Appendix C

Environmental Scan Report



ENVIRONMENTAL SCAN REPORT

PREPARED FOR:

MONTANA MDT DEPARTMENT OF TRANSPORTATION

PREPARED BY:

DOWL HKM
104 East Broadway, Suite G-1
P.O. Box 1009
Helena, Montana 59624
(406) 442-0370

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ABBREVIATIONS AND ACRONYMS

APE ..... Area of Potential Effect
BA ..... Biological Assessment
BBER ..... Bureau of Business and Economic Research
BMPs ..... Best Management Practices
BO ..... Biological Opinion
CERCLIS ..... Comprehensive Environmental Response, Compensation and Liability Information System
CFR ..... Code of Federal Regulations
CO ..... Carbon Monoxide
CSKT ..... Confederated Salish and Kootenai Tribes
CWA ..... Clean Water Act
DEQ ..... Montana Department of Environmental Quality
EIS ..... Environmental Impact Statement
EO ..... Executive Order
EPA ..... U.S. Environmental Protection Agency
ESA ..... Endangered Species Act
FEIS ..... Final Environmental Impact Statement
FEMA ..... Federal Emergency Management Agency
FHWA ..... Federal Highway Administration
FPPA ..... Farmland Protection Policy Act
FWP ..... Montana Fish, Wildlife & Parks
GIS ..... Geographic Information System
GWIC ..... Groundwater Information Center
HUC ..... Hydrologic Unit Code
LUST ..... Leaking Underground Storage Tank
LWCF ..... Land and Water Conservation Funds
MBMG ..... Montana Bureau of Mines and Geology
MCA ..... Montana Code Annotated
MDT ..... Montana Department of Transportation
MEPA ..... Montana Environmental Policy Act
MFISH ..... Montana Fisheries Information System
MNHP ..... Montana Natural Heritage Program
NEPA ..... National Environmental Policy Act
NHPA ..... National Historic Preservation Act
NRCS ..... Natural Resource Conservation Service
NRHP ..... National Register of Historic Places
NRIS ..... Natural Resource Information System
ORV ..... Outstandingly Remarkable Value
PGA ..... Peak Ground Acceleration
Pb ..... Lead
$PM_{2.5}$ ..... Particulate Matter with a Diameter of 2.5 Micrometers or less
PM_{10} ..... Particulate Matter with a Diameter of 10 Micrometers or less
PWS ..... Public Water Supply
ROD ..... Record of Decision
RP ..... Reference Post
Section 4(f) ..... Section 4(f) of the 1966 Department of Transportation Act
Section 6(f) ..... Section 6(f) of the National Land and Water Conservation Funds Act
SEIS ..... Supplemental Environmental Impact Statement
SO_2 ..... Sulfur Dioxide
TMDL ..... Total Maximum Daily Load
USACE ..... U.S. Army Corps of Engineers
USC ..... United States Code
USFS ..... U.S. Forest Service
USFWS ..... U.S. Fish and Wildlife Service
USGS ..... U.S. Geological Service

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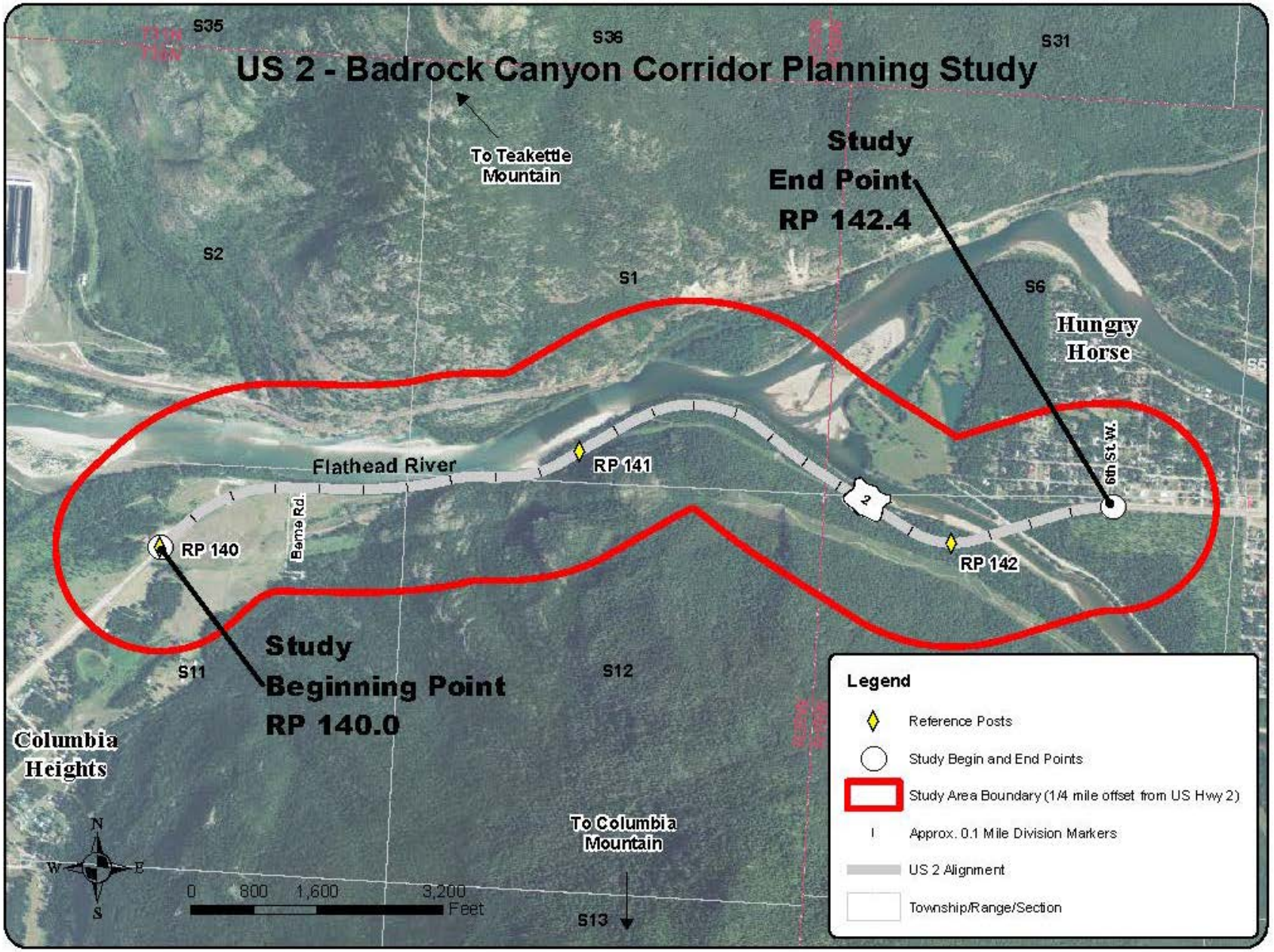
1.0 INTRODUCTION

1.1 Geographic Setting and Study Area

The study corridor is located in northwestern Montana in Flathead County. From west to east, communities in proximity to the study area include Columbia Falls, Hungry Horse, Martin City, and Coram. Through the study corridor, US 2 generally follows an east-west course. The main stem of the Flathead River is located north of US 2 through the corridor, and closely parallels the highway over a portion of the study area. US 2 crosses the South Fork of the Flathead River before entering Hungry Horse at the eastern end of the study corridor. Located within the Flathead National Forest, the Whitefish Mountain Range extends to the north of the study corridor and the Swan Mountain Range extends to the south. Rock outcroppings forming the lower slopes of Columbia Mountain directly parallel US 2 to the south over a portion of the corridor.

This study focuses on the portion of US 2 beginning at Reference Post (RP) 140.0 and ending at RP 142.4 (the approximate intersection of US 2 / 6th Street West). Figure 1-1 illustrates the study area.

Figure 1-1 Study Area



Source: MDT, 2011; NRIS, 2011; DOWL HKM, 2011.

1.2 Previous Planning Efforts in US 2 – Badrock Canyon Corridor

In 1995, a Final Environmental Impact Statement (FEIS) / Section 4(f) Evaluation was completed to assess the impacts of reconstructing 4.5 miles of US 2 from approximate Reference Post (RP) 138.3 to RP 142.7 between Columbia Heights and Hungry Horse in Flathead County, MT. A Record of Decision (ROD) on the FEIS was signed by FHWA on December 22, 1995. The ROD approved Alternative 1, which entailed a four- and five-lane design for the reconstruction of US 2. Pursuant to the EIS, MDT initiated two reconstruction projects within the Columbia Heights-Hungry Horse-West corridor. The Columbia Heights-East project extended from RP 138.3 to RP 140.1, and the Hungry Horse-West project extended from RP 140.1 to RP 142.7.

In the years following completion of the FEIS and ROD, Flathead County experienced substantial growth, which resulted in the need to update traffic volumes and accident rates. Federal and state regulations relevant to some project activities had changed. Additionally, other concerns were identified that required MDT to make design modifications or that had the potential to dictate new and more notable project design changes. Some of these design activities resulted in more accurate quantification of the environmental effects disclosed in the FEIS. Lastly, controversy surrounded the alternative approved in the ROD. For these reasons, MDT conducted a Re-evaluation of the FEIS and Section 4(f) Evaluation in 2002.

The Re-evaluation concluded the FEIS adequately described the impacts associated with reconstruction of US 2 within the limits of the Columbia Heights-East project. This reconstruction project proceeded and was completed in 2004. The Re-evaluation also concluded the FEIS adequately discussed the environmental effects of building a new bridge across the South Fork of the Flathead River. The Re-evaluation found that the preferred alternative discussion in the FEIS and ROD did not adequately address environmental effects of reconstructing US 2 through Badrock Canyon (RP 140.1 to RP 141.2) on an alignment that minimized or totally avoided rock excavation near Berne Memorial Park. Since the Re-evaluation, additional information regarding Native American cultural concerns in the area and potential impacts to a natural gas transmission pipeline was identified. The Re-evaluation called for a Supplemental Environmental Impact Statement (SEIS) to be prepared for this segment of the corridor.

In early 2011, the canyon community approached MDT regarding potential improvement to US 2 through Badrock Canyon. In lieu of preparing a SEIS at this time, MDT hosted an informational

meeting to identify possible concerns along the corridor. Based on comments provided during the meeting as well as written comments submitted during the comment period from May 12 to May 20, 2011, MDT determined there is local interest in pursuing further analysis of the corridor. This effort, referred to as Phase I, was completed in June 2011. Phase II will entail further analysis and completion the corridor study process for the portion of the corridor from US 2 between RP 140.0 and RP 142.4 (the approximate intersection of US 2 / 6th Street West).

Using information previously gathered as a baseline guide, this Environmental Scan provides an updated summary of physical, biological, social, and cultural resources in the US 2 – Badrock Canyon corridor. This report will serve as a planning level overview to assist in identifying constraints and opportunities in the corridor. Information provided in this report may be used in a future SEIS as called for in the Re-evaluation, or in other appropriate environmental documentation as determined based on the scope of an improvement. The Environmental Scan is not intended to satisfy NEPA/MEPA requirements for any forwarded improvement options.

2.0 PHYSICAL ENVIRONMENT

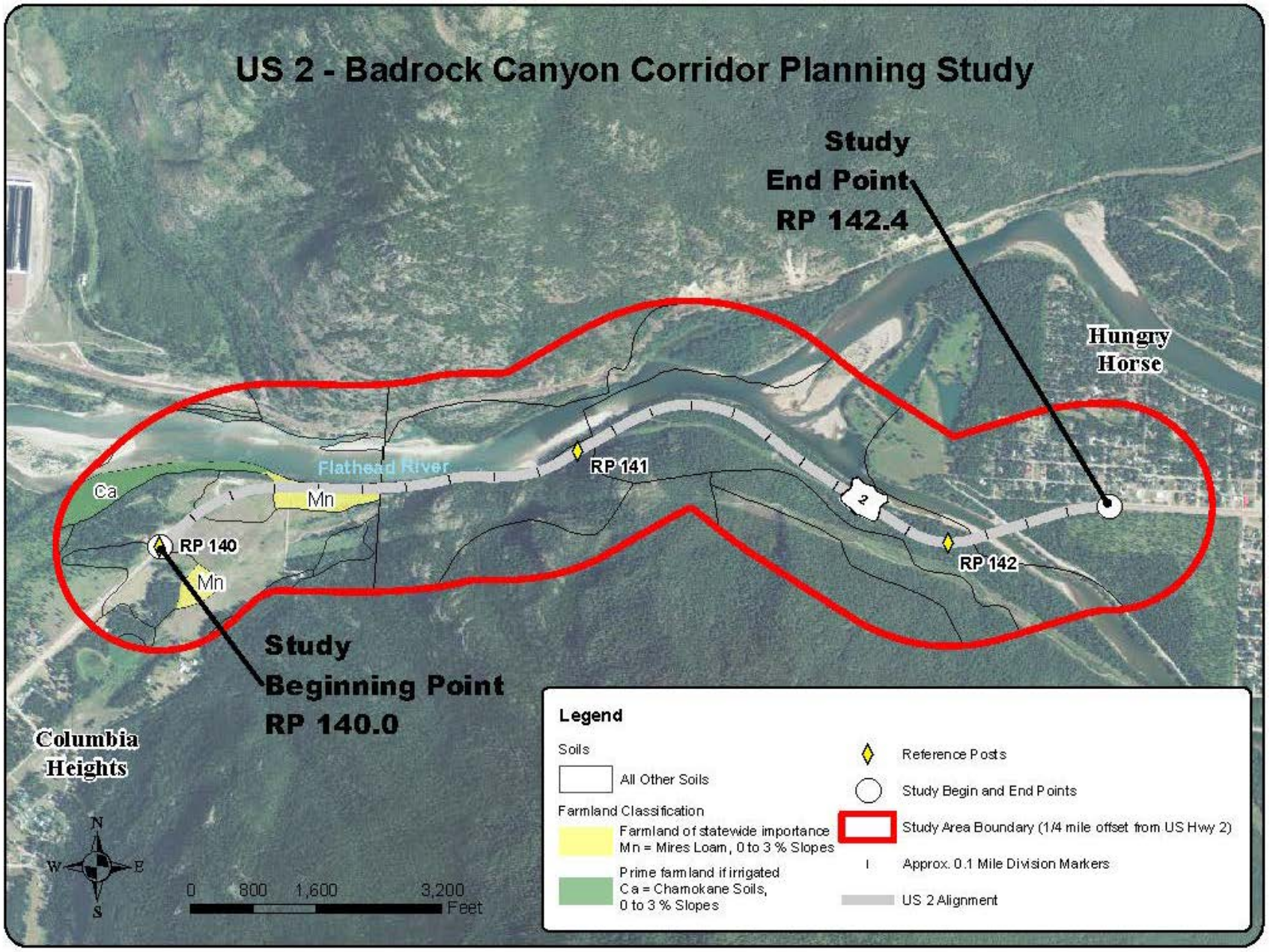
2.1 Soil Resources and Prime Farmland

The Farmland Protection Policy Act (FPPA) of 1981 (Title 7 United States Code, Chapter 73, Sections 4201-4209) has as its purpose "to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to assure that federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland." Farmland is defined by the Act in Section 4201 as including prime farmland; unique farmland; and farmland, other than prime or unique farmland, that is of statewide or local importance.

Prime farmland soils are those that have the best combination of physical and chemical characteristics for producing food, feed, and forage. Prime farmland can be either non-irrigated or lands that would be considered prime if irrigated. Farmland of statewide importance is land, in addition to prime and unique farmlands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops.

As illustrated in Figure 2-1, areas at the western end of the study corridor have been classified as prime farmland if irrigated and farmland of statewide importance. The NRCS uses the CPA-106 Farmland Conversion Impact Rating Form for Linear Projects to maintain an inventory of the prime and important farmlands within the state. If construction activities associated with forwarded improvement options within the corridor were to impact these soils, a CPA-106 Farmland Conversion Impact Rating Form for Linear Projects would need to be completed. The process for completing this form requires mapping of the prime and important farmlands to be converted to non-farmable land, coordination with the NRCS, and final completion of the conversion form.

Figure 2-1 Soil Resources in Study Area



Source: NRIS, 2011; MDT, 2011; DOWL HKM, 2011.

2.2 Geologic Resources

2.2.1 Geologic Features

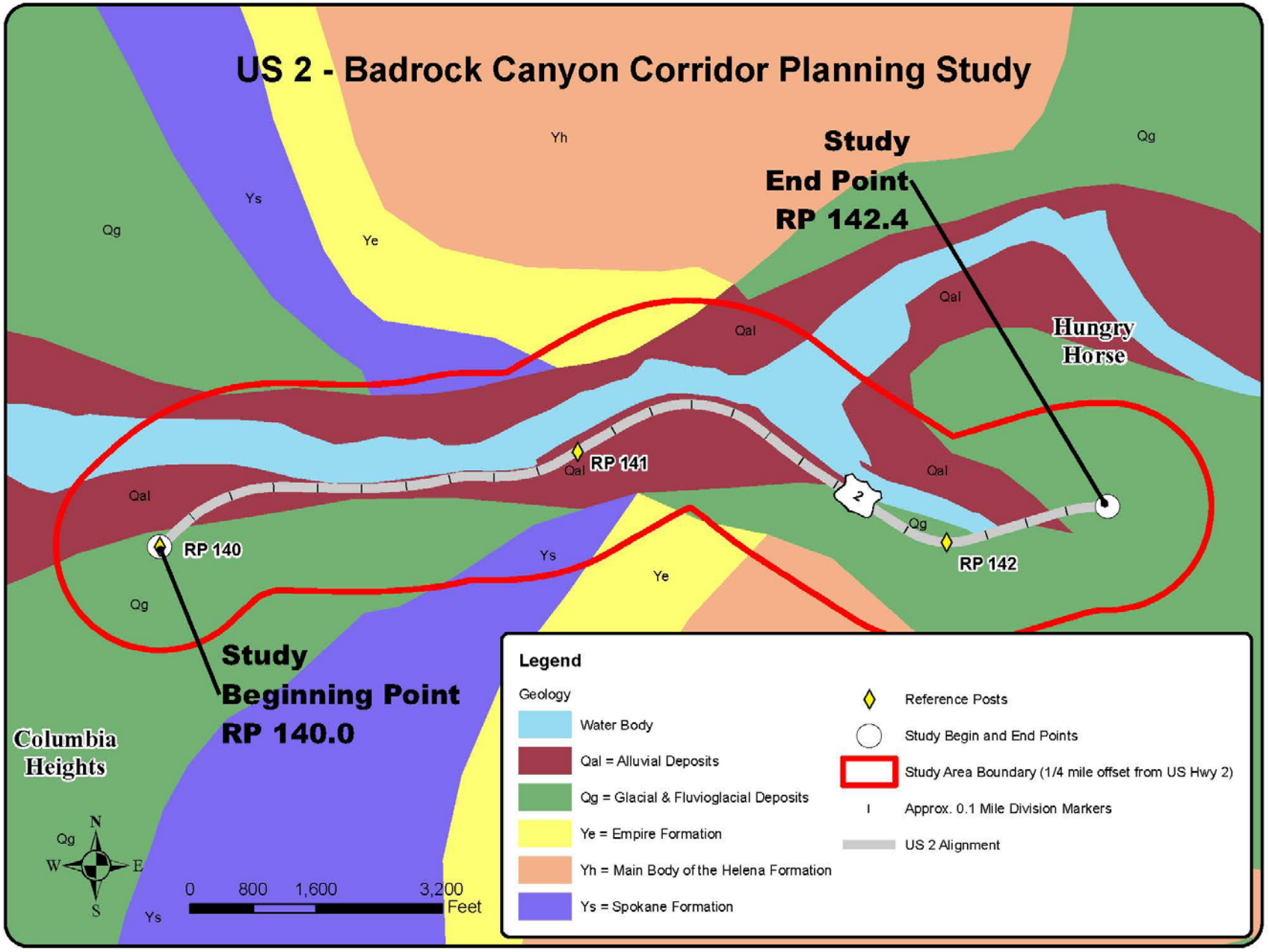
The study area is composed of the geologic features listed in Table 2.1 and illustrated in Figure 2-2. Alluvial deposits immediately border the Flathead River, while glacial and fluvioglacial deposits spread further into outlying areas. Rock outcroppings bordering US 2 are composed of quartzite, siltite, and argillite ranging from 25 to 60 feet high within the study area. As illustrated in the geologic map for the Kalispell Quadrangle (Appendix 1), fault lines are located to the east and west of the immediate study area.

Table 2.1 Geologic Features in Study Area

Map Unit	Map Unit Description	
Qal	Alluvial deposits (Holocene)	Gravel, sand, silt, and clay deposits of stream and river channels, and floodplains.
Qg	Glacial and fluvioglacial deposits (Pleistocene)	Dominantly till, outwash, and local glacial lake deposits.
Ye	Empire Formation (Middle Proterozoic)	Grayish green and pale olive gray argillite and siltite with subordinate thin beds of quartzite and sandy limestone. Thickness as much as 610 m.
Yh	Main body of the Helena Formation (Middle Proterozoic)	Cycles of basal white quartzite or intraclast beds overlain by couplets of green siltite and argillite, capped by dolomite beds. Calcite pods and ribbons (molar tooth structure) common.
Ys	Spokane Formation (Middle Proterozoic)	Red siltite and argillite in mudcracked couplets. Thickness as much as 1,500 m (492 ft).

Source: MBMG, 2007.

Figure 2-2 Geologic Resources in Study Area



Source: NRIS, 2011; MDT, 2011; DOWL HKM, 2011.

2.2.2 Geologic Hazards

The 2008 U.S. Geological Survey (USGS) National Seismic Hazard Maps display earthquake ground motions for various probability levels across the United States. The maps are derived from seismic hazard curves calculated on a grid of sites across the United States that describe the frequency of exceeding a set of ground motions. Appendix 2 contains a map of the United States showing the levels of horizontal shaking that have a 2-in-100 chance of being exceeded in a 50-year period. Shaking (or peak ground acceleration, PGA) is expressed as a percentage of *g*, which is the acceleration of a falling object due to gravity. This map shows that the US 2 corridor is located in an area of mid-range hazard.


Unstable geologic features south of US 2

The 1995 FEIS and the 2002 Re-evaluation noted that the bedding and joint structure of the rocks in Badrock Canyon provide a potential for rockfalls. Geotechnical investigations conducted in support of the FEIS identified tension cracks and evidence of past movements in the large rock plates that comprise the outcrops.

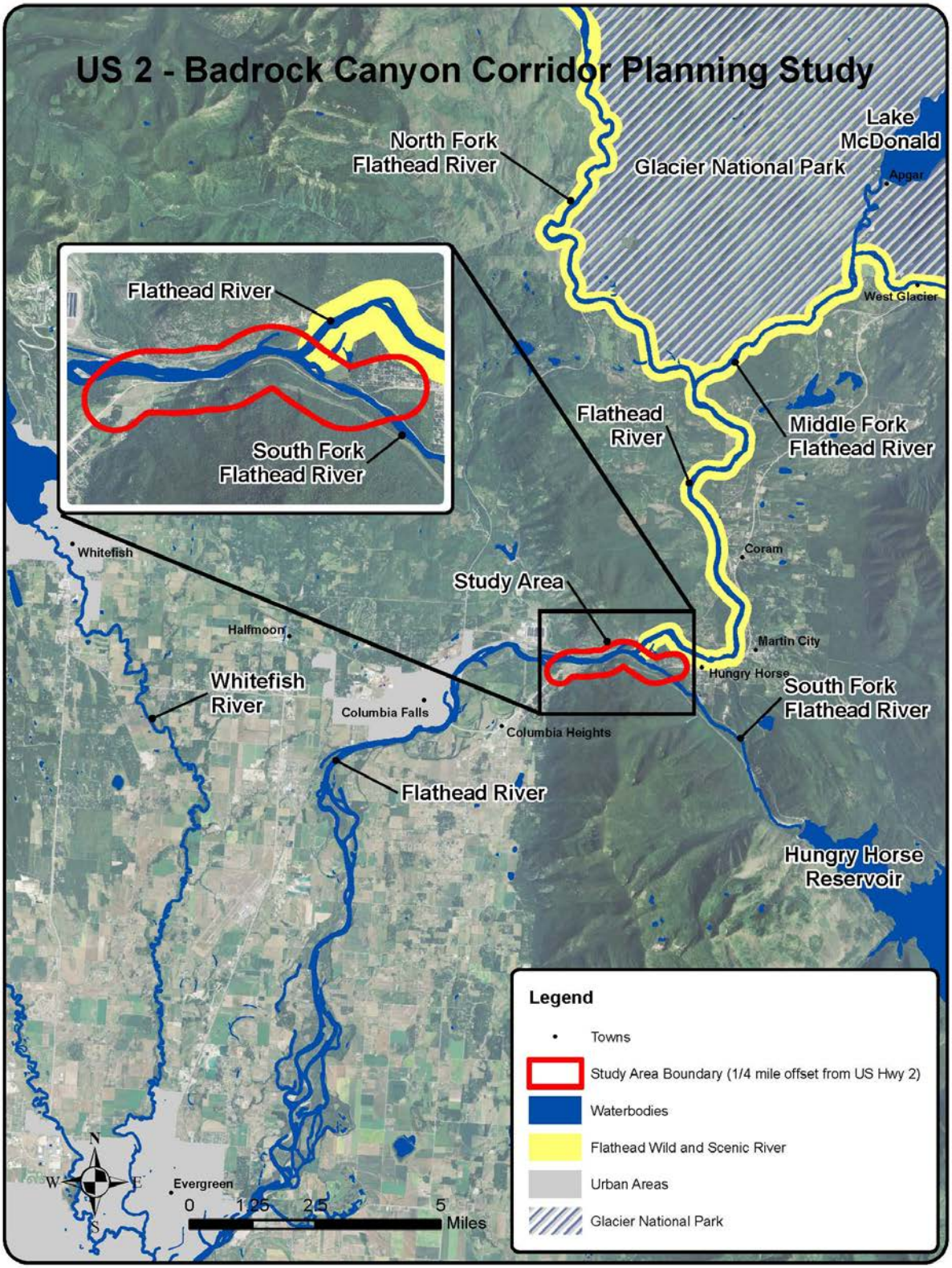
If improvement options involving rock excavation are forwarded from this study, additional geotechnical analysis, including rock mapping and borings, would be needed to assess the stability of rock outcroppings in the study area.

2.3 Water Resources

2.3.1 Surface Water

Surface water resources in the immediate study area include the main stem of the Flathead River and the South Fork of the Flathead River. Figure 2-3 illustrates water bodies in the study area vicinity.

Figure 2-3 Water Resources in Study Area



Source: NRIS, 2011;USGS, 2011; National Wild and Scenic Rivers, 2011; DOWL HKM, 2011.

Impairment

In 1997, the Montana State Legislature assigned the Montana Department of Environmental Quality (DEQ) the responsibility under Section 401 of the federal Clean Water Act (CWA) (33 U.S.C. 1251 – 1376) and the Montana Water Quality Act (75-5-101 M.C.A., et seq) to monitor and assess the quality of Montana surface waters and to identify impaired or threatened stream segments and lakes. When water bodies fail to meet state water quality standards, DEQ also has the authority to determine the causes and sources of pollutants in a sub-basin assessment and establish maximum pollutant levels, called total maximum daily loads (TMDLs), within a watershed. The TMDLs become the basis for implementation plans to restore water quality to a level that supports its designated beneficial uses. Implementation plans are developed to identify and describe pollutant controls and management measures to be undertaken (such as Best Management Practices, or BMPs), the mechanisms by which the selected measures would be put into action, and the individuals and entities responsible for implementation projects.

