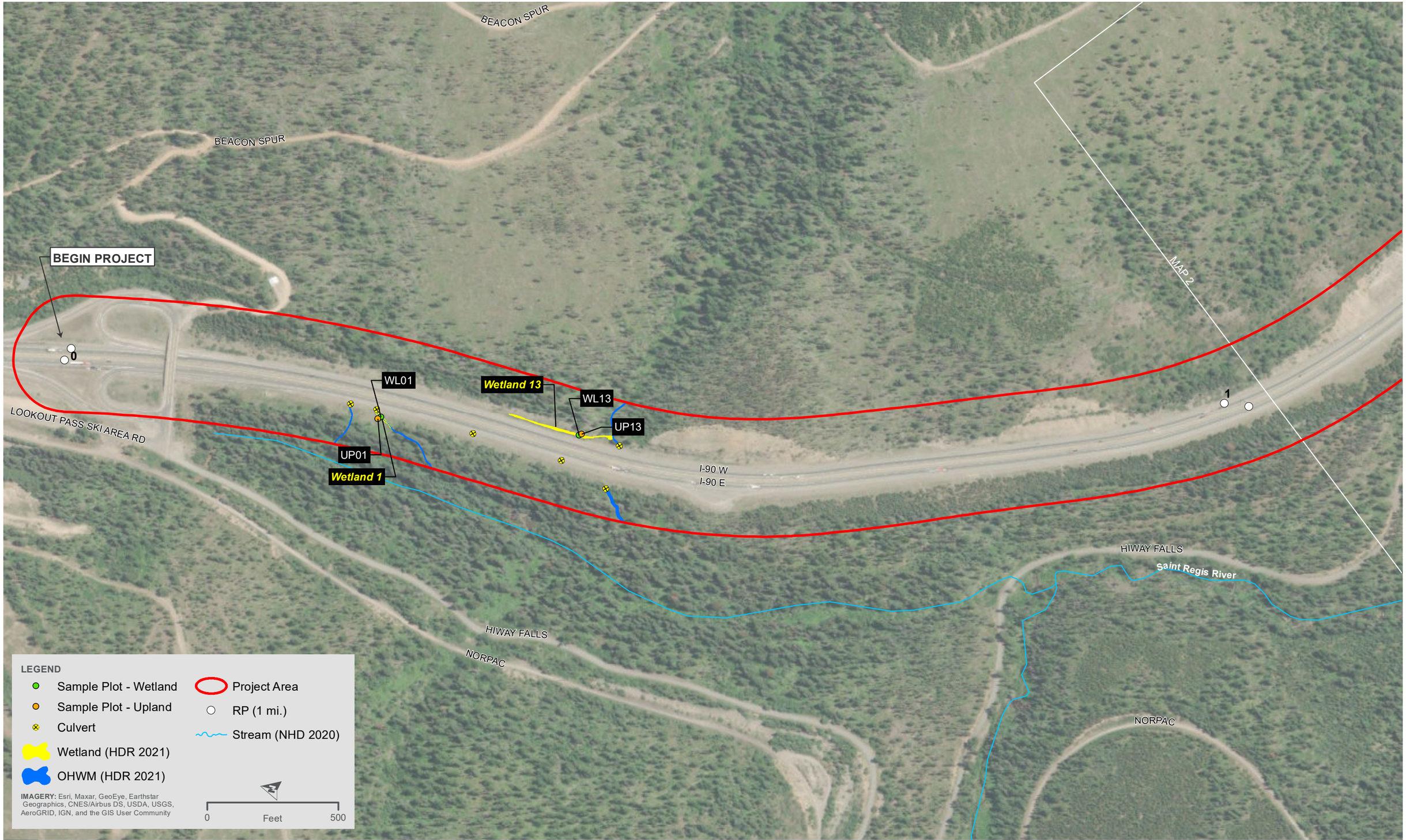
☒ **Category III Wetland:** (Criteria for Categories I, II, or IV not satisfied)

Category IV Wetland: (Criteria for Categories I or II are not satisfied and all of the following criteria are met; if not 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 (AA) RATING: Check the appropriate category based on the criteria outlined above.

☐ **I** ☐ **II** ☒ **III** ☐ **IV**

APPENDIX C: Aquatic Resources Mapping Results



VISION ZERO
zero deaths - zero serious injuries
MONTANA DEPARTMENT OF TRANSPORTATION

AQUATIC RESOURCES MAPPING

TAFT - WEST | UPN 9487000 | IM 90-1(227)0

MAP 1 OF 6

PATH: G:\PROJECTS\MDT\TAFT-WEST\MAP_DOCS\TAFTWEST_WETLANDS_DDP.MXD - USER: JSCHICK - DATE: 8/20/2021

BIOLOGICAL RESOURCE REPORT

MAP 1

MAP 3

Borax Creek

NORPAC

NORPAC

2

I-90 W
I-90 E

WL02

UP02

Wetland 2

HIWAY FALLS

Saint Regis River

LEGEND

- Sample Plot - Wetland
- Sample Plot - Upland
- Culvert
- Wetland (HDR 2021)
- OHWM (HDR 2021)
- Project Area
- RP (1 mi.)
- Stream (NHD 2020)