The study area lies within the Flathead Lake watershed (Hydraulic Unit Code [HUC] 17010208) and the South Fork Flathead River watershed (HUC 17010209), which are illustrated in Figure 2-4. Both of these watersheds are listed in the DEQ 2010 Integrated 303(d)/305(b) Water Quality Report for Montana. Within the study area, the main stem of the Flathead River from its headwaters to Flathead Lake is listed as Category 3, which indicates waters for which there is insufficient data to assess the use support of any applicable beneficial use. No use support determinations have been made for the main stem as of the 2010 reporting cycle. Additionally, the South Fork of the Flathead River from the Hungry Horse Dam to its mouth is listed as Category 4C, which indicates that non-pollutant-related use impairment has been identified and TMDLs are not required. Appendix 3 contains water quality reports for these two water bodies.

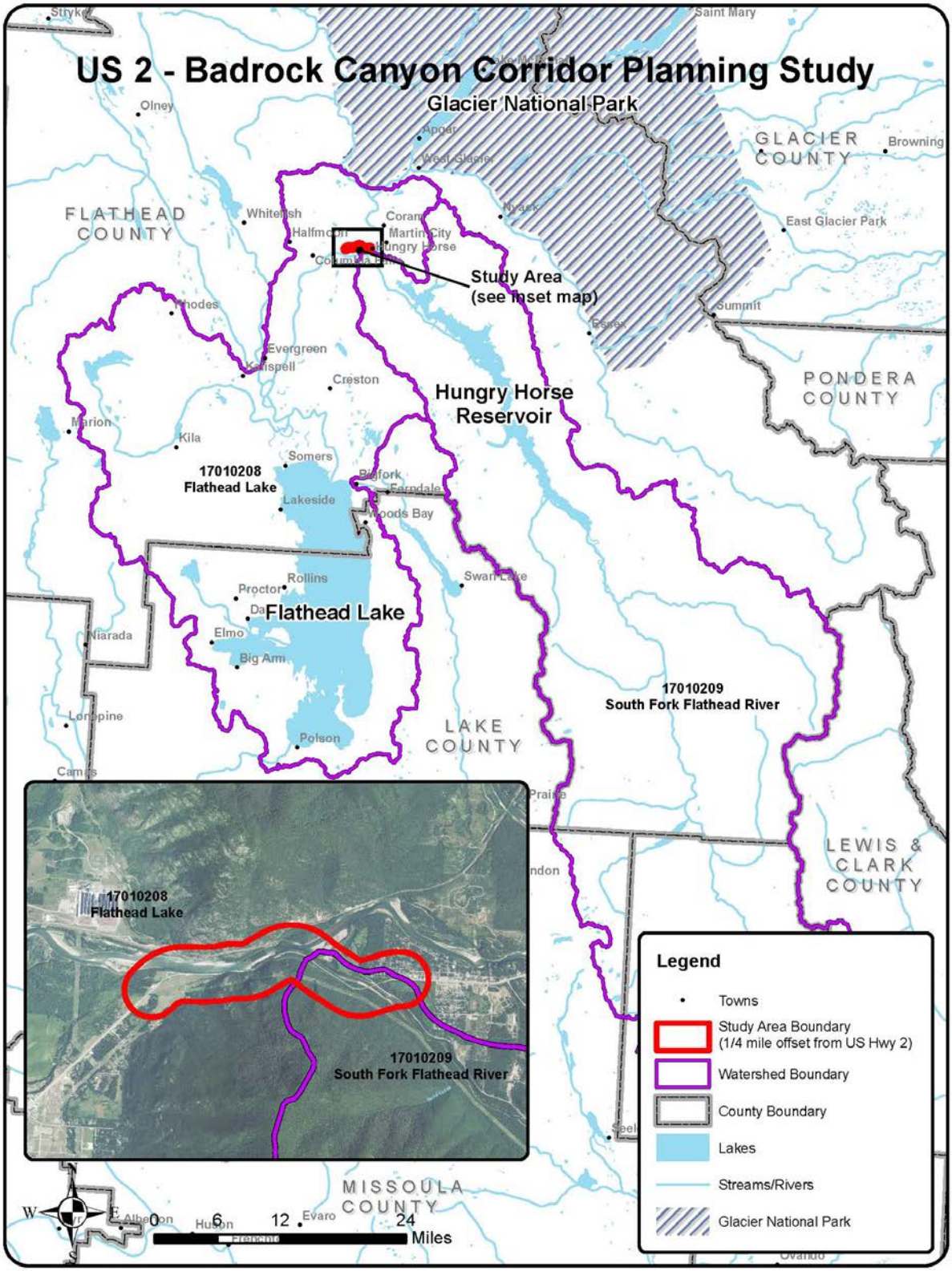
DEQ is using a TMDL planning process in the Flathead Lake watershed that incorporates a combination of a watershed scale hydrologic model, lake response models, and on-the-ground field efforts to further identify and quantify pollutant contributions from all significant sources. Used in combination, these methods are anticipated to yield the best available assessment of current water quality conditions. From initial efforts, DEQ has identified several primary causes of impairment to water quality in the Flathead Basin, including nutrients (nitrogen and

phosphorus), siltation/sediment, PCBs (polychlorinated biphenyls , which are a class of organic compounds), metals (mercury, arsenic, copper and lead), and thermal modification (temperature).

DEQ completed the *Phase I Nutrient Management Plan and Total Maximum Daily Load for Flathead Lake* in December 2001. Although Flathead Lake was the focus of the TMDL, the geographic scope of the plan included the entire Flathead Basin. In December 2004, DEQ prepared the *Water Quality Assessment and TMDLs for the Flathead River Headwaters Planning Area*. DEQ is currently in the process of developing TMDLs for impaired waters in the Flathead-Stillwater Planning Area, which includes all tributaries to the Flathead River, and developing Phase II allocations for nutrients in the Flathead Lake watershed. This process will yield individual TMDLs for all impaired rivers and lakes and a comprehensive management plan for the watershed. The TMDL development process is anticipated to be completed in 2013.

If improvement options are forwarded from this study, impacts to surface waters should be minimized to the extent practicable. Building on the analysis conducted in support of the FEIS effort, an updated water quality analysis will be required during the project development process.

Figure 2-4 Watersheds in Study Area Vicinity



Source: NRIS, 2011; USGS, 2011; DOWL HKM, 2011.

Wild and Scenic River Designation

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstandingly remarkable natural, cultural, and recreational values (ORVs) in a free-flowing condition for the enjoyment of present and future generations.

Rivers may be designated by Congress or, if certain requirements are met, the Secretary of the Interior. Each river is administered by either a federal or state agency. Designated segments need not include the entire river and may include tributaries. For federally administered rivers, the designated boundaries generally average one-quarter mile on either bank in the lower 48 states in order to protect river-related values. Rivers may be classified as wild, scenic, or recreational as follows:

- Wild river areas — Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
- Scenic river areas — Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- Recreational river areas — Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Within the study area, the Middle Fork of the Flathead River upstream from its confluence with the South Fork of the Flathead River near Hungry Horse is designated as a Recreational River. Its values include recreation, scenery, historic sites, unique fisheries, and wildlife such as grizzly bears and wolves. Figure 2-3 illustrates the portion of the Middle Fork River within the study area.

A Management Corridor for the Middle Fork Recreational River segment has been designated and is administered by the USFS. The management corridor boundary is depicted in the FEIS and ranges from approximately one-third to two-thirds of a mile in width in the vicinity of the study area. As noted in the 2002 Re-evaluation, efforts were underway by a group of federal, state, and county agencies to develop a river management plan at the time of the FEIS. The intent of the plan was to address fisheries, wildlife, recreation, agriculture, and water quality issues along the Flathead River from the confluence of the South Fork and the main stem to the

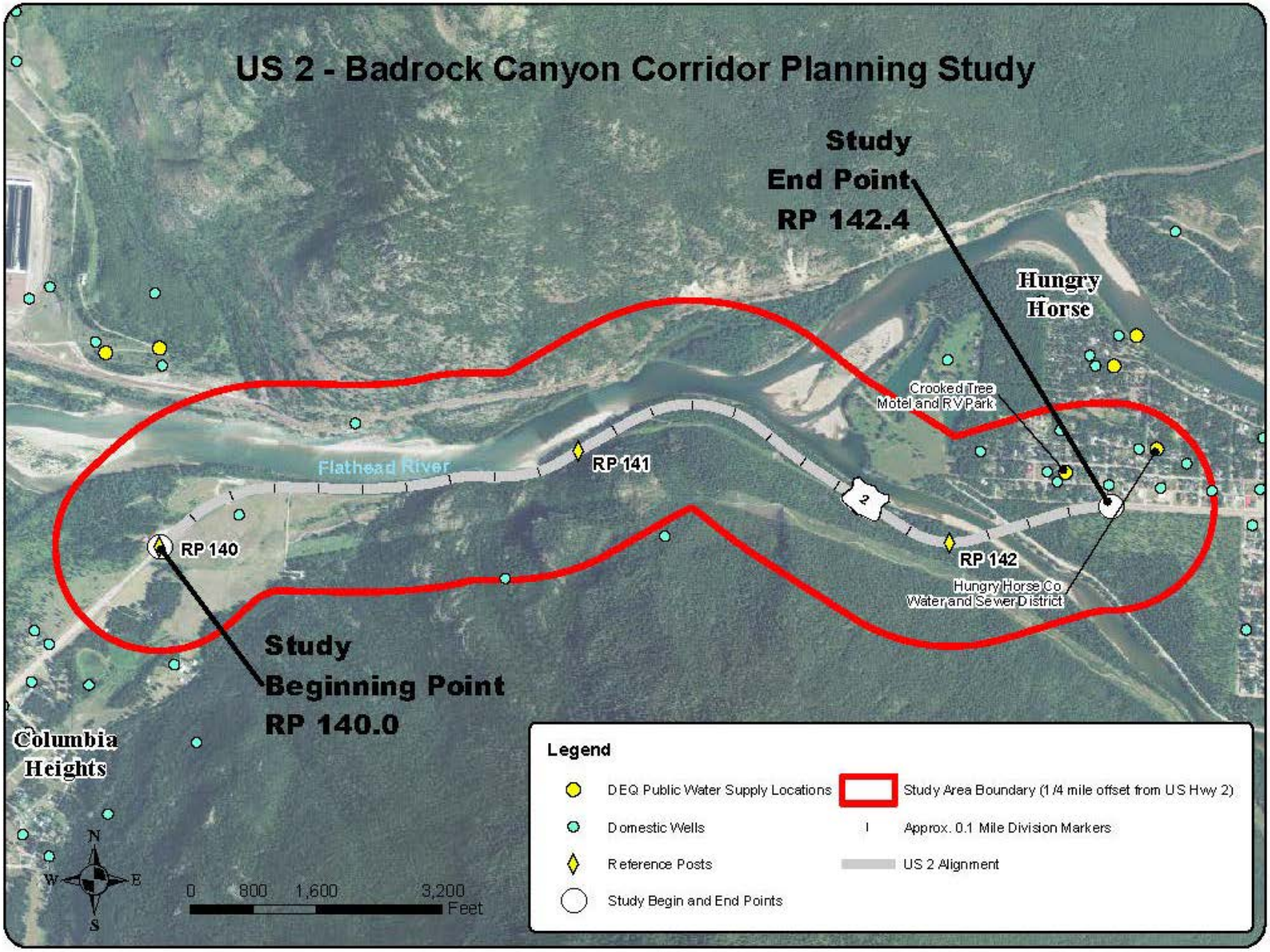
north shore of Flathead Lake. A river management plan was not developed and no regulatory changes relating to control of lands adjacent to the river were implemented at the time of the Re-evaluation.

If improvement options are forwarded from this study, MDT will coordinate with USFS during the project development process to identify potential effects on Middle Fork Flathead River ORVs and any measures needed to mitigate impacts to the Middle Fork Recreational River Corridor.

2.3.2 Groundwater

There are a number of domestic and public water supplies within the study area, as illustrated in Figure 2-5. Yellow markers indicate public water supplies (PWS) serving 25 or more people per day as currently listed in the DEQ PWS database. Blue markers indicate approximate locations of domestic wells based on historic drilling records listed in the Montana Bureau of Mines and Geology (MBMG) Groundwater Information Center (GWIC) database. The GWIC database does not provide information on current usage or status of domestic wells. Locations of PWS and domestic wells were not verified in the field.

Figure 2-5 Groundwater Sources



Source: NRIS, 2011; DEQ, 2011; MBMG, 2011; MDT, 2011; DOWL HKM, 2011.

The Hungry Horse County Water and Sewer District PWS system is located at the east end of the study area in Hungry Horse. This system consists of two wells and is classified by DEQ as a Community PWS. The two wells are connected to a storage tank and then distributed to connections in town. The source water is not treated prior to distribution. According to surveys conducted by DEQ, the PWS has 354 active service connections that serve approximately 1,000 residents of Hungry Horse.

The Crooked Tree Motel and RV Park system is classified by DEQ as a Transient PWS. Its single well is also located at the east end of the study area in Hungry Horse. According to surveys conducted by DEQ, the PWS has 28 active service connections that serve approximately 84 transient persons and three residents. The motel and RV park has been classified as operating on a seasonal basis. The source is connected to a pressure control tank and then distributed to the service connections. The source water is not treated prior to distribution.

Coliform bacteria have been identified in several routine samples collected in past years at both the Hungry Horse County Water and Sewer District and the Crooked Tree Motel and RV Park systems. The most recent water quality violations occurred in 2009 and 2011. Appendix 4 contains reports from the DEQ PWS database with violation records for the PWS systems during the period 1990 to 2011.

In addition to the two public water supplies currently listed in the DEQ database, a spring is located at Berne Memorial Park. The Berne Memorial Park spring is not considered a public water supply. Water samples collected from the Berne Memorial Park spring have frequently shown the presence of coliform bacteria. In 2000, DEQ classified the Berne Memorial Park spring as groundwater under the influence of surface water and issued an order requiring MDT to treat the water, find an approved water source, or permanently disconnect the spring box and eliminate access to the water. After considering public comment and a variety of alternatives for maintaining and/or treating the water from the spring, MDT concluded the quality of



Berne Memorial Park Spring

water from the spring could not be guaranteed for safe public consumption and removed the piping from the spring outlet in October 2001. Shortly after MDT removed the piping, new piping was installed by an unknown party and consumption of water from the spring continues. On May 24, 2002, MDT posted signs warning the public that water may be contaminated and advising against human consumption.

If improvement options are forwarded from this study, impacts to domestic and public water supplies should be avoided where practicable.

2.3.3 Irrigation

No irrigated farmland exists within the study area. Irrigation maps for Flathead County within the study area are provided in Appendix 5.

2.4 Wetlands (EO 11990)

The U.S. Army Corps of Engineers (USACE) defines wetlands as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Initial wetland delineations were conducted in 1993 in support of the FEIS. As part of the 2002 Re-evaluation effort, MDT retained a biological resources consultant to verify wetland boundaries delineated in 1993. Wetland delineations, mapping, and functional assessments for wetlands within the study area are provided in the Columbia Heights-Hungry Horse Draft Wetland Re-Evaluation Report prepared by Land & Water Consulting, Inc. on April 25, 2002 (Appendix 6). The 2002 report assessed wetlands in the study area using the 1999 MDT Montana Wetland Assessment Method, which assigns ratings for 12 wetland functions and values. Based on these ratings, wetlands were assigned an overall wetland category, with Category I being the highest (i.e., best) rating, and Category IV the lowest. The 2002 wetland report identified five wetland areas that occur within the current study area. Wetlands 4, 5B, 5D, and 6 were described as Category III wetlands, while Wetland Site 5C was identified as a Category II wetland. The 2002 report found that wetlands within the study area provide groundwater discharge/recharge, surface water storage, sediment/nutrient/toxicant removal, sediment/shoreline stabilization, production export/food chain support, and recreation potential. Additionally, Wetland 5C provides habitat for fish. Most sites were considered

moderately to highly disturbed due to fill placement, proximity to the highway and other roads, hydrological alteration, and/or degradation associated with foot traffic and garbage placement.

A subsequent wetland verification/delineation was conducted by Parsons Brinckerhoff in 2004. Wetland locations and non-wetland channel locations were generally identical to those mapped in 2002, with some minor border modifications where sites had expanded or decreased in size since 2002. The 2004 assessment determined that the south riverbank is approximately 85% non-wetland, with the remaining 15% consisting of scattered two to four-foot wide wetland fringe from approximately Berne Memorial Park east to the study terminus. The remainder of the riverbank to the west study terminus is considered non-wetland. It was noted that the wetland at (former) station 177 may offer minor (0.1 to 0.2 acre) mitigation potential via expansion. No final mapping or data sheets were produced as part of the 2004 effort.

Wetland delineations were not conducted in support of this Environmental Scan. If improvement options are forwarded from this study, updated wetland delineations conducted according to standard USACE procedures would be needed to verify wetland boundaries in the study area. Wetland impacts should be avoided to the greatest extent practicable. All unavoidable wetland impacts will be mitigated as required by the USACE and in accordance with Federal Highway Administration (FHWA) and MDT policies and Executive Order (EO) 11990, Protection of Wetlands.

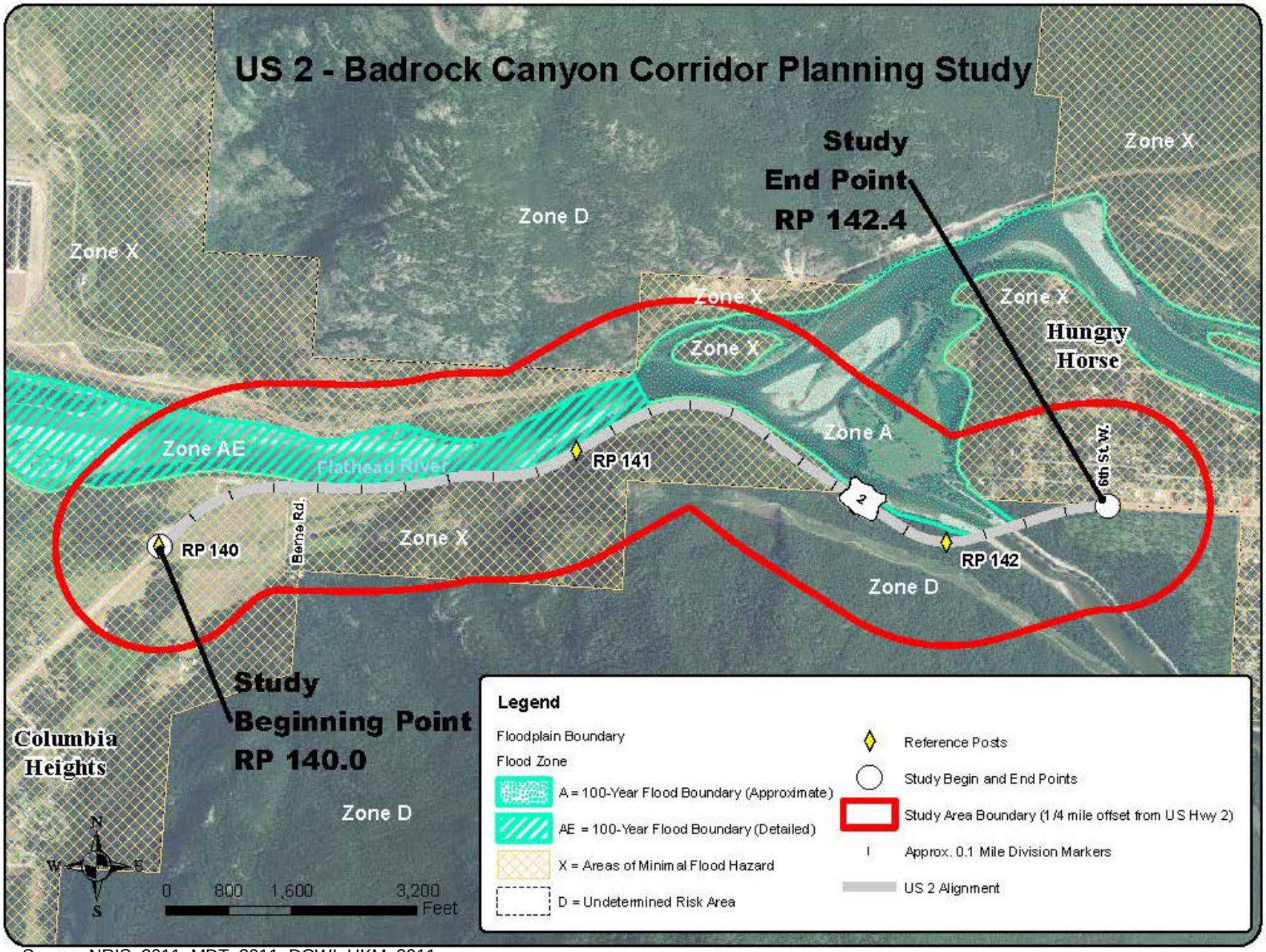
2.5 Floodplains (EO 11998) and Floodways

Executive Order (EO) 11988, Floodplain Management, requires federal agencies to avoid direct or indirect support of floodplain development whenever a practicable alternative exists. EO 11988 and 23 CFR 650 Part A require an evaluation of project alternatives to determine the extent of any encroachment into the base floodplain. The base flood (100-year flood) is the regulatory standard used by federal agencies and most states to administer floodplain management programs. A “floodplain” is defined as lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, with a one percent or greater chance of flooding in a given year. As described in FHWA’s floodplain regulation (23 CFR 650 Part A), floodplains provide natural and beneficial values serving as areas for fish, wildlife, plants, open space, natural flood moderation, water quality maintenance, and groundwater recharge.

Since the completion of the FEIS and Re-evaluation, the Federal Emergency Management Agency (FEMA) prepared updated floodplain mapping within the study corridor (effective September 2007). Within the study corridor, portions of US 2 encroach into the 100-year floodplain for the Flathead River and the portion of the South Fork of the Flathead River north of the current bridge crossing. Figure 2-6 illustrates floodplains within the study area. Appendix 7 contains FEMA floodplain mapping in the study area.

Impacts to floodplains would need to be identified and evaluated for improvement options forwarded from this study. Coordination with Flathead County would be conducted during the project development process to minimize floodplain impacts and obtain any necessary floodplain permits. Any increase in floodplain elevations within the study area may require a Letter of Map Revision (LOMR) and Conditional Letter of Map Revision (CLOMR) from FEMA.

Figure 2-6 Floodplains within Study Area



Source: NRIS, 2011; MDT, 2011; DOWL HKM, 2011.

2.6 Hazardous Substances

In support of this study, a review of the Montana Natural Resource Information System (NRIS) database was conducted to identify hazardous materials sites within the study area. Queries included leaking underground storage tank (LUST) sites, abandoned mine sites, remediation response sites, landfills, crude oil pipelines, EPA toxic release sites and Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS, also known as "Superfund") sites, and hazardous waste handlers.

As listed in Table 2.2, a single leaking underground storage tank site was identified within the US 2 study corridor. Figure 2-7 illustrates the location of this site.

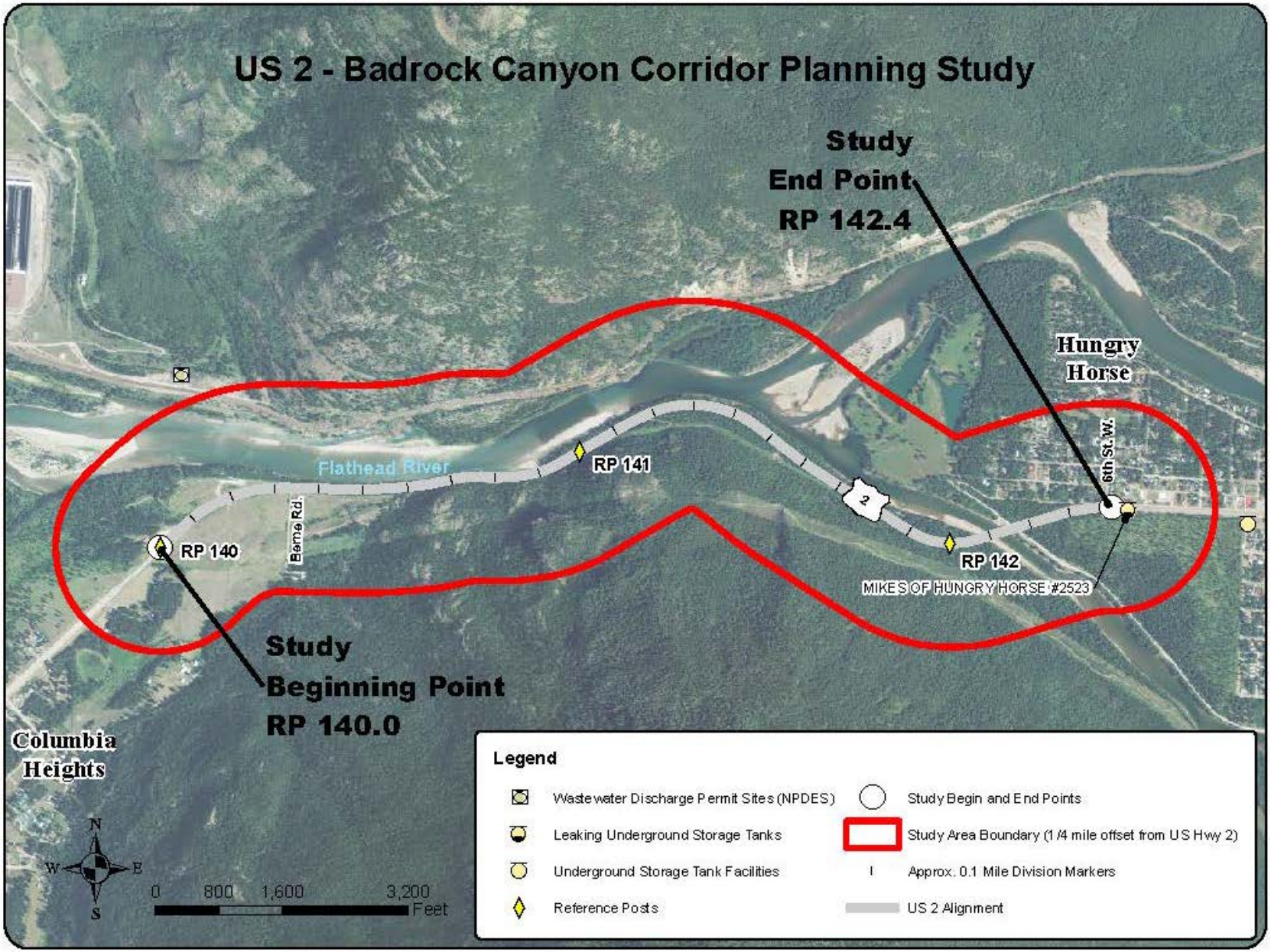
Table 2.2 DEQ Leaking Underground Storage Tank Sites

DEQ Facility Identification Number	Facility Name or Owner	Address	Confirmed Release Date	Resolution Date	Leaking Substance	Current Status	DEQ Leak No.
1509708	Mikes of Hungry Horse	8820 US Highway 2 E Hungry Horse	2/27/1995	7/29/1997	Gasoline	Four (4) tanks in use	1815

Source: NRIS, 2011.

Impacts to hazardous materials sites should be avoided. If contaminated soils or groundwater are encountered during construction activities, handling and disposing of the contaminated material will be conducted in accordance with applicable state, federal, and local laws and rules.

Figure 2-7 Hazardous Materials Sites in Study Area



Source: NRIS, 2011; MDT, 2011; DOWL HKM, 2011.

2.7 Air Quality

The Clean Air Act of 1970 established six criteria pollutants for which the U.S. Environmental Protection Agency (EPA) was required to set National Ambient Air Quality Standards. These national air quality standards are federal health-based standards that set allowable concentrations and exposure limits for each of the six criteria pollutants.

The Environmental Protection Agency and the Montana Department of Environmental Quality (DEQ), regulate the concentration of pollutants in the outdoor air and contaminant emissions from air pollution sources. DEQ and EPA designate regions as being either attainment or non-attainment areas for each individual air pollutant. Attainment status is a measure of whether air quality in an area complies with the National Ambient Air Quality Standards.

The study area is not located in a nonattainment area for any pollutant, including particulate matter (PM_{10} and $PM_{2.5}$), Carbon Monoxide (CO), Lead (Pb), or Sulfur Dioxide (SO_2). The study corridor is located approximately 1.5 miles directly east of the Columbia Falls Nonattainment Area for Particulate Matter (PM_{10}), which is illustrated in Appendix 8. If improvement options are forwarded from this study, an updated air quality analysis would be required based on current traffic volumes.

3.0 BIOLOGICAL RESOURCES

Using data from the 1995 FEIS and the 2002 Re-evaluation as a baseline guide, updated biological resources data was obtained from the USFWS list of endangered, threatened, proposed, and candidate species for Montana counties (January 2011); the Montana Natural Heritage Program (MNHP) database; and the Montana Fisheries Information System (MFISH) database. This limited data review is in no way intended to be a complete biological survey of the study area. If improvement options are forwarded from the study, an updated biological survey of the study area will need to be completed in accordance with accepted MDT practices during the project development process.

3.1 Fish and Wildlife

The 1995 FEIS identified a number of predators and furbearers expected to occur in the study area vicinity, including coyotes, red fox, skunk, bobcat, black and grizzly bears, wolf, muskrat, mink, marten, and wolverine. Ungulate species expected to occur in the study area vicinity

include white-tailed deer, mule deer, and elk. The FEIS noted that moose are infrequently observed in the area , while white-tailed deer frequently use pastures and haylands adjoining the right-of-way at the western end of the study area throughout the year and often cross US 2 to access the river.

Appendix 9 includes 2011 fish distribution reports from the MFISH database for the Flathead River and South Fork of the Flathead River. As noted in these reports, fish species commonly found within the Flathead River and South Fork of the Flathead River in the vicinity of the study area include bull trout, lake trout, lake whitefish, largescale sucker, mountain whitefish, pygmy whitefish, rainbow trout, slimy sculpin, and westslope cutthroat trout.

3.1.1 Threatened and Endangered Wildlife Species

The Endangered Species Act (ESA) was enacted by Congress in 1973 to protect and recover imperiled species and the ecosystems upon which they depend. In Montana, the ESA is administered by the U.S. Fish and Wildlife Service (USFWS). Under the ESA, species may be listed as either endangered or threatened. The term "endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. The USFWS also maintains a list of candidate and proposed species for possible addition to the federal list.

Three threatened and two candidate animal species are expected to occur in Flathead County, as listed in Table 3.1. Additionally, the study area falls within federally designated Critical Habitat for bull trout and Canada lynx.

Table 3.1 Threatened and Endangered Wildlife Species in Flathead County

Category	Scientific Name	Common Name	Federal Status
Fish	*Salvelinus confluentus*	Bull Trout	Listed Threatened, Designated Critical Habitat
Mammal	*Ursus arctos horribilis*	Grizzly Bear	Listed Threatened
Mammal	*Lynx canadensis*	Canada Lynx	Listed Threatened, Designated Critical Habitat
Insect	*Lednia tumana*	Meltwater Lednian Stonefly	Candidate
Mammal	*Gulo gulo luscus*	Wolverine	Candidate

Source: USFWS, 2011.

As part of the FEIS effort, a Biological Assessment (BA) was prepared in 1991 for four species that were federally listed at that time (grizzly bear, bald eagle, peregrine falcon, and gray wolf). Following formal consultation, the USFWS issued a Biological Opinion (BO) in 1992. A supplemental BA was completed in 2001 that addressed changes in species listings, including the listing of bull trout. In May 2011, the USFWS published a direct final rule delisting gray wolves in Montana. No threatened or endangered species were observed in the study area during field surveys conducted in 2004 and 2011.

If improvement options are forwarded from this study, consultation with USFWS will be required and an updated evaluation of potential impacts to all endangered, threatened, proposed, or candidate species will need to be completed during the project development process.

3.1.2 Wildlife and Fish Species of Concern

Montana animal species of concern are native animals breeding in the state that are considered to be "at risk" due to declining population trends, threats to their habitats, and/or restricted distribution. Designation of a species as a Montana animal species of concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to direct limited resources to priority data collection needs and address conservation needs proactively. Each species is assigned a state rank that ranges from S1 (greatest concern) to S5 (least concern). Other state ranks include SU (unrankable due to insufficient information), SH (historically occurred), and SX (believed to be extinct). State ranks may be followed by modifiers, such as B (breeding), N (non-breeding), or M (migratory).

Table 3.2 lists the animal species of concern documented by MNHP within Township 30 North, Range 19 West, Sections 6 and 7 and Township 30 North, Range 20 West, Sections 1, 11, and 12 in Flathead County as of October 2011 and confirmed during a resource agency meeting on January 9, 2012. Species previously listed in Section 3.1.1 are not repeated in Table 3.2.

Table 3.2 Animal Species of Concern in Study Area Vicinity

Group Name	Scientific Name	Common Name	State Rank
Mammals	*Martes pennanti*	Fisher	S3
Birds	*Falco peregrinus*	Peregrine Falcon	S3
	Haliaeetus leucocephalus	Bald Eagle	S3
Fish	*Oncorhynchus clarkii lewisi*	Westslope Cutthroat Trout	S2
	Prosopium coulteri	Pygmy Whitefish	S3
Invertebrates	*Prophysaon humile*	Smoky Taildropper	S2S3

Source: MNHP, 2011.

The FEIS and the Re-evaluation noted that the Couer d'Alene salamander (*Plethodon idahoensis*), a species of concern, may occur in the rock outcrops of Badrock Canyon, although its presence was not verified. A Couer d'Alene salamander survey was conducted at seeps and springs in the Berne Park area in 2004. Based on the survey, it was determined that limited habitat exists in the area and no salamanders were found at the time. No other species of concern were observed during field surveys conducted in 2004 and 2011.

If improvement options are forwarded from this study, an updated evaluation of potential impacts to all species of concern will need to be completed during the project development process.

3.1.3 Wildlife Movement and Traffic Concerns

The 1995 FEIS noted that local ungulate species are found in substantial numbers both north of the Flathead River and south of US 2. In 2011, FWP submitted comments to MDT noting that the area at the mouth of Badrock Canyon is often used by animals moving between Teakettle Mountain to the north and Columbia Mountain to the south. Animal species expected to use this corridor include mule and white-tailed deer, black and grizzly bears, elk, moose, mountain lions, wolves and many other smaller animals.

The Great Northern Environmental Stewardship Area (GNESA) group has identified and mapped wildlife movement areas of concern in this corridor. The group has identified Badrock Canyon as a key conservation area. Several locations within the study corridor are known wildlife crossing points for white-tailed deer, sheep, black bear, and mountain lion. Appendix 10 contains a map illustrating the Great Northern Environmental Stewardship Area.

Of the eight crashes involving wild animals that occurred in the corridor during the period 2006 to 2010, six (75 percent) occurred in the first-half-mile of the corridor from RP 140.0 to 140.5 west of the canyon. Similarly, maintenance data indicate that 11 (85 percent) of the 13 total carcasses collected from 2006 to 2010 were recorded in the first half-mile of the corridor from RP 140.0 to 140.5 No carcasses were observed during field surveys in 2004 and 2011 that might indicate usage or movement patterns or conflict points with vehicles.

During the project development process, MDT will coordinate with FWP to determine what measures may be needed to address wildlife crossings within the corridor.

3.2 Vegetation

The 1995 FEIS identified a number of distinct land types in the corridor, including wetlands, riparian communities, and upland communities. Field surveys conducted in 2004 indicated that general vegetation communities included disturbed right-of-way and pasture, coniferous forest, mixed conifer/deciduous forest, and cottonwood forest.

3.2.1 Threatened and Endangered Plant Species

As noted previously, the federal list of endangered and threatened species is maintained by the USFWS. Species on this list receive protection under ESA. As with animal species, the term "endangered" indicates a species that is in danger of extinction throughout all or a significant portion of its range, while the term "threatened" indicates a species that is likely to become endangered in the foreseeable future. Table 3.3 presents threatened and candidate plant species expected to occur in Flathead County.

Table 3.3 Threatened and Endangered Plant Species in Flathead County

Category	Scientific Name	Common Name	Federal Status
Flowering plant	*Silene spaldingii*	Spalding's catchfly	Listed Threatened
Conifers and Cycads	*Pinus albicaulis*	Whitebark pine	Candidate

Source: USFWS, 2011.

The FEIS noted that *Silene spaldingii* was observed in the vicinity of the study area in the 1890s, but has not been observed in more recent times. If improvement options are forwarded from the study, an evaluation of potential impacts to all endangered, threatened, proposed, or candidate plant species will need be conducted during the project development process.

3.2.2 Plant Species of Concern

Montana plant species of concern are native plants in the state that are considered to be "at risk" due to declining populations, threats to their habitats, and/or restricted distribution. As with animal species, designation of a species as a Montana plant species of concern is not a statutory or regulatory classification. Instead, these designations provide a basis for resource managers and decision-makers to direct limited resources to priority data collection needs and address conservation needs proactively. Each species is assigned a state rank that ranges from S1 (greatest concern) to S5 (least concern). Other state ranks include SU (unrankable due to insufficient information), SH (historically occurred), and SX (believed to be extinct). State ranks may be followed by modifiers, such as B (breeding), N (non-breeding).

Table 3.4 lists the plant species of concern documented by the MNHP within Township 30N, Range 19 West, Sections 6 and 7 and Township 30N, Range 20 West, Sections 1, 11, and 12 in Flathead County as of October 2011. These results are not intended as a final assessment of sensitive species within the study area or as a substitute for on-site surveys.

Table 3.4 Plant Species of Concern in Study Area Vicinity

Group Name	Scientific Name	Common Name	State Rank
Ferns and Fern Allies	*Asplenium trichomanes*	Maidenhair Spleenwort	SH
	Botrychium sp. (SOC)	Moonworts	S1S3
Flowering Plants - Dicots	*Castilleja cervina*	Deer Indian Paintbrush	SH
	Cirsium brevistylum	Short-styled Thistle	S1S2
	Lathyrus bijugatus	Latah Tule Pea	S1
Bryophytes	*Aloina brevirostris*	Aloina moss	S1
	Grimmia brittoniae	Britton's dry rock moss	S2

Source: MNHP, 2011.

The FEIS noted that *Asplenium trichomanes* was observed in the vicinity of the study area in the 1890s, but has not been observed in more recent times. As documented in the Re-evaluation, *Grimmia brittoniae* was discovered in May 1997 on a partially shaded, seasonally wet vertical cliff face near US 2 within Badrock Canyon. Prior to the 1997 discovery, the moss had not been seen in the Columbia Falls area since 1896.

If improvement options are forwarded from the corridor study, MNHP should be contacted to determine if any new plant species of concern have been documented in the study area and on-site surveys may need to be completed during the project development process to determine any potential impacts to listed plant species of concern.

3.2.3 Noxious Weeds

Noxious weeds can degrade habitat, choke streams, crowd native plants, create fire hazards, poison and injure livestock and humans, and foul recreation sites. Areas with a history of disturbance are at particular risk of weed encroachment. There are 32 noxious weeds and three regulated plant species in Montana, as designated by the Montana Statewide Noxious Weed List (effective September 2010). The 1995 FEIS notes that spotted knapweed is commonly found between Columbia Heights and Badrock Canyon and can also be found along the existing US 2 right-of-way at the South Fork Flathead River crossing.

If improvement options are forwarded from the study, the study area will need to be surveyed for noxious weeds during the project development process. Any construction activities resulting from a forwarded project should abide by the MDT Roadside Vegetation Management Plan – Integrated Weed Management Component. County Weed Control Supervisors should be contacted prior to any construction activities regarding specific measures for weed control. To reduce the spread and establishment of noxious weeds and to re-establish permanent vegetation, areas disturbed by any project will be seeded with desirable plant species.

4.0 SOCIAL AND CULTURAL RESOURCES

4.1 Demographic and Economic Conditions

Under the National and Montana Environmental Policy Acts (NEPA/MEPA) and associated implementing regulations, state and federal agencies are required to assess potential social and economic impacts resulting from proposed actions. FHWA guidelines also recommend consideration of impacts to neighborhoods and community cohesion, social groups including minority populations, impacts on the local and/or regional economies, as well as growth and development that may be induced by transportation improvements. Demographic and economic information presented in this section is intended to assist in identifying human populations that might be affected by improvements to US 2 within the study corridor.

Although not always directly connected, regional economic growth and growth in human populations often correlate with growth in traffic volumes. Demographic and economic growth trends provide a context for understanding changes in traffic volumes over time. For purposes of this study, however, population growth rates are not used directly in calculating projected traffic volumes.

4.1.1 Population Characteristics

The study area is located in Flathead County, Montana. Flathead County is the state's third most populous county and one of the fastest growing counties in the state. As documented in the FEIS, Flathead County experienced strong population growth during the 1980s and 1990s. Continuing this trend, Flathead County grew faster than the State of Montana and the United States over the 2000 to 2010 period, as presented in Table 4.1. Five of the six communities in the study area vicinity exceeded Flathead County's growth rate over this period, while Hungry Horse declined in population.

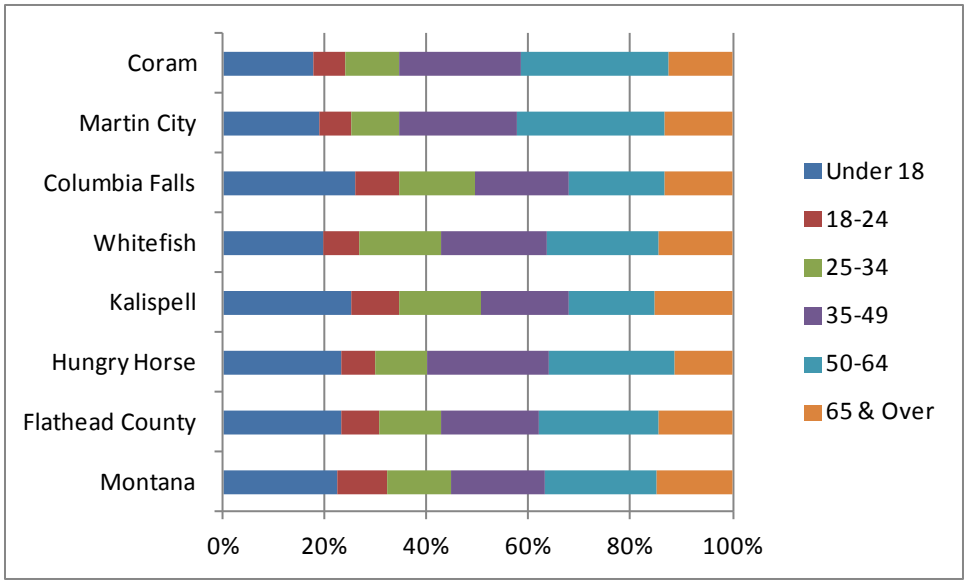
Table 4.1 Population Growth (2000 – 2010)

Location	Population		Percent Growth	Compound Annual Growth Rate
	2000	2010		
United States	281,421,906	308,745,538	9.7%	0.93%
Montana	902,195	989,415	9.7%	0.93%
Flathead County	74,471	90,928	22.1%	2.02%
Kalispell	14,223	19,927	40.1%	3.43%
Whitefish	5,032	6,357	26.3%	2.36%
Columbia Falls City	3,645	4,688	28.6%	2.55%
Hungry Horse CDP	934	826	-11.6%	-1.22%
Martin City CDP	331	500	51.1%	4.21%
Coram CDP	337	539	59.9%	4.81%

Source: MDT, 2011; US Census Bureau, 2011. CDP = Census Designated Place

As presented in Figure 4-1, age distribution varies among communities in the study area vicinity. The Cities of Columbia Falls and Kalispell have a larger percentage of children under the age of 18 while the communities of Coram, Martin City, and Hungry Horse have a larger percentage of people in the 35 to 64 age range as compared to Flathead County and the state of Montana.

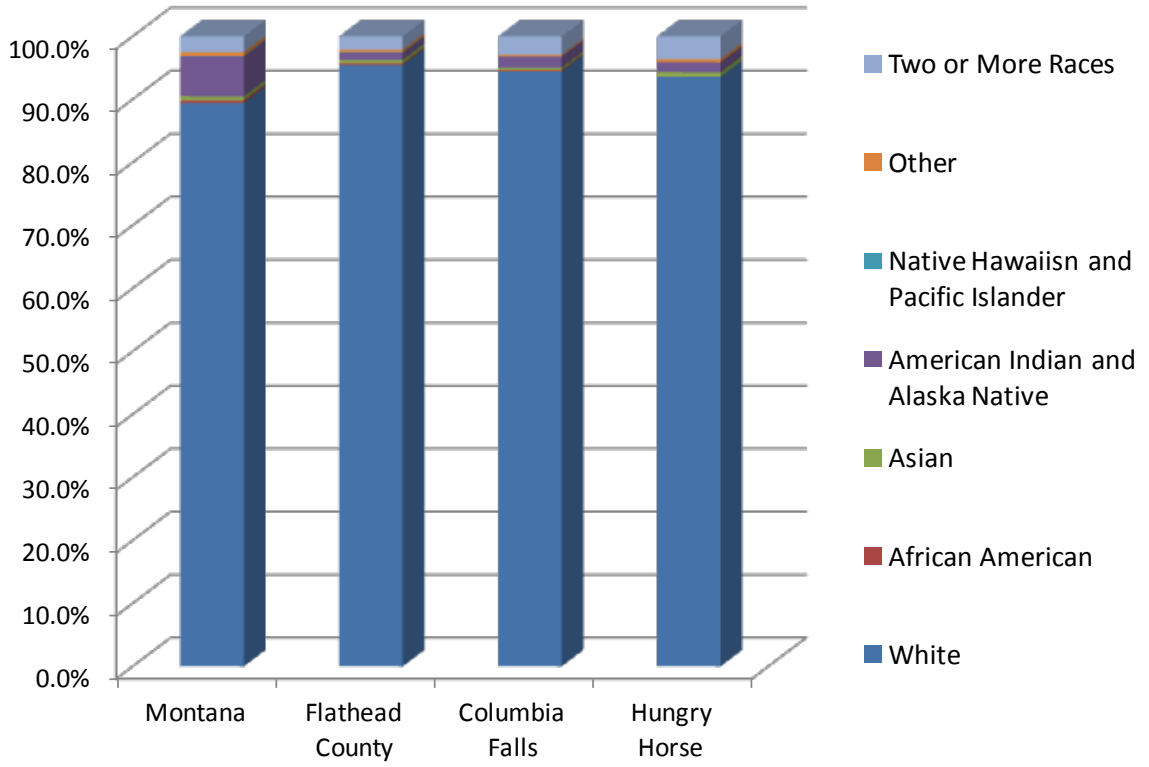
Figure 4-1 Age Distribution (2010)



Source: US Census Bureau, 2011.

A greater percentage of people identify themselves as white, and American Indians account for a smaller percentage of the population in the study area vicinity and in Flathead County as compared to Montana as a whole. Racial composition is illustrated in Figure 4-2.

Figure 4-2 Race Alone or in Combination with Other Races (2010)



Source: US Census Bureau, 2011.

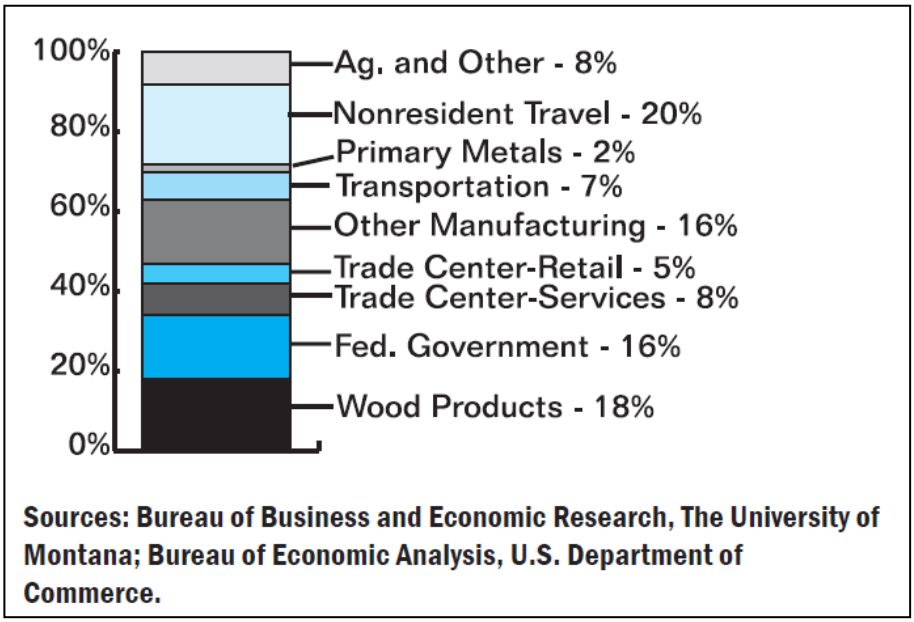
In addition to the community of Hungry Horse, which is designated as a Census Designated Place (CDP), the study area overlaps Census tracts 1, 2.01, and 2.02 as defined by the 2010 US Census. Census tracts are composed of smaller Census blocks. Appendix 11 contains a map illustrating Census tract and Census block boundaries within the study area vicinity and a spreadsheet presenting racial composition within these areas. Apart from the CDP of Hungry Horse, Census blocks overlapping the study area are sparsely populated, with low numbers of racial minority populations.

4.1.2 Employment and Income

Figure 4-3 illustrates Flathead County's labor income from basic industries as identified by the Montana Bureau of Business and Economic Research (BBER). The largest income-generating industries in the county from 2008 to 2010 were non-resident travel, federal government, wood products, and other manufacturing. The area is a minor retail trade center for northwestern Montana. Shopping, medical, and entertainment establishments in Kalispell and

Whitefish serve nearby communities. Larger trade centers in the greater region include Missoula and Spokane, WA.

Figure 4-3 Labor Income in Basic Industries, Flathead County (2008 – 2010)



Source:; BBER, 2011.

According to the 2006-2010 American Community Survey five-year estimates, the majority of residents in the immediate study area vicinity commuted to a location outside their place of residence using a motorized vehicle. Commuters generally drove alone, with mean travel time to work ranging from 13 to 24 minutes. Table 4.2 presents commuting statistics for the resident populations of Columbia Falls, Coram, Hungry Horse, and Martin City.

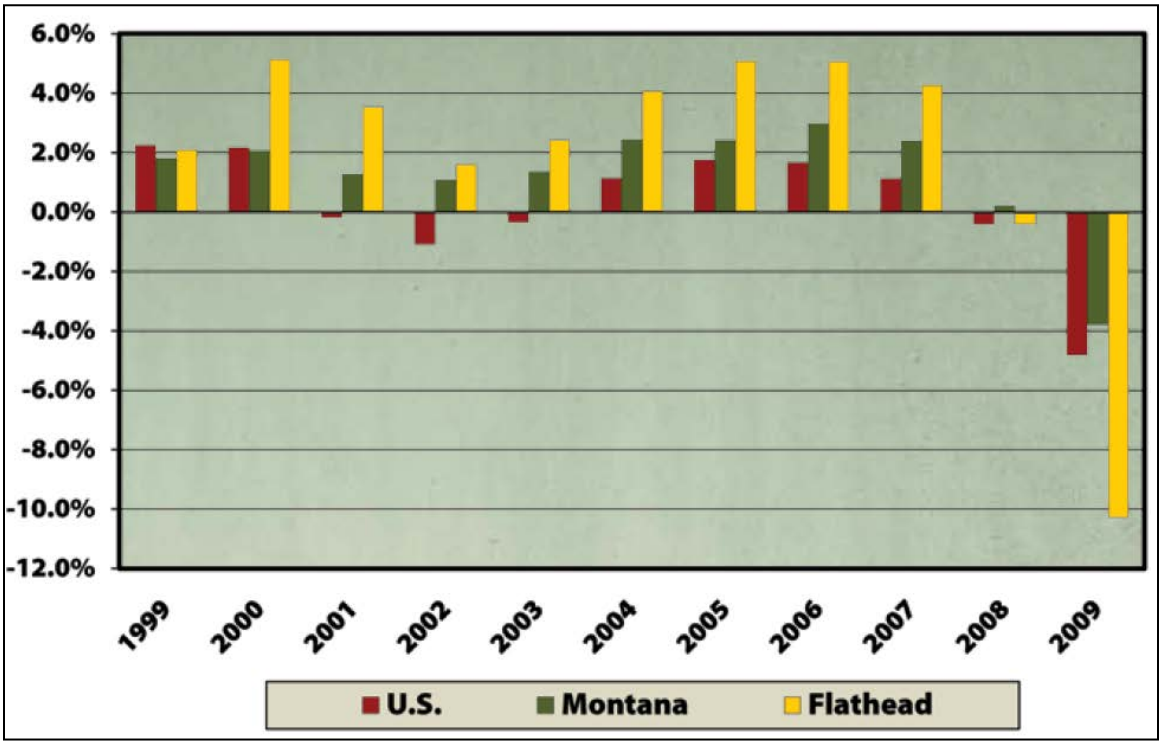
Table 4.2 Commuting Statistics (2006-2010)

Subject		Columbia Falls	Coram	Hungry Horse	Martin City
Place of Work	Worked in place of residence	38.9%	4.2%	6.2%	26.6%
	Worked outside place of residence	61.1%	95.8%	93.8%	73.4%
Means of Transportation	Car, truck, or van	92.7%	95.8%	100.0%	73.4%
	Drove alone	77.3%	95.8%	82.4%	73.4%
	Carpooled	15.3%	0.0%	17.6%	0.0%
	Public Transportation	0.5%	0.0%	0.0%	0.0%
	Walked	2.4%	4.2%	0.0%	20.9%
	Bicycle	0.7%	0.0%	0.0%	0.0%
	Taxicab, motorcycle, or other means	0.0%	0.0%	0.0%	0.0%
	Worked at home	3.8%	0.0%	0.0%	5.6%
Travel Time to Work	Less than 10 minutes	34.7%	8.8%	54.2%	3.6%
	10 to 14 minutes	20.6%	9.6%	0.0%	56.9%
	15 to 19 minutes	4.8%	18.8%	1.8%	13.2%
	20 to 24 minutes	16.0%	11.3%	27.8%	0.0%
	25 to 29 minutes	7.3%	0.0%	14.5%	0.0%
	30 to 34 minutes	14.7%	23.8%	1.8%	18.6%
	35 to 44 minutes	0.0%	27.9%	0.0%	0.0%
	45 to 59 minutes	0.0%	0.0%	0.0%	7.8%
	60 or more minutes	1.8%	0.0%	0.0%	0.0%
	Mean travel time to work (minutes)	15.0	23.8	12.7	16.9

Source: US Census Bureau, 2011.

As illustrated in Figure 4-4, Flathead County experienced a decrease in employment of over 10 percent in 2009, more than double the state and national trends compared to 2008. This followed years of employment growth significantly higher than the state or nation between 2000 and 2007.

Figure 4-4 Percent Change in Employment (1999-2009)



Source: Montana Department of Labor, 2011.

As of September 2011, Flathead County had a higher rate of unemployment than the state as a whole. Table 4.3 presents employment statistics for Flathead County and Montana.