IMAGERY: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 Feet 500

VISION ZERO
zero deaths - zero serious injuries
MONTANA DEPARTMENT OF TRANSPORTATION

AQUATIC RESOURCES MAPPING

TAFT - WEST | UPN 9487000 | IM 90-1(227)0

MAP 2 OF 6

Borax Creek

MAP 2

Brimstone Creek

Haun Creek

I-90 W

I-90 E

WL03

UP03

Wetland 3

Saint Regis River

2

3

NORPAC

HANAKER CREEK RD

MAP 4

Hanaker Creek

Saint Regis River

LEGEND

- Sample Plot - Wetland
- Sample Plot - Upland
- Culvert
- Wetland (HDR 2021)
- OHWM (HDR 2021)
- Project Area
- RP (1 mi.)
- Stream (NHD 2020)

IMAGERY: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 Feet 500

VISION ZERO
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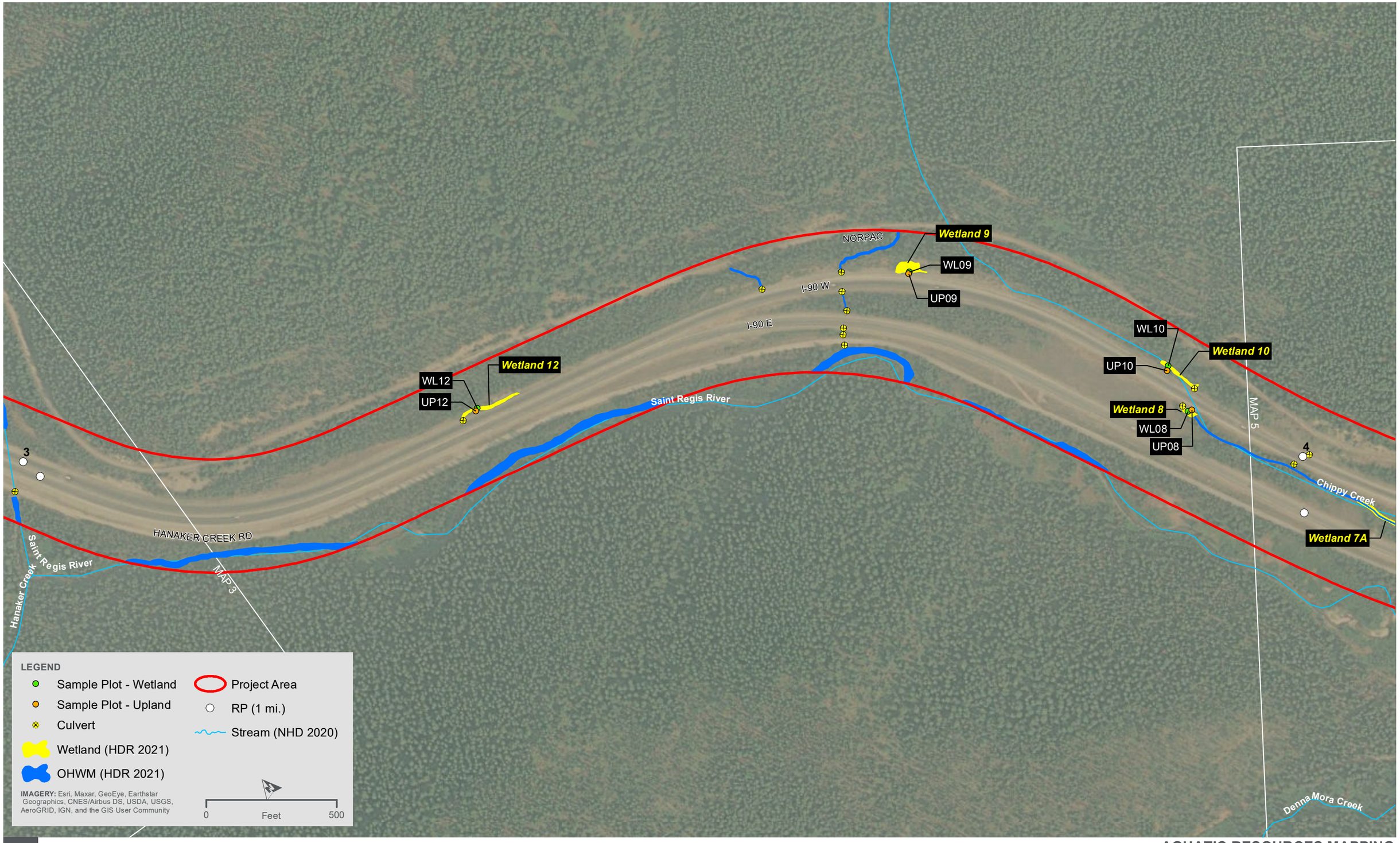
MONTANA DEPARTMENT OF TRANSPORTATION