Table 4.3 Employment Statistics (2011)

Area	Total Labor Force	Employed	Unemployed	Unemployment Rate
Montana	502,217	468,156	34,061	6.8
Flathead County	43,404	39,097	4,307	9.9

Source: MT Department of Labor and Industry, County Labor Force Statistics, September 2011.
Note: Data is not seasonally adjusted.

According to the 2010 American Community Survey (ACS) estimates available from the U.S. Census Bureau, 14.4% of the Flathead County population was estimated as living below the poverty level, approximately equivalent to the state poverty level of 14.6%. American Community Survey estimates for the 2005-2009 period indicate that 22.3% of the Hungry Horse civilian labor force was estimated to be unemployed and approximately 36.4 % was estimated to earn an income below the poverty level.

4.1.3 Neighborhoods and Community Cohesion

The unincorporated community of Hungry Horse is the only community located within the study area. US 2 generally runs through the center of Hungry Horse. Within the study area, US 2 is located along the southern boundary of the community. A number of businesses flank US 2 through Hungry Horse, while residential neighborhoods are located to the north and south of the highway. If a project is forwarded from the study, impacts to neighborhoods and community cohesion should be considered.

4.2 Environmental Justice

Title VI of the US Civil Rights Act of 1964, as amended (U.S.C. 2000(d)) and Executive Order (EO) 12898 require that no minority or low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects resulting from a project.

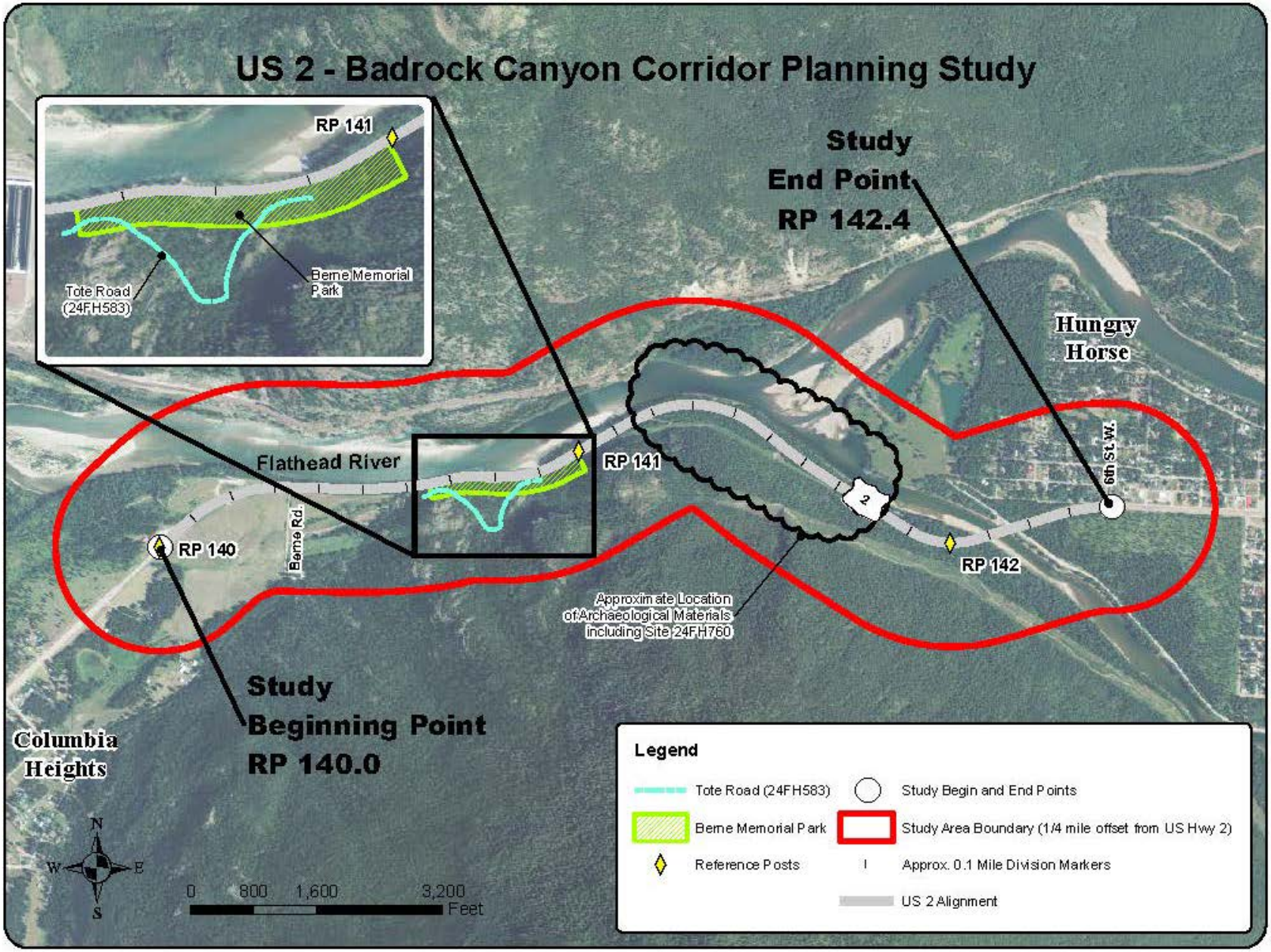
Based on a review of available block-level Census data, racial minority and low-income persons likely live in the vicinity of the study corridor. Concentrations of racial minorities and low-income populations are likeliest to occur at the east end of the study area within the community of Hungry Horse. The population within the study area does not differ significantly from Flathead County and the state of Montana in terms of racial diversity, although the community of Hungry Horse has a higher unemployment rate and a higher percentage of the population living below the poverty level. If a project is forwarded from the study, environmental justice issues will need to be further evaluated during the project development process.

4.3 Cultural and Archaeological Resources

Federally-funded projects forwarded from the study would require a cultural resource survey of the Area of Potential Effect (APE) as specified in Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800). Section 106 requires federal agencies to "take into account the effects of their undertakings on historic properties." The purpose of the Section 106 process is to identify historic properties that could be affected by the undertaking, assess the effects of the project and investigate methods to avoid, minimize or mitigate adverse effects on historic properties. Special protections to these properties are afforded under Section 4(f) of the Transportation Act.

Three known cultural features exist in Badrock Canyon, including the historic Tote Road (24FH583); a pre-contact archaeological site (24FH760); and the Badrock Canyon Cultural Landscape. These features are illustrated in Figure 4-5. Information about cultural features in the study area is drawn from previous studies; no field surveys were conducted for the Environmental Scan Report.

Figure 4-5 Cultural and Archaeological Resources in Study Area



Source: MDT, 2011; MDT, 1995; Parsons Brinkerhoff, 2004; DOWL HKM, 2011.

As noted in the FEIS, the Tote Road was built in 1890-1891 as a supply road for construction of the Great Northern Railway. The Tote Road served as a travel route through Badrock Canyon until it was replaced by another road in 1911. The western and eastern termini of the Tote Road are located several hundred feet to the south of the current US 2 alignment; the middle portion of the Tote Road arcs further south on the lower slopes of Columbia Mountain. The Tote Road is considered eligible for listing on the National Register of Historic Places (NRHP).

As noted in the 2002 Re-evaluation, site 24FH760 is located on both sides of the existing US 2 alignment east of Berne Memorial Park. The site is marked by lithic materials. A surficial inspection of site 24FH760 and the south bank of the Flathead River within the study area was conducted in 2004. The survey documented additional archaeological materials in the river bank upstream (east) of site 24FH760. The study determined that more archaeological deposits are likely present upstream and downstream from site 24FH760. Site 24FH760 is considered eligible for listing on the NRHP.

The Confederated Salish and Kootenai Tribes (CSKT) consider the entire Badrock Canyon to have special historical and cultural significance. The cliffs in Badrock Canyon are considered extremely important to members of the CSKT. As referenced in the Re-evaluation, the Chairman of the CSKT sent correspondence to MDT in 2000 stating that the CSKT consider Badrock Canyon to be a sacred cultural landscape. To date, the canyon has not yet been evaluated for eligibility for listing on the NRHP.

If improvement options are forwarded from the study, impacts to significant cultural and archaeological resources should be avoided or minimized to the greatest extent practicable. Additional archaeological testing would be necessary to establish the nature and significance of materials discovered in proximity to Site 24FH760. Additional assessment would also be needed to determine the canyon's eligibility for listing on the NRHP as a cultural landscape, the cultural landscape's physical extents and defining characteristics, and the feasibility of avoiding or minimizing impacts to the landscape. Consultation with the CSKT and SHPO would be required to identify mitigation measures for any unavoidable impacts to cultural and archaeological resources.

4.4 Land Ownership and Land Use

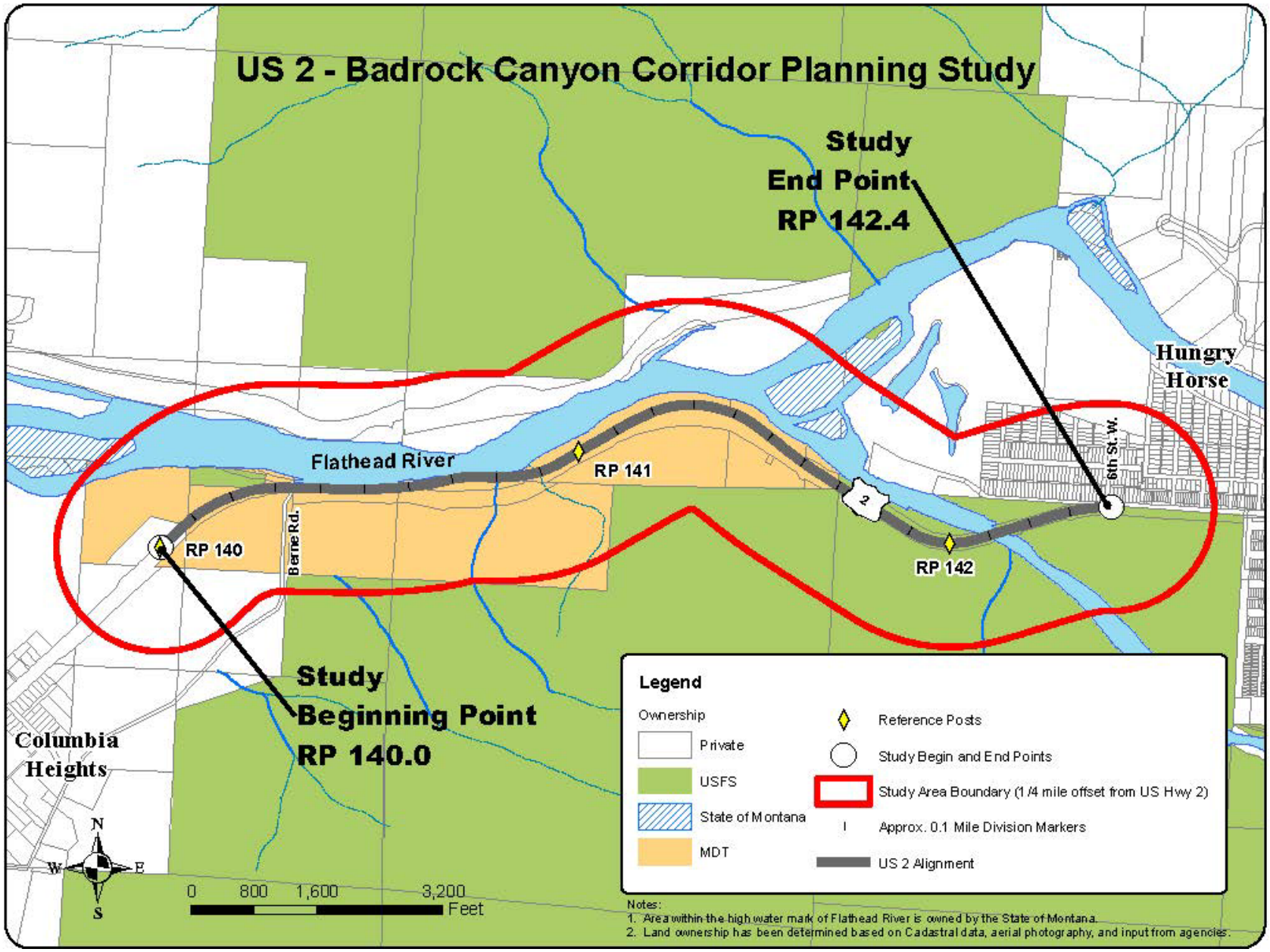
Within the study area, US 2 is bordered by land held in private ownership, lands owned by MDT, and land areas administered by USFS. Figure 4-6 illustrates land ownership within the study area. As noted in the Re-evaluation, MDT acquired a series of parcels owned by the Simpson Family Trust following completion of the FEIS. The parcels comprised a large private landholding south of US 2 between

Berne Road and Hungry Horse. This acquisition provided MDT with right-of-way for roadway improvements and prevented the development of incompatible land uses along US 2. MDT obtained an easement from USFS for the portions of US 2 traversing USFS land areas at the eastern end of the study corridor.

Land uses within the study area are illustrated in Figure 4-7 and generally include pasture land at the western end of the study area, exposed rock outcroppings and forested areas through the canyon, and residential areas at the east end of the study area.

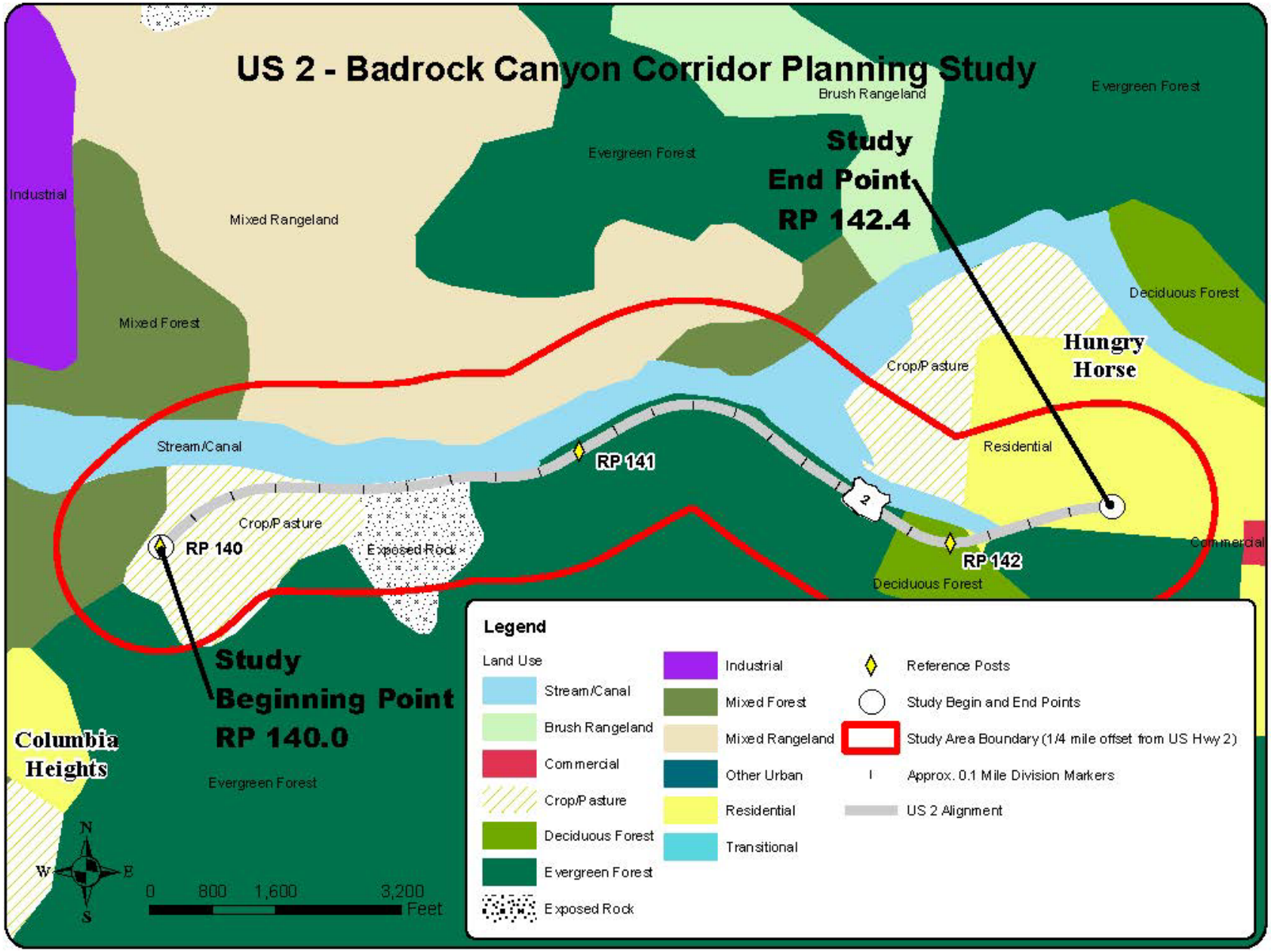
The land adjacent to US 2 within the study area is currently zoned by Flathead County as a scenic corridor, which is defined in the 2011 Flathead County Zoning Regulations as an overlay or standing district intended to protect the scenic vistas and provide greater traffic safety along the highway corridors by restricting the number, size and location of outdoor advertising signs and billboards.

Figure 4-6 Land Ownership in Study Area



Source: NRIS, 2011; MDT, 2012; DOWL HKM, 2012.

Figure 4-7 Land Use in Study Area



Source: NRIS, 2011; MDT, 2011; DOWL HKM, 2011.

4.5 Recreational Resources

The US 2 – Badrock Canyon corridor serves as a gateway to a variety of recreational opportunities. US 2 is the only route accessing the West Glacier entrance to Glacier National Park. The FEIS noted that dispersed recreational opportunities on public lands near the corridor include hunting, hiking, fishing, cross country skiing, floating, berry picking, and camping.

In 1953, the Simpson family conveyed a 100-foot-wide strip of land to the State Highway Commission for use as "a roadside park (including use of a part thereof as a Port of Entry station) and for a highway right of way."[1] The bargain and sale deed, which is contained in Appendix 12, specified that the property could not be used for any commercial purposes. This area is known as Berne Memorial Park and is used by hikers and picnickers. Although the bargain and sale deed indicates that the roadside park area is offset 100 feet from the roadway centerline, the park is generally understood to include the roadside pullout directly adjacent to US 2.

Anglers, boaters, and other recreational users access the Flathead River throughout the study area. A designated river access site is located at the west end of the corridor near RP 140.2 on land owned and maintained by USFS. Vehicles can enter the site directly from US 2 to access a parking area and boat ramp. Dispersed access sites are located along the highway corridor, primarily from Berne Memorial Park upstream to the South Fork Flathead River Bridge. A rock outcropping known as Fisherman's Rock is located directly adjacent to the Flathead River north of US 2 and Berne Memorial Park. An unpaved pullout near RP 141.4 provides access from US 2 to the river. A small frontage road under the South Fork Flathead River Bridge near RP 142.1 also provides river access.



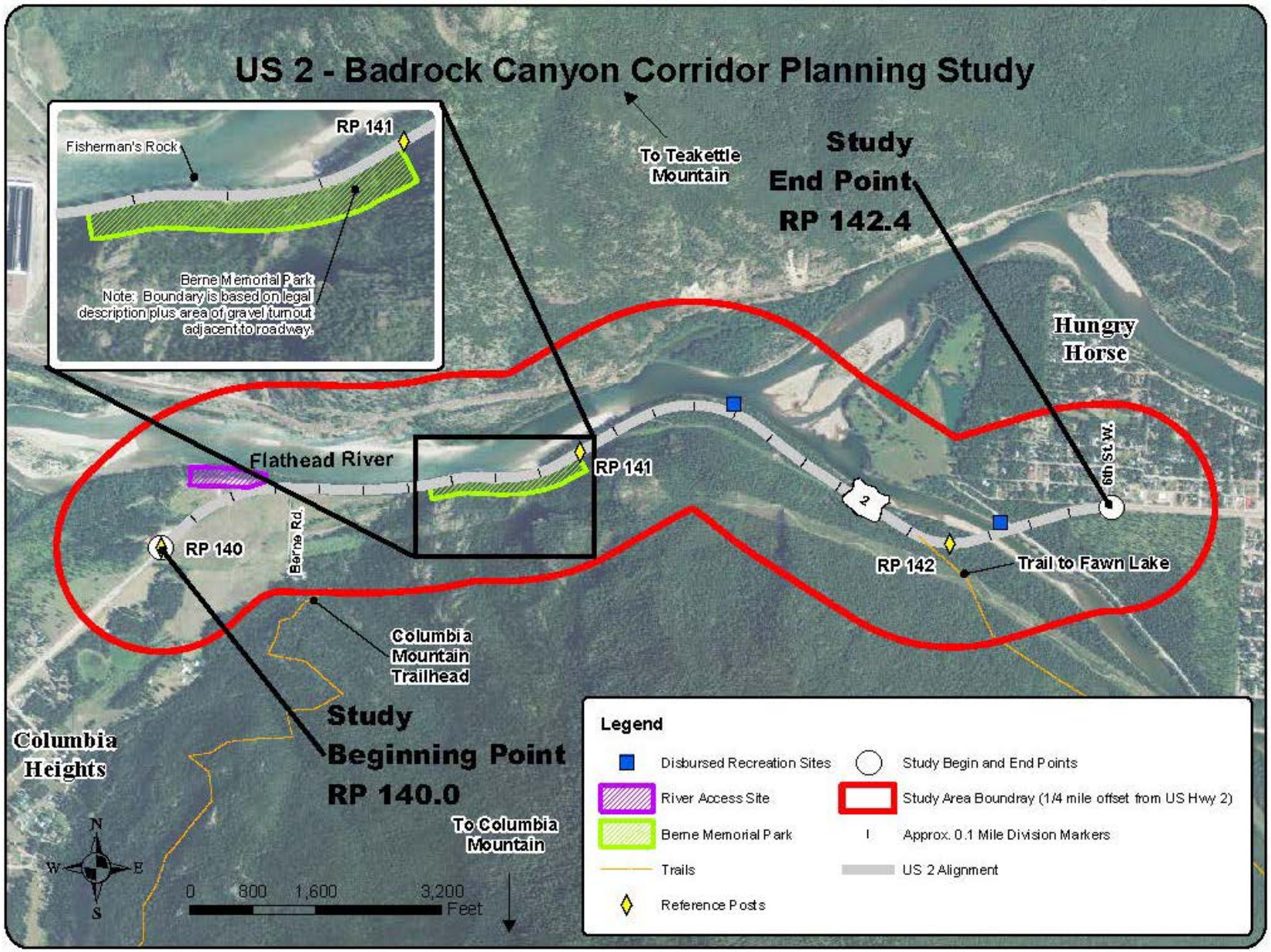
Fisherman's Rock

[1] Following execution of the bargain and sale deed, the Port of Entry station was located west of the canyon closer to Columbia Falls.

The FEIS noted that two USFS trails can be accessed from US 2 in the study area. The trailhead for the Columbia Mountain trail is located at the western end of the study area and may be accessed from US 2 via Berne Road or Monte Vista Drive. A second trail that leads to Fawn Lake can be accessed by a primitive road that joins US 2 near the bridge crossing the South Fork of the Flathead River. Recreational resources in the study area are illustrated in Figure 4-8.

Impacts to recreational access will be considered during the project development process if improvement options are forwarded from this study.

Figure 4-8 Recreational Resources in Study Area Vicinity



Source: MDT, 2012; MDT, 1995; USFS, 2012; DOWL HKM, 2012.

4.6 Protected Resources

4.6.1 Section 4(f) Resources

Section 4(f) refers to the section of the Department of Transportation Act of 1966 (49 USC 303) that established the requirement for consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites in transportation project development. Prior to approving a project that "uses" a Section 4(f) resource, FHWA must find that there is no prudent or feasible alternative that completely avoids Section 4(f) resources. A "use" occurs when land is permanently incorporated into a transportation facility or when there is a temporary occupancy of the land that is adverse to a Section 4(f) resource. Constructive "use" can also occur when a project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are "substantially impacted." FHWA cannot approve impacts to these resources unless there is "no feasible and prudent alternative" and the proposed plan includes "all possible planning to minimize harm to the property."

The FEIS evaluated 11 properties located within the general corridor for their eligibility as Section 4(f) resources. Of these, only Berne Memorial Park and the Tote Road were determined eligible for Section 4(f) protection.

Since that time, additional cultural, archaeological, and recreational resources have been identified in the corridor. Known and potential Section 4(f) resources within the study area are listed in Table 4.4 and illustrated in Figure 4-7. Fisherman's Rock was listed in the FEIS as a feature of Berne Memorial Park and is therefore not listed separately in Table 4.3.

Table 4.4 Known and Potential Section 4(f) Resources within the Study Area

Name	Type of 4(f) Resource
Tote Road	Historic
Archaeological Site (24FH760)	Historic
Other potential archaeological site(s) near Site 24FH760	Historic
Badrock Canyon Cultural Landscape	Historic
Berne Memorial Park	Recreational
Columbia Mountain Trailhead	Recreational
Fawn Lake Trailhead	Recreational

Source: DOWL HKM, 2011.

4.6.2 Section 6(f) Resources

Section 6(f) of the Land and Water Conservation Funds (LWCF) Act applies to all projects that impact recreational lands purchased or improved with land and water conservation funds. The Secretary of the Interior must approve any conversion of property acquired or developed with assistance under this Act to a use other than public outdoor recreation. Based on a review of the LCWF list by county published by FWP, there are no LWCF sites located within the study area.

4.7 Noise

Badrock Canyon is relatively undeveloped, although there are a number of residential and commercial developments at the western and eastern ends of the study area near Columbia Heights and Hungry Horse. In addition to these developments, the FEIS and Re-evaluation identified Berne Memorial Park as a sensitive noise receptor. If improvement options are forwarded from the study, the noise analysis would need to be updated.

4.8 Visual Resources

Visual resources refer to the landscape character (what is seen), visual sensitivity (human preferences and values regarding what is seen), scenic integrity (degree of intactness and wholeness in landscape character), and landscape visibility (relative distance of seen areas) of a geographically defined view shed.

As detailed in the FEIS, the western end of the study area is characterized by gently rolling terrain bordered by steep mountains. Teakettle Mountain to the north and Columbia Mountain to the south are dominant visual features. Extending on either side of US 2, grasslands and pasturelands are interspersed with stands of cottonwoods, aspens, and conifers. Moving east into Badrock Canyon, US 2 is bordered by the Flathead River to the north and the lower slopes of Columbia Mountain to the south. Railroad tracks are visible across the river to the north. Steep rock outcroppings serve as the dominant visual element in the Berne Memorial Park vicinity. Thick forest cover extends on both sides of US 2 east of Berne Memorial Park to Hungry Horse and generally obstructs views of the river in this area.

If improvement options are forwarded from this study, further evaluation of the potential effects on visual resources would be conducted and effects would be minimized to the extent practicable.

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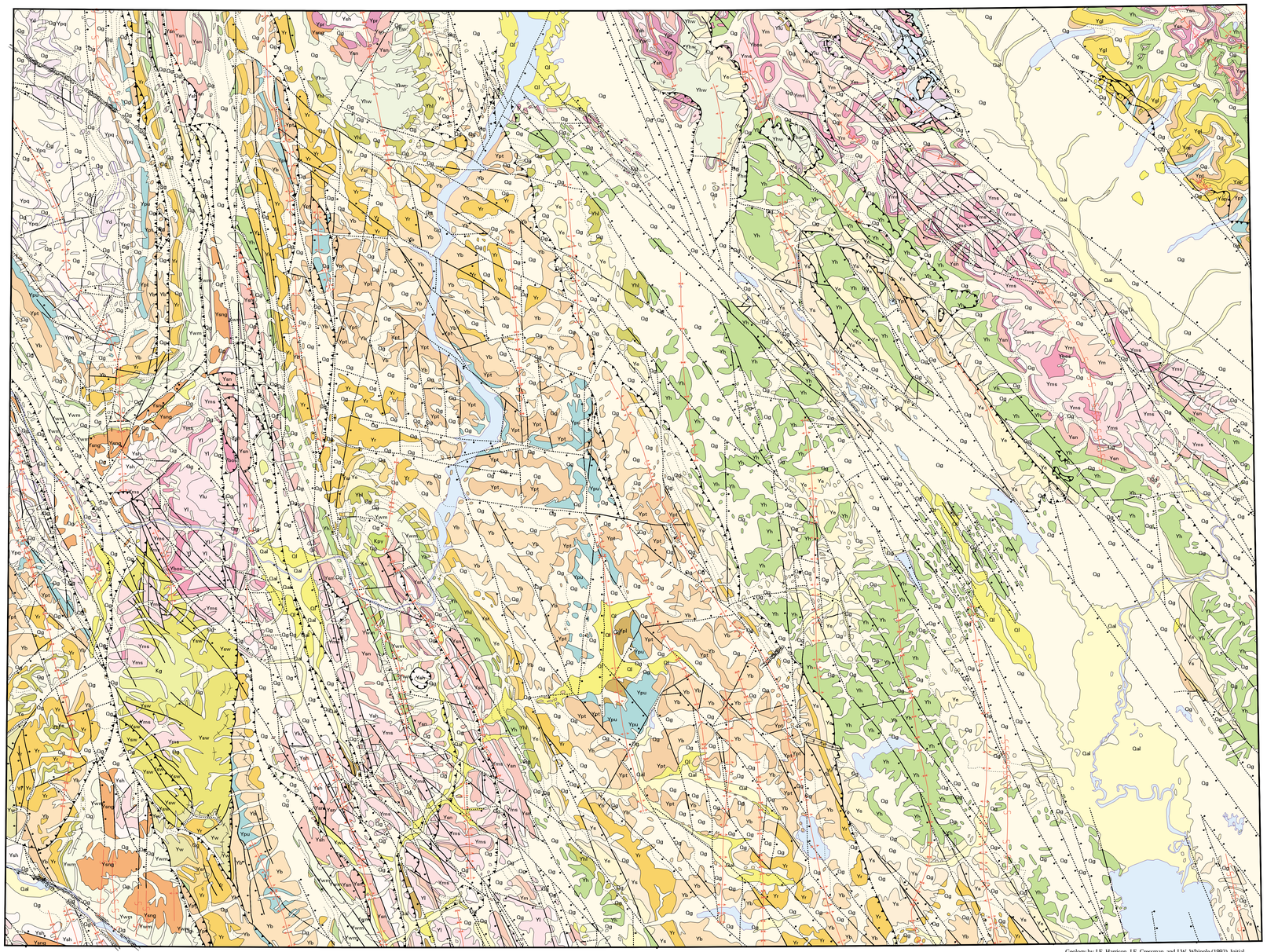
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APPENDIX 1

Geologic Map of the Kalispell Quadrangle

U.S. Department of the Interior
U.S. Geological Survey

Miscellaneous Investigations Series Map I-2267
Database, version 1.0



map projection: Transverse Mercator

Geology by J.E. Harrison, J.E. Cressman, and J.W. Whipple (1992). Initial digitizing by EROS Data Center (pre-1994). Digital database by H.Z. Kayser (Information Systems Support, Inc.), P.D. Derkey (USGS), assisted by R.J. Miller (USGS). Database approved for publication October 5, 2000.

Geologic and Structure Maps of the Kalispell 1° x 2° Quadrangle, Montana, and Alberta and British Columbia: A Digital Database

By
Jack E. Harrison, Earle R. Cressman, and James W. Whipple
Digital database by
Helen Z. Kayser, Pamela D. Derkey, and EROS Data Center

2000
(map originally published in 1992)

Scale 1:250000

0 5 10 15 20 25 30 35
Kilometers

0 5 10 15 20 25 30 35
Miles

Explanation

DESCRIPTION OF MAP UNITS

- Qal - Alluvial deposits (Holocene)
- Qs - Landslide deposits (Holocene)
- Qg - Glacial and fluvioglacial deposits (Pleistocene)
- Ql - Lake sediments (Pleistocene)
- Tk - Kishenehn Formation (Oligocene)
- Kg - Felsic plutons (Cretaceous)
- Ks - Syenite (Cretaceous)
- Kpy - Pyroxenite (Cretaceous)
- Jf - Fernie Formation (Jurassic)
- Mz - Mesozoic sedimentary rocks, undivided
- PPr - Rocky Mountain Formation (Permian and Pennsylvanian?)
- Mu - Mississippian sedimentary rocks, undivided
- Du - Devonian sedimentary rocks, undivided
- Cu - Middle Cambrian sedimentary rocks, undivided
- Dcu - Devonian and Middle Cambrian sedimentary rocks, undivided
- ZYd - Mafic sills (Late and Middle Proterozoic)

Libby Formation (Middle Proterozoic)

- Ylu - Upper part
- Yl - Libby Formation, undivided

- Ym - McNamara Formation (Middle Proterozoic)
- Ybo - Bonner Quartzite (Middle Proterzoic)
- Ybos - Siltite facies

Mount Shields Formation (Middle Proterozoic)

- Ymsu - Upper part
- Yms - Mount Shields Formation, undivided
- Ysh - Shepard Formation (Middle Proterozoic)
- Ypr - Purcell Lava (Middle Proterozoic)

Snowslip Formation (Middle Proterozoic)

- Ysn - Red and green facies
- Ysng - Green facies

Wallace Formation (Middle Proterozoic)

- Ywu - Upper member
- Ywm - Middle member
- Ywl - Lower member
- Yw - Upper, middle, lower members, undivided
- Ysw - Shepard, Snowslip, and Wallace Formations, undivided (Middle Proterozoic)
- Yh - Main body of the Helena Formation (Middle Proterozoic)
- Yhl - Lower member
- Yhw - Main body of the Helena Formation and middle member of the Wallace Formation, undivided (Middle Proterozoic)
- Ye - Empire Formation (Middle Proterozoic)
- Ysr - St. Regis Formation (Middle Proterozoic)
- Yr - Revett Formation (Middle Proterozoic)
- Ys - Spokane Formation (Middle Proterozoic)
- Ygl - Grinnell Formation (Middle Proterozoic)
- Yb - Burke Formation (Middle Proterozoic)
- Yu - Unnamed formation (Middle Proterozoic)
- Yap - Appekunny Formation (Middle Proterozoic)
- Yd - Mafic sills (Middle Proterozoic)

Prichard Formation (Middle Proterozoic)

- Ypt - Transition member
- Ypu - Upper member
- Ypq - Quartzite member
- Ypa - Argillite member
- Ypl - Lower part

- Contact; dotted where concealed.
- Fault, unknown offset; dotted where concealed, .
- High-angle fault, known offset; dotted where concealed. Ball and bar on downthrown side.
- Strike-slip fault; dotted where concealed. Arrows shown direction of apparent strike slip.
- Right-lateral strike-slip fault with vertical motion; dotted where concealed. Ball and bar on downthrown side.
- Thrust fault; dotted where concealed. Sawteeth on upper plate.
- Backslid thrust fault. Thrust fault with later normal movement. Dotted where concealed. Sawteeth on upper plate; tics point in direction of backsliding.
- Anticline
- Syncline
- Terrace or monoclinal fold
- Overturned anticline
- Overturned syncline
- Td - Dikes (Tertiary?); dotted where concealed.
- ZYd - Mafic sills (Late and Middle Proterozoic); dotted where concealed.
- Yla - Basalt; dotted where concealed.
- Ypr - Purcell Lava (Middle Proterozoic); dotted where concealed.
- Yd - Mafic sills (Middle Proterozoic); dotted where concealed.

References

Harrison, J.E., Cressman, E.R., and Whipple, J.W., 1992, Geologic and structure maps of the Kalispell 1° by 2° quadrangle, Montana, and Alberta and British Columbia: U.S. Geological Survey Miscellaneous Investigations Map I-2267.



Index map showing Kalispell quadrangle

This map was printed on an electronic plotter directly from digital files. Dimensional calibration may vary between electronic plotters and between X and Y directions on the same plotter, and paper may change size due to atmospheric conditions; therefore, scale and proportions may not be true on plots of this map. Color also varies between plotters and may need to be adjusted.

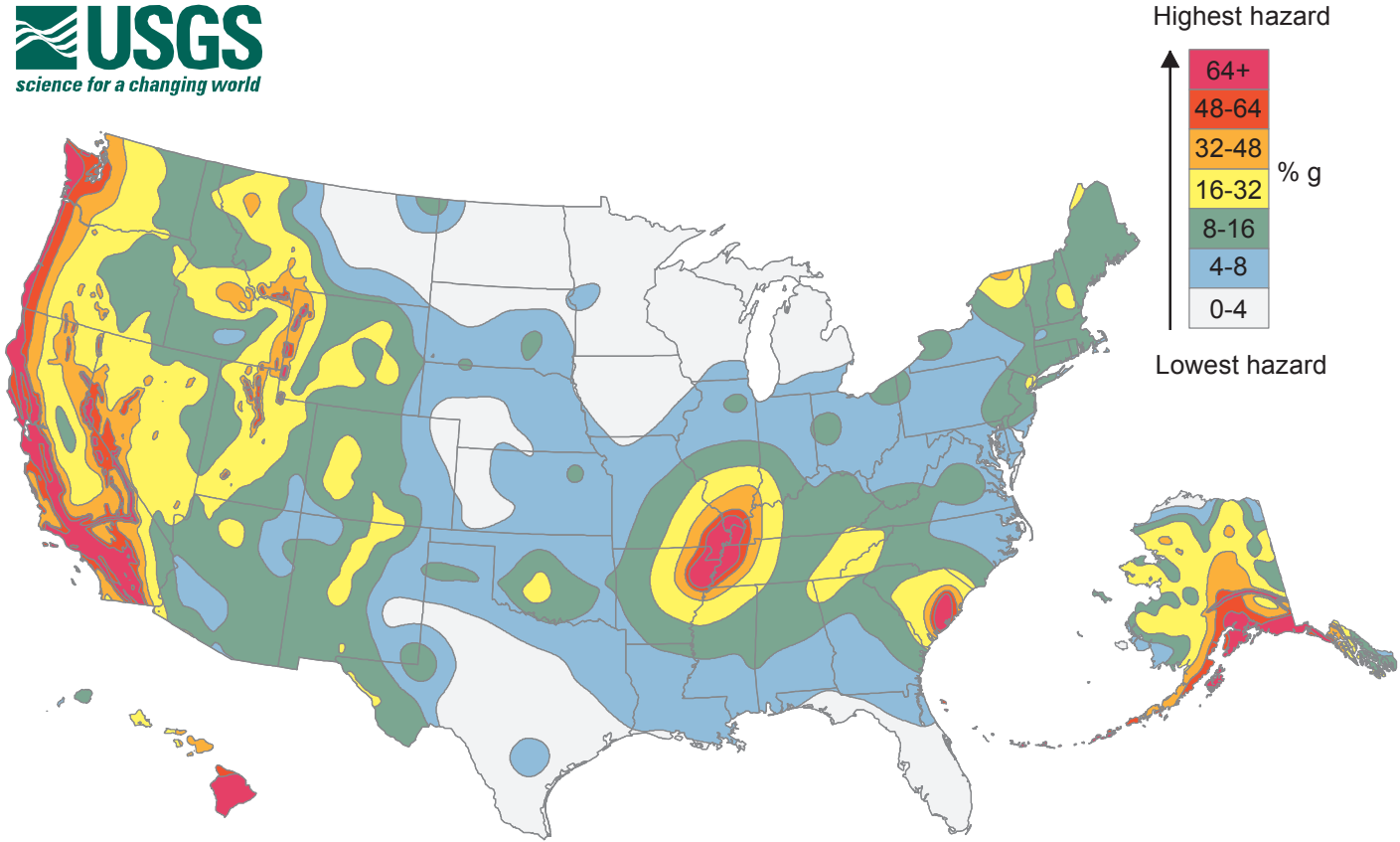
Digital files are available on World Wide Web at http://geopubs.wr.usgs.gov/i-map/i2267

The digital database is not meant to be used or displayed at any scale larger than 1:250,000 (e.g., 1:100,000 or 1:24,000).

APPENDIX 2

Geologic Hazard Map

USGS
science for a changing world



APPENDIX 3

303(d) Reports

Montana DEQ - Water Quality Standards Attainment Record

Reporting Cycle: 2010 **Assessment Record:** MT76O001_010 **Status:** Not Started

ASSESSMENT UNIT INFORMATION

Reporting Cycle:	2010
Assessment Unit:	MT76O001_010
Name:	Flathead River
Location Description:	FLATHEAD RIVER, headwaters to Flathead Lake
Water Type:	**Size (Miles/Acres)**
RIVER	53.71 MILES
Use Class:	B-1
Hydrologic Unit Code:	17010208
Basin:	Columbia
Watershed:	Flathead
County:	FLATHEAD CO
Ecoregion:	Canadian Rockies, Northern Rockies
TMDL Planning Area:	Flathead - Stillwater
HUC Name:	Flathead Lake
LAT/LONG:	End of AU, Start of AU

MONITORING INFORMATION

Date Assessed:	08/30/2006
Assessed By:	Cook, Adam
Next Scheduled Monitoring Date:	

Reporting Cycle: 2010 **Assessment Record:** MT76O001_010 **Status:** Not Started

CITATIONS

Citation	Location	Biological Data	Habitat Data	Chemistry Data

Comments:

DATA MATRIX
Biological Data

Comments:

DATA MATRIX
Habitat Data

Comments:

DATA MATRIX
Chemistry Data

Comments:

SUMMARY

Listing History 2006
This waterbody has an assessment unit ID but lacks data and information to make a beneficial use support determination.

Listing History 2008

Reporting Cycle: 2010 **Assessment Record:** MT76O001_010 **Status:** Not Started

Listing History 2010

Listing History 2012

Reporting Cycle: 2010 **Assessment Record:** MT76O001_010 **Status:** Not Started

Overall Condition of Segment

Montana DEQ - Water Quality Standards Attainment Record

Reporting Cycle: 2010 **Assessment Record:** MT76O001_010 **Status:** Not Started

USE SUPPORT DECISION

Use Class	B-1	Biology Score		Habitat Score		Chemistry Score		Total Score	0

Trophic Status: **Trophic Trend:**

Uses	SCD	Method, Data, and Information Used	Assessment Type and Confidence	Use Support	Partial Flag	Use Support Certainty	Threatened	Test Used
Aquatic Life				Not Assessed	No		No	
Cold Water Fishery				Not Assessed	No		No	
Agricultural				Not Assessed	No		No	NA
Industrial				Not Assessed	No		No	NA
Drinking Water				Not Assessed	No		No	NA
Primary Contact Recreation				Not Assessed	No		No	NA

ADB- Method Number and Description

Reporting Cycle: 2010 **Assessment Record:** MT76O001_010 **Status:** Not Started

IMPAIRMENT INFORMATION

Uses	Cause (Confidence): Source(Confirmed)	Observed Effects
Aquatic Life		
Cold Water Fishery		
Agricultural		
Industrial		
Drinking Water		
Primary Contact Recreation		

ADB- Cause Number and Description	ADB- Source Number and Description	ADB- Observed Effect Number and Description

DELISTINGS

Cause	Delisting Reason	Delisting Date	Comments

Reporting Cycle: 2010 **Assessment Record:** MT76O001_010 **Status:** Not Started

CATEGORY INFORMATION

Previous Cycle	
Cycle	2008
Category	3 - Waters for which there is insufficient data to assess the use support of any applicable beneficial use, so no use support determinations have been made.
User Defined Category	N/A

Current Cycle	
Cycle	2010
Category	3 - Waters for which there is insufficient data to assess the use support of any applicable beneficial use, so no use support determinations have been made.
User Defined Category	N/A

Montana DEQ - Water Quality Standards Attainment Record

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

ASSESSMENT UNIT INFORMATION

Reporting Cycle:	2010
Assessment Unit:	MT76J001_010
Name:	South Fork Flathead River
Location Description:	SOUTH FORK FLATHEAD RIVER, Hungry Horse Dam to mouth
Water Type:	**Size (Miles/Acres)**
RIVER	5.31 MILES
Use Class:	B-1
Hydrologic Unit Code:	17010209
Basin:	Columbia
Watershed:	Flathead
County:	FLATHEAD CO
Ecoregion:	Canadian Rockies
TMDL Planning Area:	Flathead Headwaters
HUC Name:	South Fork Flathead
LAT/LONG:	End of AU, Start of AU

MONITORING INFORMATION

Date Assessed:	08/29/2006
Assessed By:	Cook, Adam
Next Scheduled Monitoring Date:	

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

CITATIONS

Citation	Location	Biological Data	Habitat Data	Chemistry Data
Hanzel, Delano A. (1967), Northwest Montana Fishery Study: Survey of Cutthroat Trout and Dolly Varden in the Flathead River and Tributaries Above Flathead Lake: July 1, 1965 to June 30, 1966, F-7-R-15 Job # III	DEQ Metcalf Stacks			common ions, pH, conductivity, miscellaneous; quantitative physical data
Domrose, Robert J. (1974), Northwest Montana Fisheries Study: Fish Management Surveys, F-7-R-19 through F-7-R-23 Job # I-b	DEQ Metcalf Stacks	fish		common ions, pH, conductivity, miscellaneous; quantitative physical data
Perry, Sue ; Graham, Patrick J. (1981), The Impact of Hungry Horse Dam on the Aquatic Invertebrates of the Flathead River	DEQ Metcalf Stacks	macroinvertebrates		common ions, pH, conductivity, miscellaneous; major nutrients; metals; quantitative physical data
Fraley, John J. ; Graham, Patrick J. (1982), The Impacts of Hungry Horse Dam on the Fishery of the Flathead River- Final Report	DEQ Metcalf Stacks	fish		quantitative physical data
Perry, Sue ; Graham, Patrick J. (1982), Impacts of Hungry Horse Dam on the Invertebrates in the Flathead River- Final Report	DEQ Metcalf Stacks	fish; macroinvertebrates	riparian &/or instream surveys & physical features	common ions, pH, conductivity, miscellaneous
Fraley, John J. ; McMullin, Steve L. ; Graham, Patrick J. (1986), Effects of Hydroelectric Operations on the Kokanee Population in the Flathead River System, Montana	DEQ Metcalf Stacks	fish	riparian &/or instream surveys & physical features	quantitative physical data
Zubik, Raymond J. ; Fraley, John J. (1987), Determination of Fishery Losses in the Flathead System Resulting from the Construction of Hungry Horse Dam	DEQ Metcalf Stacks	fish	riparian &/or instream surveys & physical features	common ions, pH, conductivity, miscellaneous; quantitative physical data

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

Citation	Location	Biological Data	Habitat Data	Chemistry Data
Montana Department of Fish, Wildlife, and Parks (1991), Dewatered Streams List, 1991	DEQ Metcalf Stacks		riparian &/or instream surveys & physical features	common ions, pH, conductivity, miscellaneous; quantitative physical data
Hauer, F. Richard ; Gangemi, John T. ; Stanford, Jack A. (1994), Long-Term Influence of Hungry Horse Dam Operation on the Ecology of Macrozoobenthos of the Flathead River, Open File Report 133-94	DEQ Metcalf Stacks	fish; macroinvertebrates	riparian &/or instream surveys & physical features	quantitative physical data
Marotz, Brian ; Althen, Craig ; Gustafson, Daniel (1994), Hungry Horse Mitigation: Aquatic Modeling of the Selective Withdrawal System - Hungry Horse Dam, Montana	DEQ Metcalf Stacks			quantitative physical data
Stanford, Jack A. ; Ellis, Bonnie K. ; Craft, James A. ; Poole, Geoffrey C. (1997), Water Quality Data and Analyses to Aid in the Development of Revised Water Quality Targets for Flathead Lake, Montana : Phase 1 of a Cooperative Study to Determine Total Maximum Daily Loads of Nitrogen and Phosphorus	DEQ Metcalf Stacks	algae; chlorophyll	riparian &/or instream surveys & physical features	common ions, pH, conductivity, miscellaneous; major nutrients; quantitative physical data
Deleray, Mark ; Knotek, Ladd ; Rumsey, Scott ; Weaver, Thomas M. (1999), Flathead Lake and River System Fisheries Status Report, F-78-R-1 through F-78-R-5, Element 1, Project 1 & 2	DEQ Metcalf Stacks	fish	riparian &/or instream surveys & physical features	metals; quantitative physical data
Montana Department of Fish, Wildlife, and Parks (2002), Montana Rivers Information System (MRIS): Montana Fisheries Information System (MFISH) - http://maps2.nris.mt.gov/scripts/esrimap.dll?name=MFISH&Cmd=INST	Assessment Record	algae; fish; macroinvertebrates; wildlife	Land use; photo points; riparian &/or instream surveys & physical features	benthic sediment data; common ions, pH, conductivity, miscellaneous; quantitative physical data

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

Citation	Location	Biological Data	Habitat Data	Chemistry Data
Montana State Library Natural Resouce Information System ; Montana State University (2006), Montana View at http://montanaview.org/	DEQ Metcalf Multimedia Case	chlorophyll; fecal coliforms; macroinvertebrates; other bacteriological data	photo points; riparian &/or instream surveys & physical features	benthic sediment data; bioaccumulation; common ions, pH, conductivity, miscellaneous; imagery data; major nutrients; metals; organics; quantitative physical data

Comments: Good data. Fishery surveys are detailed.

DATA MATRIX
Biological Data

Comments:

DATA MATRIX
Habitat Data

Comments:

DATA MATRIX
Chemistry Data

Comments:

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

DATA EVALUATION

Data Evaluation - Drinking Water

SCD: No

Comments Insufficient metals data to assess.

Score/Information	Category	Description
Insufficient Data	Technical Components	Probable impairments to drinking water were not measured.

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

DATA EVALUATION

Data Evaluation - Recreation

SCD: Yes

Comments Reach is listed as chronically dewatered for 5.3 miles, one measure of excessive fecal coliform af 252 colonies/100mL.

Score/Information	Category	Description
Sufficient Credible Data	Technical Components	Observations of algae blooms, odors, turbidity, aesthetics, etc., were well documented.
		Probable sources of impairment identified; probable causes of impairment measured or well documented (toxins, dewatering, etc). Fecal coliform data collected.
	Spatial/Temporal Coverage	Limited water quality data or documentation; however, data indicates severe impairment.
	Data Quality	Data precision & sensitivity moderate.
		QA/QC protocols were followed.
	Data Currency	It is likely that the data reflects current conditions.

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

DATA EVALUATION

Data Evaluation - Aquatic Life & Fisheries (Streams) Biology Criteria

SCD: No **Biological Score:** 3

Comments Very good biological information. Studies quantitative and conducted for many years. Score is a 3.

Score/Information	Category	Description
3	Technical Components	Two assemblages assessed or one assemblage with quantitative (e.g., biomass) measurements following SOPs. Often includes biotic index interpretations.
		Fisheries data often includes information about growth rates, age class and condition; The entire fish assemblage is targeted.
		Reference condition can be determined with a reasonable degree of confidence and used as a basis for assessment.
	Spatial/Temporal Coverage	Monitoring during a single season the norm.
		Monitoring may include site specific studies; however, also has limited spatial coverage of the stream reach.
	Data Quality	Data has moderate precision and sensitivity.
		Qualified professional performs survey or provides training; individual making the survey is well trained. Detailed taxonomic resolution.
	Data Currency	Data was collected recently or it is very unlikely that the biological community has changed significantly since the survey was conducted.
4	Spatial/Temporal Coverage	Surveys conducted for multiple years and/or seasons.

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

DATA EVALUATION

Data Evaluation - Aquatic Life & Fisheries (Streams) Chemistry Criteria

SCD: No **Chemistry Score:** 2

Comments Good chemistry data. Sufficient number of parameters are measured. The data is older. Score is a high 2.

Score/Information	Category	Description
2	Technical Components	Usually grab or composite water quality samples.
		Sediment contamination data (e.g., metal scans).
	Spatial/Temporal Coverage	Short period of record, however good spatial coverage.
3	Data Quality	Data has moderate precision and sensitivity.
		Qualified professional provides training; the individual collecting the samples is well trained.
	Data Currency	Data is older than ideal, but there are no indications that the condition it reflects have changed significantly.

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

DATA EVALUATION

Data Evaluation - Aquatic Life & Fisheries (Streams) Habitat Criteria

SCD: No **Habitat Score:** 0

Comments Minimal habitat data, score is a high 1.

Score/Information	Category	Description
1	Technical Components	Visual observations of habitat characteristics were made with no true assessment.
	Data Quality	Data was not collected by a trained individual following appropriate protocols.
2	Spatial/Temporal Coverage	Site specific studies.
	Data Currency	It is unlikely that the habitat has changed significantly since the assessment was made.

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

SUMMARY

Listing History 2006

This use attainment record has not been updated. Please refer to the TMDL document (http://www.deq.mt.gov/wqinfo/TMDL/finalReports.asp) for more recent information and status of this waterbody segment.

Listing History 2008

Listing History 2010

Listing History 2012

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

Overall Condition of Segment

Aquatic Life/Cold Water Fishery: The lack of habitat data impedes the assessment of this reach. Reach will be assessed at the next available opportunity. Overall score was a 5. Primary Contact (recreation): Reach is listed as chronically dewatered for 5.3 miles, one measure of excessive fecal coliform af 252 colonies/100mL.