AQUATIC RESOURCES MAPPING

TAFT - WEST | UPN 9487000 | IM 90-1(227)0

MAP 3 OF 6

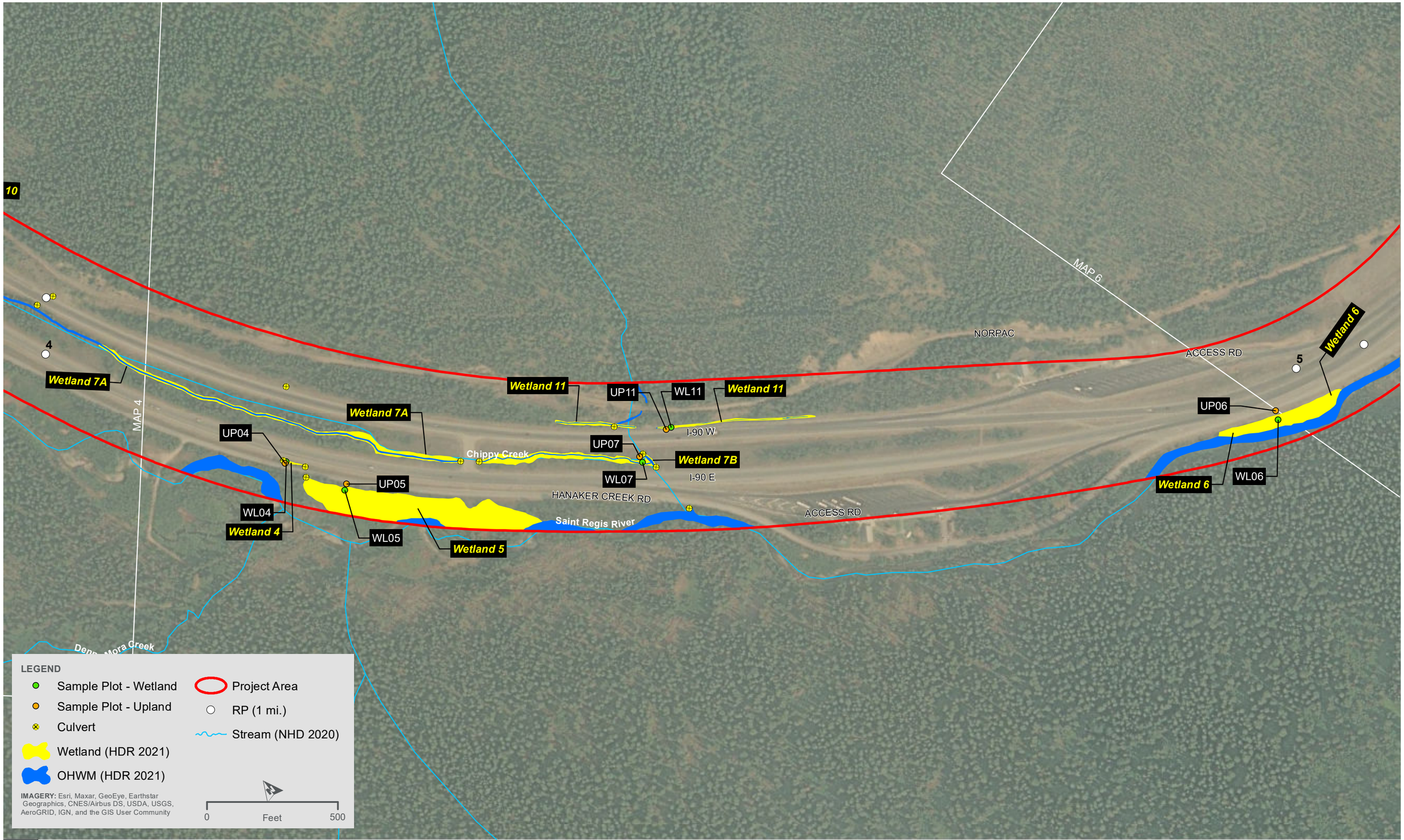


VISION ZERO
zero deaths - zero serious injuries
MONTANA DEPARTMENT OF TRANSPORTATION

AQUATIC RESOURCES MAPPING

TAFT - WEST | UPN 9487000 | IM 90-1(227)0

MAP 4 OF 6



VISION ZERO
zero deaths - zero serious injuries
MONTANA DEPARTMENT OF TRANSPORTATION

AQUATIC RESOURCES MAPPING

TAFT - WEST | UPN 9487000 | IM 90-1(227)0

MAP 5 OF 6

VISION ZERO
zero deaths - zero serious injuries
MONTANA DEPARTMENT OF TRANSPORTATION

AQUATIC RESOURCES MAPPING

TAFT - WEST | UPN 9487000 | IM 90-1(227)0

MAP 6 OF 6