Montana DEQ - Water Quality Standards Attainment Record

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

USE SUPPORT DECISION

Use Class	B-1	Biology Score	3	Habitat Score	0	Chemistry Score	2	Total Score	5

Trophic Status: **Trophic Trend:**

Uses	SCD	Method, Data, and Information Used	Assessment Type and Confidence	Use Support	Partial Flag	Use Support Certainty	Threatened	Test Used
Aquatic Life	No			Not Assessed	No		No	
Cold Water Fishery	No			Not Assessed	No		No	
Agricultural	Yes		PHYSICAL/CHEMICAL-FAIR	Fully Supporting	No		No	NA
Industrial	Yes		PHYSICAL/CHEMICAL-FAIR	Fully Supporting	No		No	NA
Drinking Water	No			Not Assessed	No		No	NA
Primary Contact Recreation	Yes		PHYSICAL/CHEMICAL-FAIR	Not Supporting	Yes		No	NA

ADB- Method Number and Description

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

IMPAIRMENT INFORMATION

Uses	Cause (Confidence): Source(Confirmed)	Observed Effects
Aquatic Life		
Cold Water Fishery		
Agricultural		
Industrial		
Drinking Water		
Primary Contact Recreation	319 ():	

ADB- Cause Number and Description	ADB- Source Number and Description	ADB- Observed Effect Number and Description
319-Other flow regime alterations		

DELISTINGS

Cause	Delisting Reason	Delisting Date	Comments

Reporting Cycle: 2010 **Assessment Record:** MT76J001_010 **Status:** Not Started

CATEGORY INFORMATION

Previous Cycle	
Cycle	2008
Category	4C - Identified threats or impairments result from pollution categories such as dewatering or habitat modification and, thus, the calculation of a Total Maximum Daily Load (TMDL) is not required
User Defined Category	N/A

Current Cycle	
Cycle	2010
Category	4C - Identified threats or impairments result from pollution categories such as dewatering or habitat modification and, thus, the calculation of a Total Maximum Daily Load (TMDL) is not required
User Defined Category	N/A

APPENDIX 4

Public Water Supply Reports

Online Query Report Abbreviations

System Information		
Type R (RS) - residential	**Type CM -** commercial	**In Srcv Dts-** schedule applicable dates
Eff Begin DT – date population changes were made	**Avg Daily Cnt** – total population	**Conn's –** number of service connections
NT- population type non transient	**R –** population type residential	**T –** population type transient
W – population type wholesale		
Facility and Entry Point Information		
GW – ground water	**SW** – surface water	**GU** – GWUDISW ground water under influence service water
WL – well	**IN** – intake	**SP** – spring
ST – storage facility	**RS** – reservoir	**CW** – clear well
CH – common header	**PC** –pressure control	**PF** – pump facility
EP – entry point	**DS** – distribution	**SP001** – sample point for distribution
TP – treatment	**TP Units** – treatment process unit code	**DBP** – disinfection byproducts
TTHM – total trihalomethanes	**HAA5** – 5 haloacetic acids	**TOC** – total organic carbon
DBPMAX – disinfection byproducts at maximum residence time	**TOCRAW** – total organic carbon at raw water source	**TOCFIN** – total organic carbon at finished water
DBPAVG – disinfection byproducts at average residence time		

Sample Schedules/Monitoring Requirements		
QT - quarterly	**Y -** yearly	**MN -** monthly
CDS – compliance decision support		
TCR – total coliform rule	**RT -** Routine	**TR5** – temporary routine follow-ups (5 samples)
ARSE – arsenic	**NITR** – nitrate + nitrite	
INO1 – P2 P5 inorganics	**P2** – phase 2 inorganics, barium, cadmium, chromium, fluoride, mercury, selenium	**P5** – phase 5 inorganics, antimony, beryllium, nickel, thallium
INO2 – P5 inorganics	**INO3** – waiver P2-P5	**INO4** – waiver P2
SOC1 – synthetic organic chemicals (3 methods)	**SOC2** – method 515 only	**SOC3** – method 531 only
SOC4 – method 525 only	**VOC1** – volatile organic chemicals	
GRAL – gross alpha	**COMB** – radium 226+228 combined	**URAN -** Uranium
ASBE – asbestos	**PBCU** – lead and copper	**PBCQ** – lead and copper water quality parameters
CDBP-compliance disinfection by products		
CHEMICAL RESULTS		
Fac ID – Facility point identification	**SMP Pt ID –** Sample point identification	
VIOLATIONS & ENFORCEMENTS		
SIE-a state public notice was requested from the system	**SIA**- a violation letter was issued by the state	**SOX**- the state has indicated that the status of violation has been returned to compliance
SIF-state public notice has been received	**REF-** PWS has referred the violation to Enforcement	**SFO-** state administrative order issued with penalty
SFL- state administrative order issued without penalty		

Montana Department of
ENVIRONMENTAL QUALITY
Data Source: Public Water Supply Section

Public Water Supply System

Return to PWS Query
Return to PWS Reports

PWSID: **MT0000253** **Name: HUNGRY HORSE CO WATER AND SEWER DISTRICT**

City: HUNGRY HORSE **County:** FLATHEAD **Tot Pop:**950

Pri Src: GW **Class:** C **Last Snty Srv Dt:** 04/16/2010 **Activity Status:** A

Type	Conn's	In Srvc Dts	Eff Begin Dt	Avg Daily Cnt	Type
RS	350	1/1-12/31	09/27/2007	775	R
CB	7	1/1-12/31	09/27/2007	75	NT
		1/1-12/31	09/27/2007	100	T

Administrative Contact
KAVANAUGH, WILLIAM

Financial Contact
GRAHAM, RITA

Operator
KNUTSON, JOHN F.

Owner
MYERS, EVA

Owner
TOWN OF HUNGRY HORSE

Facilities and Entry Points

Status: A 02/14/2000 **Fac ID** DS001 DISTRIBUTION SYSTEM **Src:** GW
Lat/Long Dec: **DMS:**

Smp Pt ID	Status		Description
SP001	A	03/31/2000	SP FOR DS

Status: A 10/26/2000 **Fac ID** ST001 STORAGE FACILITY 1 100,000 GAL **Src:** GW
Lat/Long Dec: **DMS:**

Status: A 11/07/2007 **Fac ID** ST002 STORAGE FACILITY 2 **Src:** GW
Lat/Long Dec: **DMS:**

Status: A 10/26/2000 **Fac ID** WL002 WELL 1 PRODUCTION **Src:** GW
Lat/Long Dec: **DMS:**

Smp Pt ID	Status		Description
EP502	A	10/26/2000	EP FOR WELL 1
RW002	A	09/07/2010	WELL 1 PRODUCTION

Status: A 10/26/2000 **Fac ID** WL003 WELL 2 **Src:** GW
Lat/Long Dec: **DMS:**

Smp Pt ID	Status		Description
EP503	A	10/26/2000	EP FOR WELL 2
RW003	A	09/07/2010	WELL 2

Status: A 11/07/2007 **Fac ID** WL004 WELL 3 **Src:** GW
Lat/Long Dec: **DMS:**

Smp Pt ID	Status		Description
EP504	A	11/07/2007	EP FOR WELL 3
RW004	A	09/07/2010	WELL 3

PWSID: **MT0000253** **Name: HUNGRY HORSE CO WATER AND SEWER DISTRICT** **(continued)**

Sample Schedules/Monitoring Requirements

Fac ID: DS001 **Fac Name:** DISTRIBUTION SYSTEM **Status:** A **Src:** GW

Smp Pt I	Active	Smp Pt Descriptio
SP001	A	SP FOR DS

Group	Name	Schd Beg Dat	Seas Coll Pe	Requiremen
3100	COLIFORM (TCR)	11/01/2008	1/1-12/31	1 RT MN

Fac ID: DS001 **Fac Name:** DISTRIBUTION SYSTEM **Status:** A **Src:** GW

Smp Pt I	Active	Smp Pt Descriptio
SP001	A	SP FOR DS

Group	Name	Schd Beg Dat	Init MP Be	Seas Coll Pe	Requiremen
ASBE	CDS ASBESTOS	01/01/2002	01/01/2002	1/1-12/31	1 RT 9Y
PBCU	CDS LEAD COPPER ONLY	01/01/2002	01/01/2002	6/1-9/30	10 RT 9Y

Fac ID: WL002 **Fac Name:** WELL 1 PRODUCTION **Status:** A **Src:** GW

Smp Pt I	Active	Smp Pt Descriptio
EP502	A	EP FOR WELL 1
RW002	A	WELL 1 PRODUCTION

Group	Name	Schd Beg Dat	Init MP Be	Seas Coll Pe	Requiremen
ARSE	CDS ARSENIC	01/01/1999	01/01/1999	1/1-12/31	1 RT 3Y
COMB	CDS RADIUMS COMBINED	01/01/2008	01/01/2008	1/1-12/31	1 RT 9Y
GRAL	CDS RAD GROSS ALPHA	01/01/2008	01/01/2008	1/1-12/31	1 RT 9Y
INO3	CDS W P2-5 INORGANIC	01/01/2002	01/01/2002	1/1-12/31	1 RT 9Y
NITR	CDS NITRATE NITRITE	01/01/2000	01/01/2000	1/1-12/31	1 RT YR
SOC2	CDS SOC 515	01/01/1999	01/01/1999	1/1-12/31	1 RT 3Y
VOC1	CDS VOC	01/01/2002	01/01/2002	1/1-12/31	1 RT 3Y

Fac ID: WL003 **Fac Name:** WELL 2 **Status:** A **Src:** GW

Smp Pt I	Active	Smp Pt Descriptio
EP503	A	EP FOR WELL 2
RW003	A	WELL 2

Group	Name	Schd Beg Dat	Init MP Be	Seas Coll Pe	Requiremen
ARSE	CDS ARSENIC	01/01/1999	01/01/1999	1/1-12/31	1 RT 3Y
COMB	CDS RADIUMS COMBINED	01/01/2008	01/01/2008	1/1-12/31	1 RT 9Y
GRAL	CDS RAD GROSS ALPHA	01/01/2008	01/01/2008	1/1-12/31	1 RT 9Y
INO3	CDS W P2-5 INORGANIC	01/01/2002	01/01/2002	1/1-12/31	1 RT 9Y
NITR	CDS NITRATE NITRITE	01/01/2000	01/01/2000	1/1-12/31	1 RT YR
SOC2	CDS SOC 515	01/01/1999	01/01/1999	1/1-12/31	1 RT 3Y
VOC1	CDS VOC	01/01/2002	01/01/2002	1/1-12/31	1 RT 3Y

Fac ID: WL004 **Fac Name:** WELL 3 **Status:** A **Src:** GW

Smp Pt I	Active	Smp Pt Descriptio
EP504	A	EP FOR WELL 3

PWSID: **MT0000253 Name: HUNGRY HORSE CO WATER AND SEWER DISTRICT** **(continued)**

Fac ID: WL004 **Fac Name:** WELL 3 **Status:** A **Src:** GW
RW004 A WELL 3

Group	Name	Schd Beg Dat	Init MP Be	Seas Coll Pe	Requiremen
ARSE	CDS ARSENIC	01/01/2005	01/01/2005	1/1-12/31	1 RT 3Y
COMB	CDS RADIUMS COMBINED	07/01/2008	07/01/2008	1/1-12/31	1 RT 9Y
GRAL	CDS RAD GROSS ALPHA	01/01/2008	01/01/2008	1/1-12/31	1 RT 9Y
INO1	CDS P2-5 INORGANICS	01/01/2005	01/01/2005	1/1-12/31	1 RT 3Y
NITR	CDS NITRATE NITRITE	01/01/2007	01/01/2007	1/1-12/31	1 RT YR
SOC1	CDS SOC	01/01/2005	01/01/2005	1/1-12/31	1 RT 3Y
VOC1	CDS VOC	01/01/2007	01/01/2007	1/1-12/31	1 RT YR

Bacti Results

FROM 01/01/2011 TO 11/30/2011

Collection D	Lab Number	Type	Orig Lab #	Code		TCR Presenc	Fec/EC Result
10/03/2011	110895701	RT		3100	COLIFORM (TCR)	A	-
09/12/2011	110813901	RT		3100	COLIFORM (TCR)	A	-
08/16/2011	110723001	RT		3100	COLIFORM (TCR)	A	-
07/13/2011	110597801	RT		3100	COLIFORM (TCR)	A	-
06/06/2011	110450701	RT		3100	COLIFORM (TCR)	A	-
05/16/2011	110383501	RT		3100	COLIFORM (TCR)	A	-
04/04/2011	110255801	RT		3100	COLIFORM (TCR)	A	-
03/14/2011	110204601	RT		3100	COLIFORM (TCR)	A	-
02/08/2011	110104001	RT		3100	COLIFORM (TCR)	A	-
01/05/2011	110014901	RT		3100	COLIFORM (TCR)	A	-

Chemical Results

FROM 01/01/2011 TO 11/30/2011

Fac ID: WL002 **Fac Name:** WELL 1 PRODUCTION **Avl:**P **Status:** A **Src:** GW
Smp Pt ID: EP502 **Status:** A **Description:** EP FOR WELL 1 **Src Typ**

Analyte/CAS No	Code	Analyte Name	Type	Collection D	Lab	Sample Numbe	Result	
IOC	1038	NITRATE-NITRITE	RT	03/14/2011	02	110204701	0.30	MG/L

Fac ID: WL003 **Fac Name:** WELL 2 **Avl:**P **Status:** A **Src:** GW
Smp Pt ID: EP503 **Status:** A **Description:** EP FOR WELL 2 **Src Typ**

Analyte/CAS No	Code	Analyte Name	Type	Collection D	Lab	Sample Numbe	Result	
IOC	1038	NITRATE-NITRITE	RT	03/14/2011	02	110204702	0.44	MG/L

Fac ID: WL004 **Fac Name:** WELL 3 **Avl:**P **Status:** A **Src:** GW
Smp Pt ID: EP504 **Status:** A **Description:** EP FOR WELL 3 **Src Typ** RW

Analyte/CAS No	Code	Analyte Name	Type	Collection D	Lab	Sample Numbe	Result	
IOC	1038	NITRATE-NITRITE	RT	03/14/2011	02	110204703	0.20	MG/L

PWSID: MT0000253 Name: HUNGRY HORSE CO WATER AND SEWER DISTRICT **(continued)**

Lead & Copper Sample Summaries FROM 01/01/1992 TO 11/30/2011

Period Begin	Period End	Collection End	Type	Period Name	Code	Count	Measure	UoM
01/01/2002	12/31/2010	07/14/2004	9Y	9YR 02-10	PB90	10	.004	MG/L
01/01/2002	12/31/2010	07/14/2004	9Y	9YR 02-10	CU90	10	.08	MG/L
01/01/2002	12/31/2004	07/14/2004	3Y	3YR 02-04	PB90	10	.004	MG/L
01/01/2002	12/31/2004	07/14/2004	3Y	3YR 02-04	CU90	10	.08	MG/L
01/01/1999	12/31/2001	08/05/1999	3Y	3YR 99-01	PB90	10	.005	MG/L
01/01/1999	12/31/2001	08/05/1999	3Y	3YR 99-01	CU90	10	.12	MG/L
01/01/1996	12/31/1996		YR	1YR 96	PB90	0	.004	MG/L
01/01/1996	12/31/1996		YR	1YR 96	CU90	0	.11	MG/L
01/01/1995	12/31/1995		YR	1YR 95	PB90	0	.01	MG/L
01/01/1995	12/31/1995		YR	1YR 95	CU90	0	.16	MG/L
01/01/1994	06/30/1994		6M	1ST 6MO 94	PB90	0	.004	MG/L
01/01/1994	06/30/1994		6M	1ST 6MO 94	CU90	0	.07	MG/L
07/01/1993	12/31/1993		6M	2ND 6MO 93	PB90	0	.003	MG/L
07/01/1993	12/31/1993		6M	2ND 6MO 93	CU90	0	.12	MG/L

Violations & Enforcements FROM 01/01/1990 TO 11/30/2011

Viol Date	Comp Beg	Comp End	Fed F	Type	Sev	Cate	Code	Name
02/10/2009	01/01/2008	12/31/2008	2009	03	MJ	MON	VOC1	CDS VOC
	2009 5490109	04/03/2009	SOX		ST COMPLIANCE ACHIEVED			
	2010 5490110	03/04/2010	SIF		ST PUBLIC NOTIF RECEIVED			
	2009 5490009	02/10/2009	SIE		ST PUBLIC NOTIF REQUESTED			
	2009 5489909	02/10/2009	SIA		ST VIOLATION/REMINDER NOTICE			
07/30/2008	04/01/2008	06/30/2008	2008	03	MJ	MON	COMB	CDS RADIUMS COMBINED
	2008 5489708	09/19/2008	SOX		ST COMPLIANCE ACHIEVED			
	2008 5489608	07/30/2008	SIE		ST PUBLIC NOTIF REQUESTED			
	2008 5489508	07/30/2008	SIA		ST VIOLATION/REMINDER NOTICE			

Montana Department of
ENVIRONMENTAL QUALITY
Data Source: Public Water Supply Section

Public Water Supply System

Return to PWS Query
Return to PWS Reports

PWSID: MT0001998 **Name:** CROOKED TREE MOTEL AND RV PARK

City: HUNGRY HORSE **County:** FLATHEAD **Tot Pop:** 103

Pri Src: GW **Class:** NC **Last Snty Srv Dt:** 08/17/2010 **Activity Status:** A

Type	Conn's	In Srvc Dts	Eff Begin Dt	Avg Daily Cnt	Type
CM	33	5/1-9/30	01/01/1997	100	T
		1/1-12/31	01/27/2001	3	R

Administrative Contact	Financial Contact	Owner
BROERS, HENRY	BROERS, HENRY	BROERS, HENRY

Facilities and Entry Points

Status: A 02/14/2000 **Fac ID** DS001 DISTRIBUTION SYSTEM **Src:** GW
Lat/Long Dec: **DMS:**

Smp Pt ID	Status	Description
SP001	A 04/14/2000	SP FOR DS

Status: A 10/25/2000 **Fac ID** PC001 PRESSURE CONTROL ASSEMBLY **Src:** GW
Lat/Long Dec: **DMS:**

Smp Pt ID	Status	Description
EP502	A 01/03/2002	EP FOR WELL 1 PC

Status: A 02/14/2000 **Fac ID** WL002 WELL 1 1977 **Src:** GW
Lat/Long Dec: **DMS:**

Smp Pt ID	Status	Description
RW002	A 09/07/2010	WELL 1 1977

Sample Schedules/Monitoring Requirements

Fac ID: DS001 **Fac Name:** DISTRIBUTION SYSTEM **Status:** A **Src:** GW

Smp Pt I	Active	Smp Pt Descriptio
SP001	A	SP FOR DS

Group	Name	Schd Beg Dat	Seas Coll Pe	Requiremen
3100	COLIFORM (TCR)	10/01/2011	5/1-9/30	1 RT QT

Fac ID: PC001 **Fac Name:** PRESSURE CONTROL ASSEMBLY **Status:** A **Src:** GW

Smp Pt I	Active	Smp Pt Descriptio
EP502	A	EP FOR WELL 1 PC

Group	Name	Schd Beg Dat	Init MP Be	Seas Coll Pe	Requiremen
NITR	CDS NITRATE NITRITE	01/01/2000	01/01/2000	1/1-12/31	1 RT YR

Bacti Results

FROM 01/01/2011 TO 11/30/2011

Collection D	Lab Number	Type	Orig Lab #	Code		TCR Presenc	Fec/EC Result
09/16/2011	110835401	RT		3100	COLIFORM (TCR)	A	-
09/16/2011	110835402	RT		3100	COLIFORM (TCR)	A	-
09/16/2011	110835403	RT		3100	COLIFORM (TCR)	A	-
09/16/2011	110835404	RT		3100	COLIFORM (TCR)	A	-
09/16/2011	110835405	RT		3100	COLIFORM (TCR)	A	-

PWSID: **MT0001998** **Name: CROOKED TREE MOTEL AND RV PARK** **(continued)**

Collection D	Lab Number	Type	Orig Lab #	Code		TCR Presenc		Fec/EC Result
09/02/2011	110781001	RP	11077290	3100	COLIFORM (TCR)	P	+	
09/02/2011	110781001	RP	11077290	3014	E. COLI	A		-
09/02/2011	110781002	RT		3100	COLIFORM (TCR)	P	+	
09/02/2011	110781002	RT		3014	E. COLI	A		-
09/02/2011	110781003	RP	11077290	3100	COLIFORM (TCR)	P	+	
09/02/2011	110781003	RP	11077290	3014	E. COLI	A		-
09/02/2011	110781004	RP	11077290	3100	COLIFORM (TCR)	P	+	
09/02/2011	110781004	RP	11077290	3014	E. COLI	A		-
09/02/2011	110781005	RP	11077290	3100	COLIFORM (TCR)	P	+	
09/02/2011	110781005	RP	11077290	3014	E. COLI	A		-
08/31/2011	110772901	RT		3014	E. COLI	A		-
08/31/2011	110772901	RT		3100	COLIFORM (TCR)	P	+	
06/02/2011	110440101	RT		3100	COLIFORM (TCR)	A	-	

Chemical Results

FROM 01/01/2011 TO 11/30/2011

Fac ID: PC001 **Fac Name:** PRESSURE CONTROL ASSEMBLY **Avl:**P **Status:** A **Src:** GW
Smp Pt ID: EP502 **Status:** A **Description:** EP FOR WELL 1 PC **Src Typ** RW

Analyte/CAS No	Code	Analyte Name	Type	Collection D	Lab	Sample Numbe	Result	
IOC	1038	NITRATE-NITRITE	RT	08/31/2011	02	110773001	0.78	MG/L

Lead & Copper Sample Summaries

FROM 01/01/1992 TO 11/30/2011

Period Begin	Period End	Collection End	Type	Period Name	Code	Count	Measure	UoM

Violations & Enforcements

FROM 01/01/1990 TO 11/30/2011

Viol Date	Comp Beg	Comp End	Fed F	Type	Sev	Cate	Code	Name
09/06/2011	08/01/2011	08/31/2011	2011	22		MCL	3100	COLIFORM (TCR)
	2011	5599414	09/26/2011	SIF		ST PUBLIC NOTIF RECEIVED		
	2011	5599413	09/06/2011	SIE		ST PUBLIC NOTIF REQUESTED		
	2011	5599412	09/06/2011	SIA		ST VIOLATION/REMINDER NOTICE		
	2011	5599410	09/06/2011	MPH		PHONE CALL TO SYSTEM		
	2011	5599411	09/06/2011	MHA		HEALTH ADVISORY		

APPENDIX 5

Historic Irrigation Maps

RECORDS
MANAGEMENT
WRS COPY

Water Resources Survey

Flathead and Lincoln Counties, Montana

Part I:

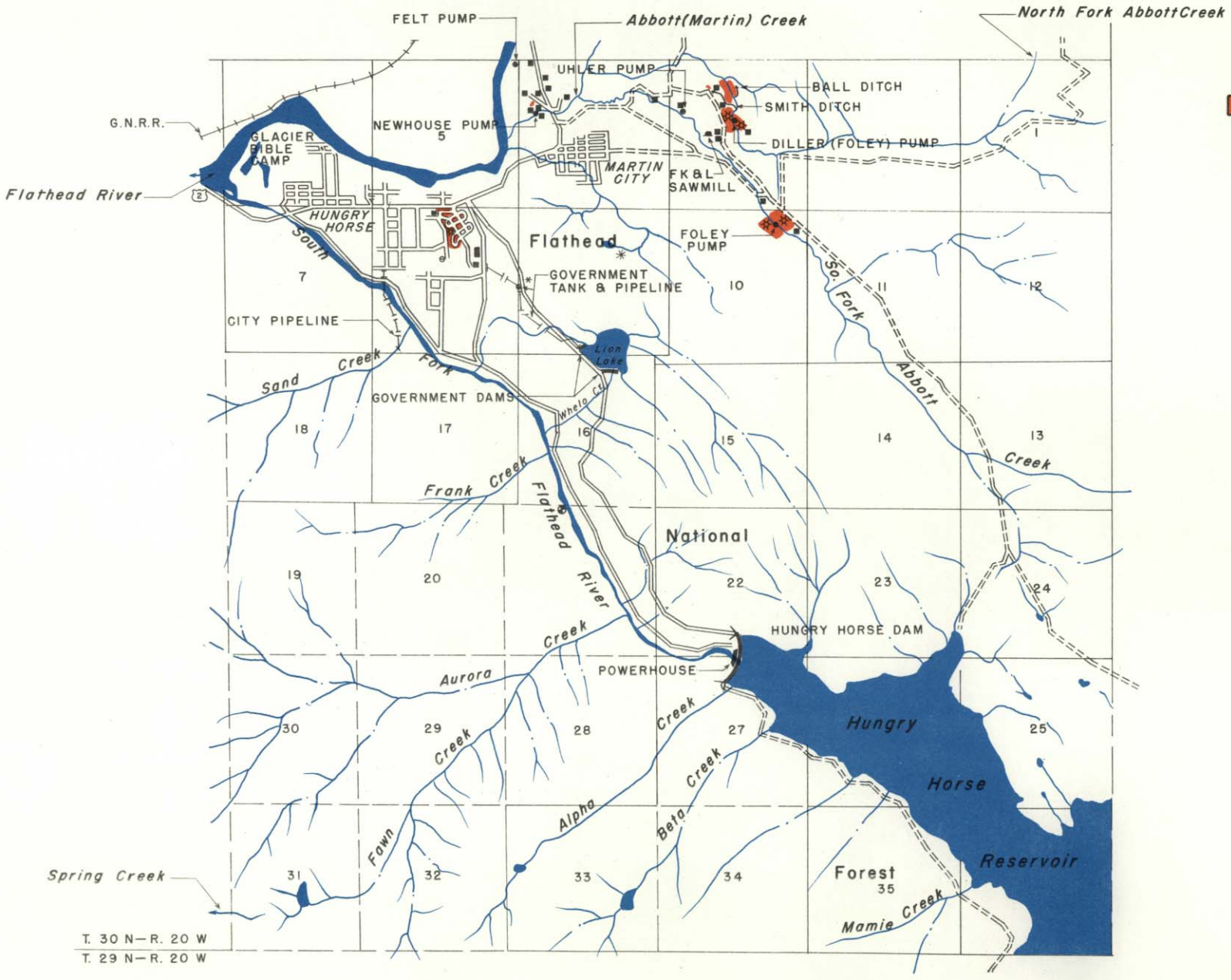
HISTORY OF LAND AND WATER USE ON IRRIGATED AREAS

and

Part II:

MAPS SHOWING IRRIGATED AREAS IN COLORS DESIGNATING THE SOURCES OF SUPPLY

Published by
STATE ENGINEER'S OFFICE
Helena, Montana, June, 1965

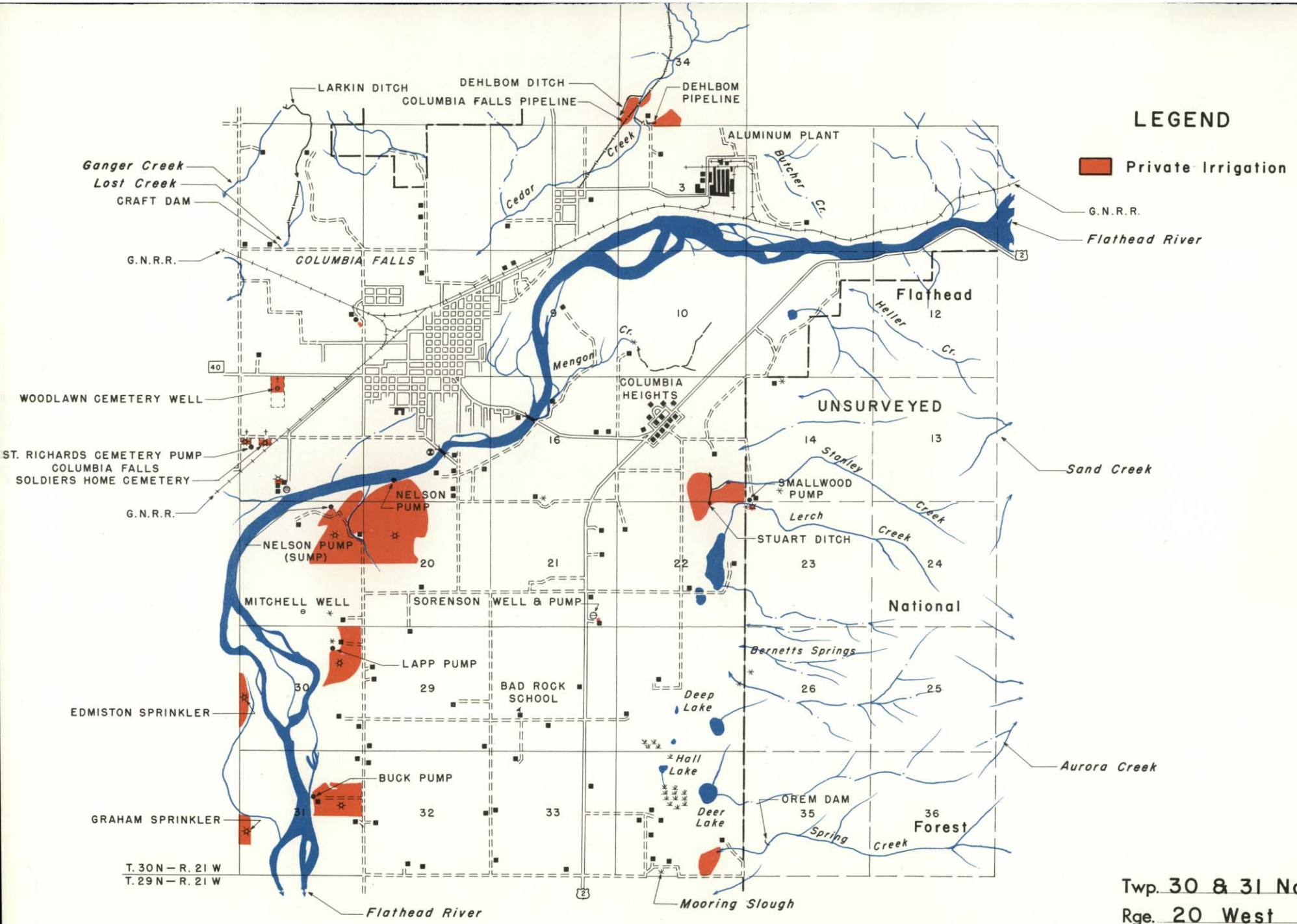


LEGEND

Private Irrigation

Twp. 30 North

Rge. 19 West


LARKIN DITCH
DEHLBOM DITCH
COLUMBIA FALLS PIPELINE
DEHLBOM PIPELINE
34
ALUMINUM PLANT
Ganger Creek
Lost Creek
CRAFT DAM
Cedar Creek
Butcher Cr.
3
G.N.R.R.
Flathead River
G.N.R.R.
COLUMBIA FALLS
Flathead
Heller Cr.
12
9
10
Cr.
Mengon
40
WOODLAWN CEMETERY WELL
COLUMBIA HEIGHTS
UNSURVEYED
ST. RICHARDS CEMETERY PUMP
COLUMBIA FALLS
SOLDIERS HOME CEMETERY
16
14
13
Stanley Creek
Sand Creek
SMALLWOOD PUMP
NELSON PUMP
G.N.R.R.
Lerch Creek
STUART DITCH
NELSON PUMP (SUMP)
20
21
22
23
24
MITCHELL WELL
SORENSON WELL & PUMP
National
Bernetts Springs
LAPP PUMP
30
29
BAD ROCK SCHOOL
26
25
Deep Lake
EDMISTON SPRINKLER
Hall Lake
Aurora Creek
BUCK PUMP
OREM DAM
31
32
33
35
36
Deer Lake
GRAHAM SPRINKLER
Forest
Spring Creek
T. 30 N — R. 21 W
T. 29 N — R. 21 W
Flathead River
Mooring Slough
LEGEND
Private Irrigation
Twp. 30 & 31 North
Rge. 20 West

APPENDIX 6

Wetland Report

Draft Wetland Re-Evaluation Report

Montana Department of Transportation Projects

NH 1-2(68)138F: Columbia Heights – East
NH 1-2(92)141F: Hungry Horse - West

(formerly NH 1-2(92)141 F, Control # 1290
Columbia Heights – Hungry Horse)

Prepared for:

MONTANA DEPARTMENT OF TRANSPORTATION
2701 Prospect Avenue
Helena, MT 59620

and

ROBERT PECCIA & ASSOCIATES
P.O. Box 5653
825 Custer Avenue
Helena, MT 59604

Prepared by:

LAND & WATER CONSULTING, INC.
PO Box 239
Helena, MT 59624

April 25, 2002

Project No. 330010

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Representative Wetland Photographs ..... Appendix B
COE and MDT Wetland Data Forms ..... Appendix C

1.0 INTRODUCTION AND PROJECT DESCRIPTION

Land & Water Consulting, Inc. (LWC) was contracted by Robert Peccia & Associates, Inc. (RPA) to delineate and evaluate existing wetlands within the proposed right-of-way (ROW) of a proposed Montana Department of Transportation (MDT) / Federal Highway Administration (FHWA) highway reconstruction project in Flathead County. The project occurs along U.S. Highway 2 between the communities of Columbia Heights and Hungry Horse (**Figure 1**). Wetlands were conceptually delineated along the project corridor in 1989 and were re-evaluated in 1992/93 using the Wetland Evaluation Technique (WET II) analysis procedure (OEA Research, Inc. 1993). Since several years have passed since the last wetland evaluation was conducted, a new delineation and evaluation were conducted to reflect current conditions and better facilitate eventual quantification of wetland impacts.

The proposed Columbia Heights – Hungry Horse project involves the reconstruction of about 7.3 km (4.5 miles) of U.S. Highway 2 beginning just west of the Montana Secondary Highway 206 intersection and continuing northeasterly to the community of Hungry Horse. The beginning and ending termini for the proposed reconstruction are at Milepost (MP) 138.3 (Project Station 137+95.88) and MP 142.7 (Project Station 211+03.26). The overall project has been separated into two sections: Columbia Heights – East and Hungry Horse – West, which are depicted on **Figure 1**. The Columbia Heights – East section begins in Columbia Heights at Station 137+95.88 and extends to Station 167+05.27, just west of the canyon, for a total distance of approximately 2.9 km (1.8 miles). The 4.4-km (2.7-mile) Hungry Horse – West section begins west of the canyon at Station 167+05.27 and extends through the canyon, across the South Fork Flathead River, and terminates in Hungry Horse at Station 211+3.06.

The proposed project passes through both rural and urban settings. After leaving the strip development of Columbia Heights, the project passes through generally flat to rolling terrain with scattered residences and businesses and seeded pasture and hayland. Approximately 3 km (1.8 miles) east of Columbia Heights, the roadway enters Badrock Canyon. Through this section the roadway occurs immediately between near vertical canyon walls and the Flathead River. Exiting Badrock Canyon, the highway parallels the South Fork of the Flathead River before crossing it and entering Hungry Horse.

The proposed work includes full reconstruction of the 7.3 km of U.S. Highway 2 between Columbia Heights and Hungry Horse. The project is being designed to meet the standards for a Primary Arterial roadway using the design speed of about 100 kilometers per hour (62 miles per hour) for rolling terrain. The proposed alignment would generally match or parallel the existing alignment, with slight deviations both entering and leaving Badrock Canyon. The project also includes the complete reconstruction of the intersection of U.S. Highway 2 and Secondary Highway 206, roadway widening to enhance traffic capacity and safety, and the construction of a new bridge across the South Fork of the Flathead River near Hungry Horse.

The proposed construction will upgrade the existing 7.3-meter (24-foot)-wide two-lane road to a four- and five-lane road with wider paved shoulders to meet current design standards for traffic demands. As currently proposed, new improvements include curb and gutter, sidewalk, drainage structures, a park and ride facility, wetland construction, a river access parking area, a traffic signal, a retaining wall along the Flathead River in Badrock Canyon, and other minor miscellaneous features. Design is ongoing with respect to the Hungry Horse – West section; the precise location of the bridge over the S.F. Flathead River, as well as final design measures through the canyon and along the Flathead River, are as yet undetermined.

2.0 REGULATORY BASIS

Placement of dredged or fill material into wetlands or other "waters of the United States" is regulated by the Corps of Engineers (COE) and the Environmental Protection Agency (EPA) under Section 404 of the federal Clean Water Act. Consequently, any such actions proposed in wetlands or other jurisdictional waters are subject to review by these and other federal and state agencies and require acquisition of a Section 404 permit from the COE. For jurisdictional purposes, wetlands are defined as:

> *Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions* (33 CFR 328.3, 40 CFR 230.3).

Wetlands and riparian areas are also protected by Executive Orders 11990 (wetland protection) and 11988 (floodplain management), which regulate federal agency activities in these areas.

The interaction of wetland hydrology, hydrophytic vegetation, and hydric soil results in the development of site characteristics unique to wetlands. Consequently, except under certain circumstances, the COE Wetlands Delineation Manual (Environmental Laboratory 1987) requires that a minimum of one positive indicator from each of these three parameters be documented to positively delineate an area as a wetland. Unvegetated stream channels, open water areas, and similar areas are not wetlands, but are generally regulated by the COE and EPA as waters of the United States.

On January 9th, 2001 the U.S. Supreme Court issued a decision that the COE lacks the authority to regulate isolated wetlands via the "Migratory Bird Rule". The 1986 Migratory Bird Rule stated that Section 404 of the CWA extended to intrastate waters which provide habitat for: birds protected by migratory treaties; other migratory birds which cross state lines; or endangered species. Intrastate waters used to irrigate crops sold in interstate commerce were also included. As a result of the court decision, many isolated wetlands (not connected or adjacent to other waters of the U.S.), which previously fell under COE authority, are now unregulated for Section 404 purposes.

The COE's previous written policies regarding regulatory jurisdiction in wetlands artificially created by seepage, wetlands in artificially irrigated areas, and wetlands in roadside ditches are discussed in Regulatory Guidance Letters MRO 92-02 (COE 1992a), MRO 92-01 (COE 1992b), and MRO 95-10 (COE 1995), respectively.

Generally, the COE maintains jurisdiction over non-isolated wetlands that are hydrologically charged by irrigation seepage as long as the seepage is considered "normal circumstances" for the wetlands it creates (COE 1992a). The COE does not generally maintain jurisdiction over wetlands in artificially irrigated areas unless: the wetland has additional hydrological sources; the wetland is of significant regional or local value, or elimination of the irrigation could not be accomplished in the near future (COE 1992b).

According to 1995 published guidance, the COE generally did not consider ditches excavated on dry land as jurisdictional "waters of the United States". It was the COE's intent that jurisdiction of these areas be taken only in exceptional cases, and that normally they would not regulate the filling of any ditch that was originally excavated on dry land (COE 1995). However, the COE Omaha District has recently issued unpublished guidance to the effect that excavated irrigation and drainage ditches may be considered jurisdictional if they have a downstream surface connection to other waters of the U.S. (Tillinger pers. comm.).

Wetlands are also protected by Executive Order 11990, which implements a "no net loss" wetland policy with respect to federal actions. According to DOT 5660.1A, the federal Department of Transportation's (DOT) policy dictating implementation of EO 11990, new construction located in wetlands is to be avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm (DOT 1978). According to recent FHWA guidance, EO 11990 will continue to apply to many wetlands excluded from regulation under Section 404 of the CWA by the January 2001 court ruling (ETAP 2001). Such wetlands include isolated, intrastate wetlands, such as prairie potholes and vernal pools.

However, FHWA has imposed new limits on the extent to which EO 11990 will be applied (ETAP 2001). The guidance is as follows:

> *FHWA will not apply EO 11990 to drainage ditches, either highway or for other purposes, which were not originally excavated in waters of the U.S. (as currently defined), or to sites exhibiting wetland*

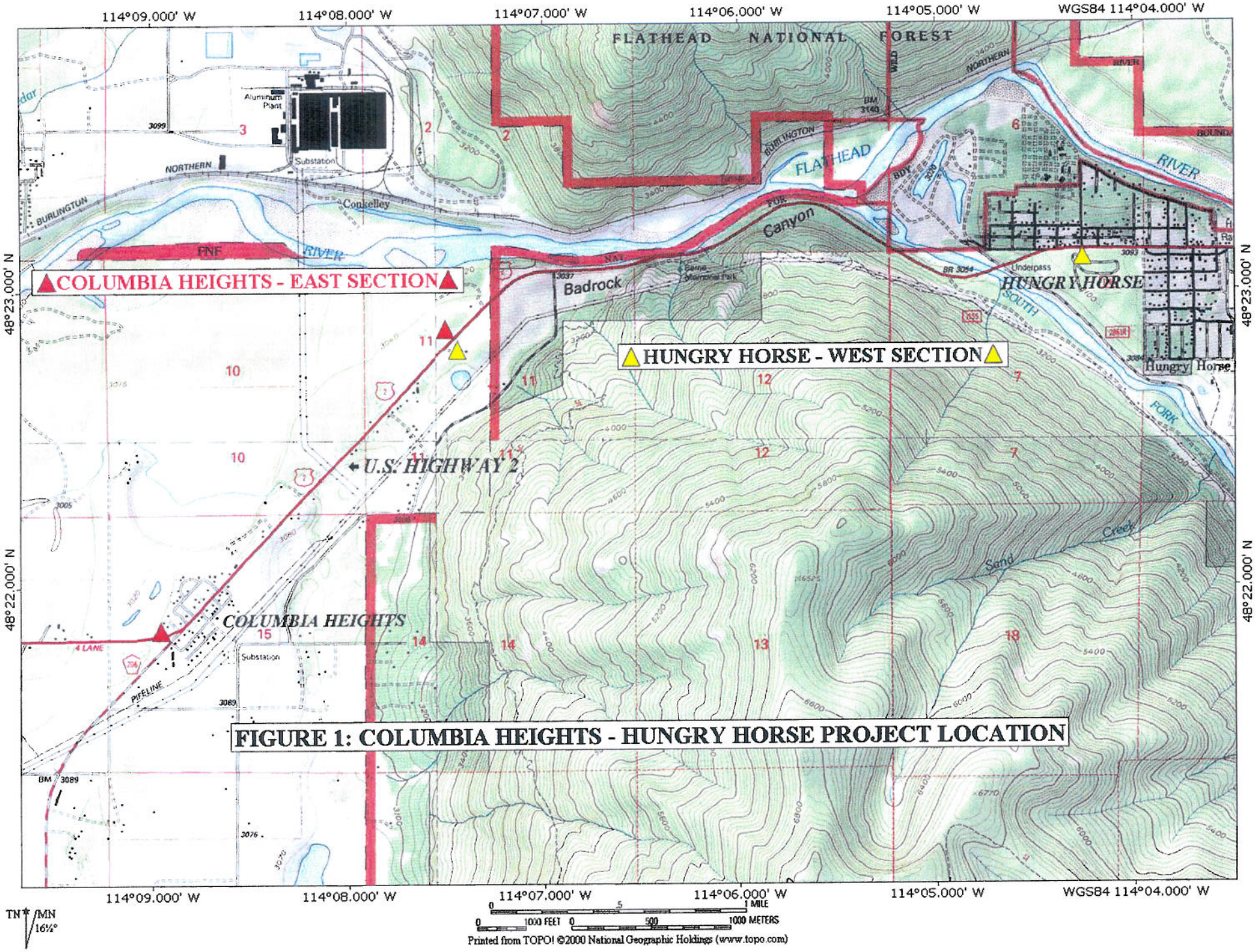


FIGURE 1: COLUMBIA HEIGHTS - HUNGRY HORSE PROJECT LOCATION

characteristics which are solely caused and supported by human activities, such as but not limited to, stormwater runoff which is concentrated by man-made ditches or agricultural irrigation leakage, and which are not considered jurisdictional waters of the U.S. by the Corps of Engineers.

3.0 STUDY METHODS

3.1 Off Site Methods

Available soils maps for the project area were obtained from the Natural Resources Conservation Service (NRCS) and were compared with county hydric soils lists. National Wetland Inventory (NWI) maps for the project area were also acquired and examined. Stream gauge data from U.S. Geological Survey (USGS) gauge located along the Flathead River near Columbia Falls were examined, as were floodplain maps and two-year return flood elevations calculated by RPA. Previous wetland delineation and re-evaluation documents were reviewed (OEA Research, Inc. 1993). Precipitation and other weather data from the project area were also obtained and examined.

Recent supplemental biological assessments for the project corridor were reviewed with respect to threatened and endangered species information (Western EcoSystems Technology, Inc. 2000, 2001). Additional information pertaining to endangered, threatened, and sensitive plant and animal species in the project area was requested and received from the Montana Natural Heritage Program (MNHP 2002). The Montana Rivers Information System (MRIS 2002) was consulted regarding fisheries resources in the project area.

3.2 Field Methods

The Columbia Heights – East project corridor was examined in the field on October 2nd, 2000 and the Hungry Horse – West corridor was examined on August 12, 2001. Wetlands within the project ROW shown on the provided plan sheets were delineated in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). Dominant vegetation was recorded and hydrophytic plant species were classified according to the National List of Plant Species that occur in wetlands: Northwest Region 9 (Reed 1997). Wetlands were hand-mapped onto contoured project plan sheets and submitted to RPA for digital incorporation onto plan sheets (see **Appendix A**). COE routine wetland determination data forms were completed for wetlands within the analysis corridor, as were MDT Montana wetland assessment method forms (Berglund 1999). Copies of completed COE and MDT forms are presented in **Appendix C**. Representative wetland photographs are presented in **Appendix B**.

Functional assessment was performed using the 1999 MDT Montana Wetland Assessment Method (Berglund 1999). The agencies involved in project review had considered applying the "riverine floodplain wetlands" hydrogeomorphic functional assessment model to the project. However, as the model had not been tested in a constricted floodplain / canyon setting, it was determined that the model may not be applicable or useful, and the COE did not require its use (Steinle 2001).

Throughout the delineation, identified wetlands were compared with existing "offsite" information, including aerial photographs, NRCS county soils maps, NWI maps, and previous delineation materials.

4.0 STUDY RESULTS

4.1 Ecological Setting

According to a description of ecological units prepared by Nesser et al. (1997), the project occurs in the *Whitefish / Swan Mountains* ecological unit of the *Northern Rockies* section. This unit is primarily comprised of block faulted mountains that formed from argillite, siltite, and dolomite and were strongly shaped by alpine glaciation. Valley floors were formed in alluvium and outwash. Some volcanic ash deposits also occur in this unit. Mean annual precipitation ranges between 20 and 110 inches, with about 80 percent falling as snow. May (2.3 inches) and June (2.7 inches) are peak precipitation months (Western Regional Climate Center 2002) in the Columbia Falls area.

4.2 Wetlands

4.2.1 General Description

Six primary wetland areas (Sites 2A/2B, 4, 5B, 5C, 5D, and 6) were delineated in and adjacent to the analysis corridor described earlier in this report under *Methods*. Where applicable, these sites were numbered consistently with identifiers assigned by OEA Research, Inc. during their 1993 re-evaluation of wetlands in the project corridor. Of these six, only Site 2A/2B occurs along the Columbia Heights – East section. The remaining sites occur along the Hungry Horse – West section.

Table 1 presents a comparison between wetland sites identified in the 1993 re-evaluation (OEA 1993) and wetlands delineated during this re-evaluation. Identified wetland locations were generally quite similar between the two efforts, although some differences were noted.

Table 1: ***Comparison of 1992/1993 and 2000/2001Wetland Locations in the Analysis Corridor***

1992/1993 Wetland Site	2000/2001 Wetland Site	Comments on 2000/2001 Delineation
1	None	Site 1 occurred outside of the 2000/2001 analysis area.
2A / 2B	2A / 2B	Wetland was mapped in virtually the same location, except that the eastern border was extended to the east south of the highway during 2000.
3	None	Site 3 occurred outside of the 2000/2001 analysis area.
4	4	Wetland was mapped in virtually the same location.
5A	None	As mapped in 1992/1993, Site 5A occurred outside of the 2000/2001 analysis area.
5B	5B	Wetlands were mapped in the same general area, but not in same specific location. The 1992 delineation mapped a few small wetland "stringers" between the river and highway. Although comprising valuable riparian habitat, these areas were not mapped as wetlands during 2001 due to the absence of hydric soil indicators and substantive indicators of wetland hydrology (see Plot 5 data form in **Appendix C**). However, a seep outlet channel and a narrow wetland fringe along the south river bank were delineated during 2001 that were not in 1992.
5C	5C / 5D	Wetland 5C was mapped in virtually the same location along and riverward of the south bank of the S.F. Flathead River west of the bridge. The eastern wetland border was, however, extended to the east under the bridge during 2001. Also, a bank fringe wetland (5D) was delineated along the north bank in 2001.
None	6	Wetlands associated with a seep above (south of) the highway were mapped in 2001 that were not identified in 1992.

Table 2 presents the legal description, approximate stationing, dominant Cowardin et al. (1979) wetland class, overall wetland ratings using the 1999 MDT Montana Wetland Assessment Method, approximate impact area (where known), source of wetland hydrology, and a narrative description for each wetland delineated along the project. All wetlands identified along the project are mapped on the attached plan sheets (**Appendix A**). Representative wetland photographs are presented in **Appendix B**. Completed COE Routine Wetland Determination and MDT Wetland Field Evaluation forms are included in **Appendix C**.

Table 3 presents a summary of 1999 MDT Montana Wetland Assessment Method ratings for each evaluated function and wetland along the project. The MDT form assesses and assigns each of 12 functions and values ratings of "low", "moderate", or "high" (or "exceptional" in some cases), and scores each on a scale of 0.1 (lowest) to 1.0 (highest) "functional points". Functional points are summed on the form and expressed as a percentage of the possible total; functions that do not apply to a given wetland are assigned a rank of NA and are not included in point totals. This percentage is then used in conjunction with other criteria to provide an overall wetland ranking into one of four categories. Category I is the highest overall ranking a wetland can receive, followed by Category II, Category III, and

Table 2 - *General Characteristics Of Wetlands Along The Columbia Heights – Hungry Horse Project*

Site	Legal Descrip.	Approx. Stationing[1]	Vegetated Cowardin Classes[2]	MDT Wetland Rating Cat.[3]	Projected Direct Permanent Impacts (Acres)				Source of Wetland Hydrology	Narrative Description
					Likely Juris.	Likely Non-Juris.	Juris. Unknown	"EO 11990"		
COLUMBIA HEIGHTS – EAST SECTION (Station 137+95.99 – 167+05.27)										
2A / 2B	T30N, R20W, S10	153+66 – 154+36 (L) 154+32 – 154+66 (R) 154+98 – 155+28 (R)	emergent scrub-shrub aquatic bed	III	--	--	0.57	0.57	Primarily groundwater and surface runoff.	This disturbed, fen-like site consists of an internally-drained depression, possibly a historic lakebed, bisected by the highway and a gravel access road outside of the 100-year Flathead River floodplain. The site appears to constitute the historic north tip of a chain of lakes extending north from Lake Blaine along the west foot of the Swan Range. The site supports diverse vegetation and exhibits substantial peat accumulation, although fill placement has occurred in association with past road construction. Primary wetland functions at this site include wildlife habitat, production export / food chain support, groundwater discharge/recharge, and uniqueness. The site has no downstream surface connection to other waters of the U.S., and may be considered "isolated" and non-jurisdictional by the COE. EO 11990 likely applies to this site.
HUNGRY HORSE – WEST SECTION (Station 167+05.27 – 211+03.06)										
4	T30N, R20W, S4	176+56 – 177+84 (R)	emergent scrub-shrub aquatic bed	III	--	--	impacts unknown	impacts unknown	Direct surface discharge from small unnamed drainage.	This site consists of a depression on a river terrace outside of the 100-year Flathead River floodplain that is fed by an apparent perennial drainage. The site is dominated by emergent and aquatic vegetation and is ringed with shrub species. No surface outlet exists to the Flathead River, although one may have existed prior to original highway construction. The site is likely a groundwater recharge area. Prominent functions include surface water storage, sediment/nutrient/toxicant removal, and groundwater recharge. The site has no downstream surface connection to other waters of the U.S.; however, such a connection may have existed historically. It is unknown whether or not this site would be considered jurisdictional by the COE. EO 11990 likely applies to this site.
5B	T30N, R20W, S1	184+08 – 189+90 (R)	scrub-shrub	III	impacts unknown	--	--	impacts unknown	Direct flooding from spring discharge and adjacent Flathead River.	This site consists of a narrow wetland channel / seep outlet north of the highway at a pipe outlet (from Berne Park) and a 1-2 m-wide wetland fringe along the immediate south bank of the Flathead River. The wetland is within the 100-year floodplain, and is dominated by shrub species. Prominent functions include sediment/nutrient/toxicant removal, sediment / shoreline stabilization, and groundwater discharge. The site is likely considered jurisdictional by the COE. EO 11990 likely applies to this site.

Site	Legal Descrip.	Approx. Stationing[1]	Vegetated Cowardin Classes[2]	MDT Wetland Rating Cat.[3]	Projected Direct Permanent Impacts (Acres)				Source of Wetland Hydrology	Narrative Description
					Likely Juris.	Likely Non-Juris.	Juris. Unknown	"EO 11990"		
5C	T30N, R19W, S7	198+52 – 203+10 (L) 202+72 – 203+88 (R)	emergent forested	II	impacts unknown	--	--	impacts unknown	Direct flooding and alluvial discharge associated with adjacent S.F. Flathead River.	This site consists of wetlands associated with alluvial deposits along and within the south bank floodplain and river channel. Wetland areas are interspersed with areas of unvegetated river cobble. Prominent functions include production export, groundwater discharge, and recreation potential (the river is included within the assessment area for this site). The site is likely considered jurisdictional by the COE. EO 11990 likely applies to this site.
5D	T30N, R19W, S7	203+60 - 203+68 (L) 204+8 – 204+48 (R)	emergent forested	III	impacts unknown	--	--	impacts unknown	Direct flooding and alluvial discharge associated with adjacent S.F. Flathead River.	This site consists of disturbed narrow wetlands associated with alluvial deposits along the north river bank. Wetland areas are interspersed with areas of unvegetated river cobble. Prominent functions include sediment/nutrient/toxicant removal, production export, groundwater discharge, and recreation potential. The site is likely considered jurisdictional by the COE. EO 11990 likely applies to this site.
6	T30N, R20W, S12	182+46 – 182+90 (R)	scrub-shrub	III	--	--	impacts unknown	impacts unknown	Seep discharge and surface runoff.	This site consists of a narrow intermittent seep-fed drainage at a pullout south of the highway. The site is heavily disturbed by foot traffic and garbage placement. Groundwater discharge / recharge is a prominent function at this site. No surface connection to the river was observed, although one may have existed prior to highway construction. It is unknown whether or not this site would be considered jurisdictional by the COE. EO 11990 likely applies to this site.
Total Estimated Wetland Impacts: **Columbia Heights – East:** 0.57 acre (0.24 hectare) **Hungry Horse – West:** Unknown (design ongoing)					unknown	unknown	unknown	unknown		

1 – within proposed ROW & easements; R/L indication is relative to proposed centerline.
2 - From Cowardin et al. 1979
3 - From Berglund 1999 (completed forms in Appendix C)

Table 3: ***Summary of Wetland Function/Value Ratings and Functional Points [1] Along the Proposed Columbia Heights – Hungry Horse Highway Project***

Function and Value Parameters From the 1999 MDT Montana Wetland Assessment Method	Wetland Numbers					
	Wetland 2A/2B Closed Groundwater Depression (Columbia Heights – East Section)	Wetland 4 Closed Flooded Terrace Depression (Hungry Horse – West Section)	Wetland 5B Narrow Flathead River Fringe (Hungry Horse – West Section)	Wetland 5C Wide S.F. Flathead River Fringe and Floodplain (Hungry Horse – West Section)	Wetland 5D Narrow S.F. Flathead River Fringe (Hungry Horse – West Section)	Wetland 6 Seep / Drainage (Hungry Horse – West Section)
Listed/Proposed T&E Species Habitat	Low (0.3)	Low (0.3)	Low (0.3)	Mod (0.8)	Low (0.3)	Low (0.3)
MNHP Species Habitat	Mod (0.6)	Mod (0.6)	Low (0.1)	Mod (0.7)	Low (0.1)	Mod (0.6)
General Wildlife Habitat	High (0.8)	Mod (0.7)	Mod (0.5)	Mod (0.7)	Mod (0.5)	Low (0.3)
General Fish/Aquatic Habitat	NA	NA	NA	Mod (0.7)	NA	NA
Flood Attenuation	NA	Low (0.2)	Mod (0.4)	Mod (0.5)	Low (0.2)	Mod (0.4)
Short and Long Term Surface Water Storage	Mod (0.6)	High (0.8)	Low (0.3)	Mod (0.6)	Low (0.3)	Low (0.3)
Sediment, Nutrient, Toxicant Removal	Mod (0.5)	High (1)	High (1)	Mod (0.7)	High (1)	Mod (0.5)
Sediment/Shoreline Stabilization	NA	NA	High (1)	Mod (0.7)	Mod (0.7)	Mod (0.6)
Production Export/ Food Chain Support	High (0.8)	Mod (0.7)	Low (0.3)	High (0.9)	High (0.8)	Mod (0.5)
Groundwater Discharge/ Recharge	High (1)	High (1)	High (1)	High (1)	High (1)	High (1)
Uniqueness	High (0.8)	Mod (0.5)	Low (0.3)	Mod (0.5)	Mod (0.4)	Low (0.2)
Recreation/Education Potential	Low (0.3)	Low (0.1)	Low (0.1)	High (1)	High (1)	Low (0.2)
Actual Points/ Possible Points	5.7 / 9	5.9 / 10	5.3 / 11	8.8 / 12	6.3 / 11	4.9 / 11
% of Possible Score Achieved	63%	59%	48%	73%	57%	45%
Overall Category	III	III	III	II	III	III
Total Permanent Impact Acreage of Assessed Wetlands	0.57 ac	undetermined	undetermined	undetermined	undetermined	undetermined
Projected Functional Unit Loss (acreage x actual points)	3.25 units	undetermined	undetermined	undetermined	undetermined	undetermined
Total Functional Unit "Loss"	undetermined					

[1] See completed MDT functional assessment forms in Appendix B for further detail.

Category IV. Functional points can also multiplied by the acreage of wetlands impacted in the assessment area (AA) to determine the total "functional units" lost for a given site. Where known, functional unit losses are also presented in **Table 3**.

Wetlands along the proposed project include depressions dominated by emergent species west of Badrock Canyon, scrub/shrub-dominated seeps in the canyon, and forested, scrub/shrub, and emergent-dominated bank fringe wetlands associated with the Flathead and South Fork Flathead rivers in and east of the canyon. Again, site-specific descriptions are provided in **Table 2**.

Common emergent species at wetlands in the project area include redtop (*Agrostis alba*), broad-leaf cattail (*Typha latifolia*), reed canarygrass (*Phalaris arundinacea*), meadow foxtail (*Alopecurus pratensis*), hard-stem bulrush (*Scirpus acutus*), creeping spikerush (*Eleocharis palustris*), hairy willow-herb (*Epilobium ciliatum*), rough horsetail (*Equisetum hyemale*), American sloughgrass (*Beckmannia syzigachne*), Baltic rush (*Juncus balticus*), beaked sedge (*Carex utriculata*), tall manna grass (*Glyceria elata*), wooly-fruit sedge (*Carex lasiocarpa*), wooly sedge (*Carex lanuginosa*), and retrorse sedge (*Carex retrorsa*). Species associated with aquatic bed communities at wetlands 2A/2B and 4 include least duckweed (*Lemna minima*), white water buttercup (*Ranunculus aquatilis*), and common hornwort (*Ceratophyllum demersum*). Common shrub species at wetlands include sandbar willow (*Salix exigua*), red-osier dogwood (*Cornus stolonifera*), Bebb willow (*Salix bebbiana*), Geyer willow (*Salix geyerana*), speckled alder (*Alnus incana*), Rocky Mountain maple (*Acer glabrum*), and western thimbleberry (*Rubus parviflorus*). Small patches of forested wetland occurring at wetlands 5C and 5D along the S.F. Flathead River are dominated by black cottonwood (*Populus balsamifera*).

Wetland hydrology at most sites involves a groundwater component. Wetland 4, although an apparent groundwater recharge site, appears to receive its wetland hydrology via direct flooding from a perennial drainage. Runoff also contributes to all sites. Direct flooding from the adjacent Flathead and South Fork Flathead rivers contributes to wetland hydrology at wetlands 5B, 5C, and 5D, as does alluvial flow. Wetlands 2A/2B and 6 appear to function as both groundwater discharge and recharge areas. Wetland soils generally consist of poorly drained muck and peat at Wetland 2A/2B, well-drained Mires loam at Wetland 4, sand and sandy loam over river cobbles at wetlands 5B, 5C, and 5D, and sand at Wetland 6 (see data forms in **Appendix C**).

All wetlands were rated as either Category II or III sites using the 1999 MDT Montana Wetland Assessment Method (see **Table 2 and Table 3**). Wetland 5C, which included the South Fork Flathead River within its assessment area, was the sole Category II site along the project. Most sites were considered moderately to highly disturbed due to fill placement, proximity to the highway and other roads, hydrological alteration, and/or degradation associated with foot traffic and garbage placement. A prominent function at all sites included groundwater discharge/recharge. Wildlife habitat is a prominent function at Wetland 2A/2B (Category III), although most sites scored at least moderately for this function due to their proximity to undeveloped habitat and the Flathead River system. Wetland 5C is the only assessment area along the project that provides habitat for fish. Other prominent functions at project area wetlands include surface water storage, sediment/nutrient/toxicant removal, sediment/shoreline stabilization, production export/food chain support, uniqueness (Wetland 2A/2B), and recreation potential (Wetlands 5C and 5D along the S.F. Flathead River).

4.2.2 Impacts

Where possible, **Table 2** indicates which wetlands are likely to fall under Corps of Engineers jurisdiction with respect to Section 404 of the federal Clean Water Act (CWA). This preliminary determination is based upon published guidance and conversations with Corps staff in the Helena Regulatory Office (Tillinger pers. comm.). It should be noted, however, that the COE and the EPA reserve the right to determine jurisdiction on a case-by-case basis (CFR Vol. 51 No. 219). Jurisdiction will ultimately be decided by the COE relative to each of the wetlands identified along this project. In some cases, primarily for wetlands 2A/2B, 4, and 6, which contain no discernable downstream surface connection to other waters of the U.S., preliminary jurisdictional determinations were not be made due to lack of clear COE written guidance.

Where known, **Table 2** displays wetland impacts at each wetland along the proposed alignment, while **Table 3**

summarizes wetland impacts in terms of functional unit loss. As previously mentioned, design is ongoing with respect to the Hungry Horse – West section, and impact areas along this section cannot be quantified at this time. It can generally be stated that impacts through this section may result from pier or retaining wall placement along the river through the canyon, general excavation and fill placement along the revised alignment, and abutment and pier placement associated with the new bridge alignment. All wetlands would likely be affected to some extent, although impacts to Wetland 4 would likely be less than the 0.9-acre loss predicted in the project EIS due to a proposed alignment shift to the north.

Only Wetland 2A/2B occurs along the Columbia Heights – East section. This site would be permanently affected by construction; primarily as a result of fill placement. As currently designed, approximately 0.24 hectare (0.57 acre) of Wetland 2A/2B would be lost to construction. Additional temporary disturbance-related impacts (clearing, equipment movement, etc.) may occur at this site within temporary construction easements; an additional approximate 0.13 hectare (0.32 acre) of this site occurs within these temporary easement areas south of the highway. It is assumed for purposes of this report that any temporary impacts to wetlands within the ROW and construction easement areas would be restored to original contours and revegetated following construction.

The approximate projected breakdown of permanent wetland impacts by type and category along the Columbia Heights – East section is as follows:

Table 4: ***Columbia Heights – East Permanent Wetland Impact Summary.***

Wetland Type or Category	Section 404 Jurisdiction Undetermined (Ac)
Scrub-Shrub	0.32
Emergent	0.23
Aquatic Bed	0.02
Total Impacts By Wetland Type	**0.57 acre (0.24 hectare)**
Category I	0.0
Category II	0.0
Category III	0.57
Category IV	0.0
Total Impacts By Wetland Category	**0.57 acre (0.24 hectare)**

Wetland functional points were multiplied by the acreage of wetlands to be impacted (e.g., within the proposed construction limits, where known) to project the total "functional units" to be lost along the Columbia Heights – East section. Functional unit losses were then cumulatively totaled for the section to provide a target for functional unit replacement to be applied during mitigation (**Table 3**). The Columbia Heights – East section would result in the loss of approximately 3.25 total wetland functional units (**Table 3**). As design is incomplete and impact acreage is unknown, wetland functional unit losses could not be predicted for the Hungry Horse – West section.

4.2.3 Mitigation

The *1990 Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines* requires that wetland mitigation be addressed in the following sequence:

(1) Avoid potential impacts to the maximum extent practicable.
(2) Minimize unavoidable impacts to the extent appropriate and practicable.

(3) Compensate for unavoidable adverse impacts that remain after all appropriate and practicable minimization has been required.

Additionally, as stated above, DOT 5660.1A requires that new construction located in all wetlands falling under the scope of EO 11990 is to be avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm (DOT 1978).

Preliminary determinations as to whether given wetlands are likely jurisdictional, non-jurisdictional, and/or fall under the scope of EO 11990 are provided in **Table 3**.

Design is ongoing with respect to the Hungry Horse – West section. Consequently, the discussion below focuses on impacts associated with the Columbia Heights – East section.

Avoidance and Minimization. Impacts were avoided and minimized to the extent practicable by keeping the new alignment as close as possible to the existing alignment. Given the juxtaposition of Wetland 2A/2B, adjacent homes, and transmission lines, impacts to this site are considered unavoidable. Proposed fill slopes in the vicinity of Wetland 2A/2B were minimized from a "standard" 6:1 slope to 2:1 / 3:1 slopes and proposed in conjunction with guardrail in order to minimize wetland impacts. The existing equalizer pipe between 2A and 2B will be replaced to maintain hydraulic connectivity between the two subsites. Wetlands 1 and 3, as identified in the 1992 wetland re-evaluation report, were avoided.

Compensation. Compensatory mitigation for the projected wetland loss is being pursued under the 1996 MDT Interagency Wetland Group operating procedures. As stated earlier, it is assumed for purposes of this report that any temporary impacts to wetlands within the ROW and construction easement areas would be restored to original contours and revegetated immediately following construction.

Onsite Possibilities. As discussed in the project EIS, it is estimated that approximately 0.28 hectare (0.7 acre) of wetland could be created by expanding Wetland 4 to the south via excavation. No additional onsite restoration opportunities were observed along the project during the 2000/2001 reconnaissance, although expansion of Wetland 3 (outside the anaylsis area for this evaluation) was mentioned as a mitigation possibility in the 1993 re-evaluation report (OEA 1993). Borrow sources, if required, could also be considered for wetland construction should site conditions allow.

Offsite Possibilities. MDT is actively pursuing wetland mitigation project leads within the watershed, but has no specific off-site mitigation projects in hand to apply against anticipated wetland losses associated with the Columbia Heights – Hungry Horse project at this time (Urban pers. comm.).

General Recommendations. The following general measures are recommended to minimize disturbance of wetlands and other waters of the Unites States during construction of the proposed project:

- Hay bales, berms, or other accepted erosion/sedimentation control devices should be installed at the edges of wetlands and other waters prior to construction. All exposed soils should be permanently stabilized at the earliest practicable date.
- Temporarily disturbed wetland areas should be revegetated as quickly as possible following construction. Appropriate measures should be taken to prevent the introduction/spread of noxious weeds into these areas.
- Removed culverts, guardrail, and other items should not be stockpiled in or adjacent to wetland or drainage areas.
- To minimize sedimentation as well as construction hardship, it is recommended that construction in wetlands be timed in order for these sites to be as "dry" as possible during construction.

- Construction equipment operating in streams and wetlands should be limited to that which is needed to perform the necessary work. Width of the construction ROW should be minimized to the extent possible in wetland and drainage areas.

- Hazardous materials, including fuels and lubricating oils, should not be stored within 30 meters (100 feet) of wetlands or streams. Additionally, construction equipment should not be refueled within 30 meters of such areas.

- Wide-track or balloon-tire construction equipment should be considered in saturated/inundated areas. Timber pads, prefabricated equipment pads, or geotextile fabric overlain with gravel fill should be considered with normal equipment in such areas. All pads and temporary fill should be removed following construction.

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Appendix A

DRAFT PLAN SHEETS WITH WETLAND LOCATIONS

Montana Department of Transportation
Columbia Heights – Hungry Horse Project

STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(68)138 F	26

UTILITY CROSSINGS

140+66.41	OH PWR LINE X-ING CL. - 12.0+ m CLEAR
140+91.62	OH PWR LINE X-ING CL. - 12.0+ m CLEAR
142+08.25	FIB LINE X-ING CL. - DEPTH UNKNOWN
142+20.80	TEL LINE X-ING CL. - DEPTH UNKNOWN
143+27.78	OH PWR LINE X-ING CL. - 7.01 m CLEAR
143+38.62	TEL LINE X-ING CL. - DEPTH UNKNOWN
143+64.00	GAS LINE X-ING CL. - DEPTH UNKNOWN

CURB OPENINGS LT.

141+44	12.0 m
141+98	7.2 m
142+28	10.0 m
142+51	12.0 m
142+71	12.0 m
142+99	12.0 m
143+96	12.0 m

CURB OPENINGS RT.

143+15	12.0 m

CURB RAMPS LT.

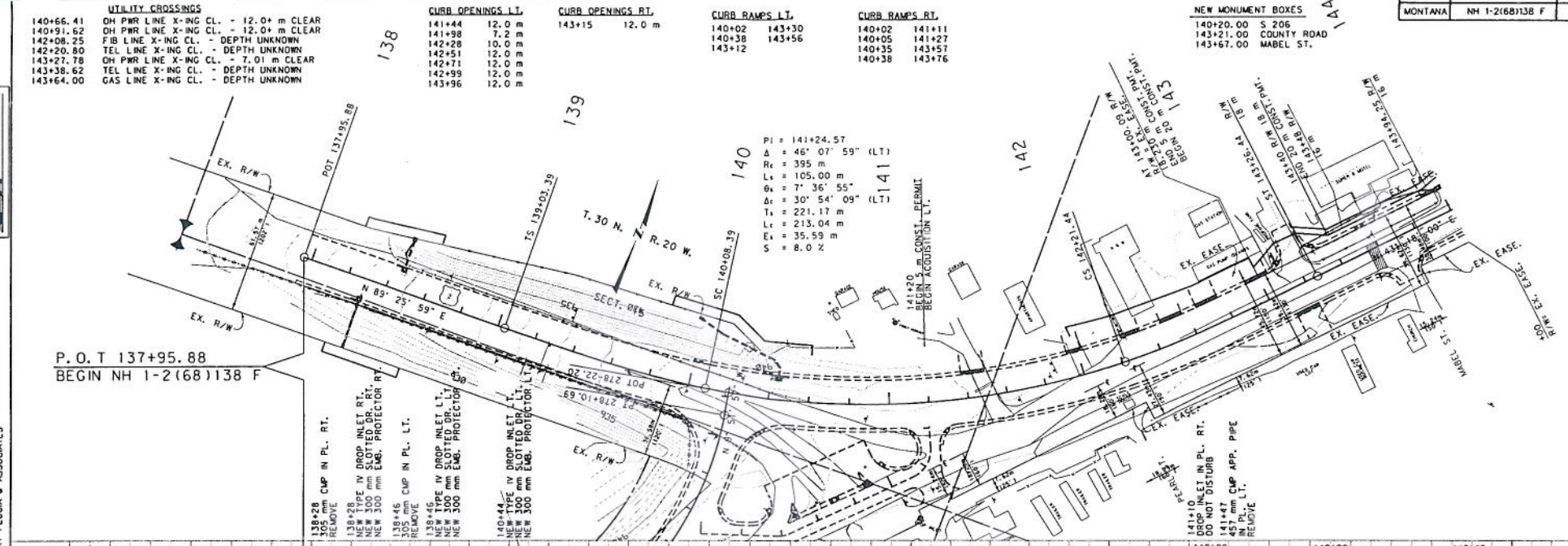
140+02	143+30
140+38	143+56
143+12	

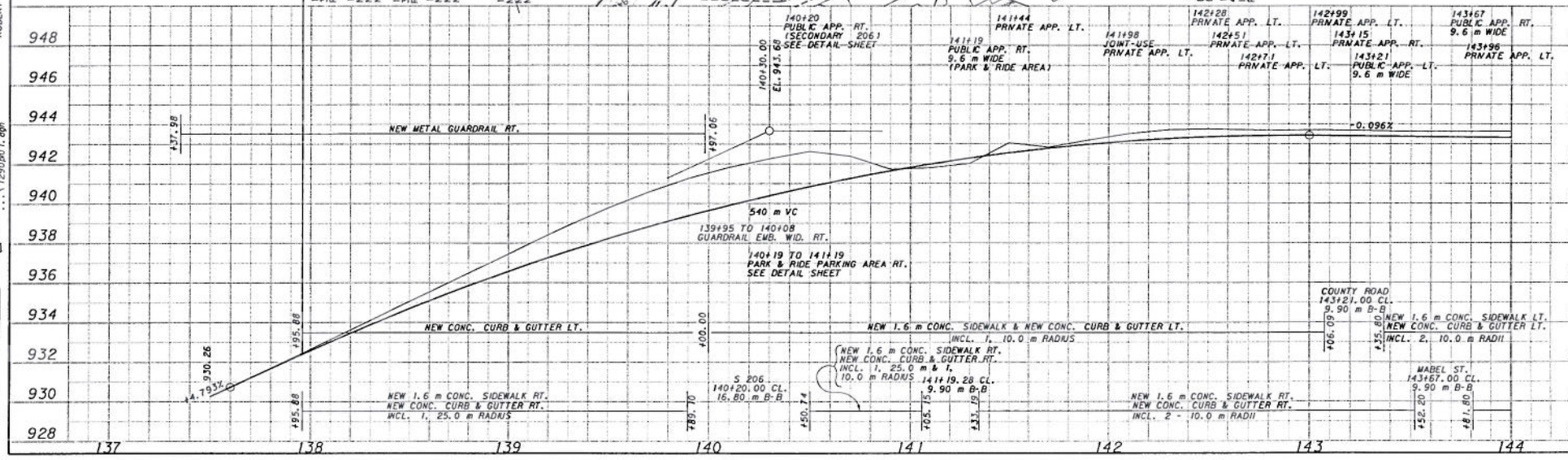
CURB RAMPS RT.

140+02	141+11
140+05	141+27
140+35	143+57
140+38	143+76

NEW MONUMENT BOXES

140+20.00	S 206
143+21.00	COUNTY ROAD
143+67.00	MABEL ST.





ROBERT PECCIA & ASSOCIATES

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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(68)138 F	27

UTILITY CROSSINGS

144+01.87 OH PWR LINE X-ING CL. - 5.81 m CLEAR
145+45.33 WATER LINE X-ING CL. - DEPTH UNKNOWN
145+56.12 OH TV CABLE X-ING CL. - 6.27 m CLEAR
146+74.18 OH PWR LINE X-ING CL. - 5.46 m CLEAR
146+90.94 OH PWR LINE X-ING CL. - 6.88 m CLEAR
147+19.22 GAS LINE X-ING CL. - DEPTH UNKNOWN
148+17.44 OH PWR LINE X-ING CL. - 6.37 m CLEAR
149+08.12 OH PWR LINE X-ING CL. - 7.47 m CLEAR

150+01.87 TEL LINE X-ING CL. - DEPTH UNKNOWN
150+11.18 OH PWR LINE X-ING CL. - 5.89 m CLEAR
150+39.43 OH PWR LINE X-ING CL. - 5.92 m CLEAR

CURB OPENINGS LT.

144+26	10.0 m
144+57	12.0 m
144+96	12.0 m
145+24	12.0 m
145+71	7.2 m
146+16	7.2 m
146+32	7.2 m
146+61	10.0 m
146+80	10.0 m
147+03	12.0 m
147+54	12.0 m
147+87	7.2 m
150+20	12.0 m
150+58	12.0 m

CURB OPENINGS RT.

144+26	12.0 m
144+70	12.0 m
145+24	12.0 m
145+54	12.0 m
146+16	12.0 m
146+47	12.0 m
147+87	7.2 m
148+45	12.0 m
149+49	12.0 m
149+72	12.0 m
150+56	12.0 m

CURB RAMPS LT.

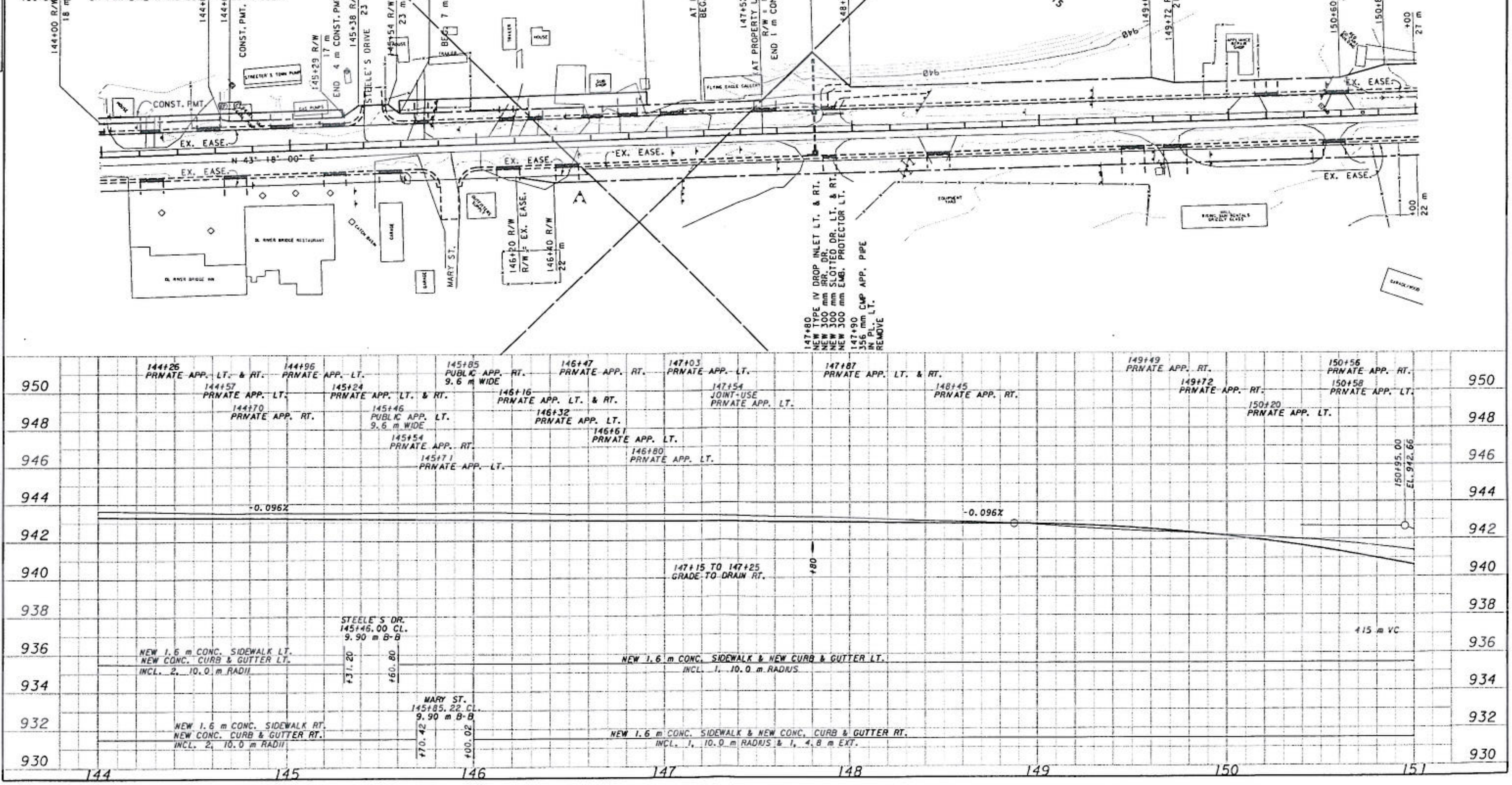
145+37
145+55

CURB RAMPS RT.

145+76
145+94

NEW MONUMENT BOXES

145+46.00 STEELE'S DR.
145+85.22 MARY ST.



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MONTANA DEPARTMENT OF TRANSPORTATION

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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(68)138 F	23

NOTE: 151+30 TO 153+10 LT.
DO NOT DISTURB GO-CART TRACK OR OPERATION. CONSTUCT CHAIN LINK FENCE PRIOR TO ANY CONSTRUCTION ACTIVITIES

UTILITY CROSSINGS

153+23.30	OH PWR LINE X-ING CL.	- 8.43 m CLEAR
154+00.53	OH TEL LINE X-ING CL.	- 6.78 m CLEAR
155+24.68	OH PWR LINE X-ING CL.	- 9.07 m CLEAR
155+31.71	OH TEL LINE X-ING CL.	- 6.35 m CLEAR
155+49.95	OH PWR LINE X-ING CL.	- 12.0+ m CLEAR
155+58.01	OH PWR LINE X-ING CL.	- 12.0+ m CLEAR
155+66.60	OH PWR LINE X-ING CL.	- 12.0+ m CLEAR
155+93.23	OH PWR LINE X-ING CL.	- 12.0+ m CLEAR
156+01.70	OH PWR LINE X-ING CL.	- 12.0+ m CLEAR
156+09.81	OH PWR LINE X-ING CL.	- 12.0+ m CLEAR
156+86.86	OH TEL LINE X-ING CL.	- 5.38 m CLEAR
157+88.24	OH TEL LINE X-ING CL.	- 6.99 m CLEAR

CURB OPENINGS RT.
151+17 12.0 m

T. 30 N. R. 20 W. SECT. 10

WETLAND 2A

WETLAND 2B

CONST. PMT.

EX. EASE.

N 43° 18' 00" E

151+30 BEG. 5 m CONST. PMT.

153+20 R/W 32 m CONST. PMT. 5m - 34m

153+40 CONST. PMT. 34 m -3 m

153+80 R/W 42 m END 3 m CONST. PMT.

151+80 R/W 27 m

152+20 R/W 32 m

151+40 NEW TYPE IV DROP INLET RT. NEW 300 mm DR. LT. NEW 300 mm SLOTTED DR. RT.

151+28 R/W 22 m

151+80 R/W 40 m

152+20 NEW 450 mm APP. PIPE RT.

153+27 NEW 450 mm END. PROTECTOR LT.

153+72 NEW 450 mm APP. PIPE RT.

153+80 R/W 35 m

154+00 R/W 35 m

154+33 915 mm RCP DR. IN PL. REMOVE

154+40 R/W 45 m NEW 600 mm DR.

154+80 BEG. 55 m CONST. PMT.

END 55 m CONST. PMT. AT PROPERTY LINE

BEG. 55 m TEMP. EASE. AT PROPERTY LINE

156+07.18 (AT PROPERTY LINE)

END 55 m TEMP. EASE.

R/W AT P.L. 36 m

R/W AT P.L. 45 m

R/W 156+80 36 m

R/W 157+20 28 m

R/W 157+70 28 m

157+60 NEW 450 mm APP. PIPE RT.

R/W 158+00 40 m

151+17 PRIVATE APP. RT.

151+56 PRIVATE APP. RT. 9.6 m WIDE

152+20 PRIVATE APP. RT.

153+27 JOINT-USE PRIVATE APP. LT.

153+72 PRIVATE APP. RT.

155+42 PRIVATE APP. RT.

156+30 PRIVATE APP. RT.

157+60 JOINT-USE PRIVATE APP. RT.

NEW METAL GUARDRAIL LT.

NEW METAL GUARDRAIL RT.

NEW METAL GUARDRAIL RT.

153+45.23 TO 155+20.49 GUARDRAIL WIDENING LT.

154+33.80 TO 155+32.54 GUARDRAIL WIDENING RT.

155+43.35 TO 156+26.53 GUARDRAIL WIDENING RT.

156+35.82 TO 157+07.89 GUARDRAIL WIDENING RT.

151+40 TO 153+23 SYNTHETIC EROSION CONTROL & REVEGETATION MAT LT.

153+80 TO 154+80 MUCK EXCAVATION LT. SEE DETAIL SHEET

154+10 TO 154+80 MUCK EXCAVATION RT. SEE DETAIL SHEET

155+30 TO 156+75 GRADE TO DRAIN LT.

-3.824%

+1.969%

300 m VC

154+75.00 EL. 927.97

942 940 938 936 934 932 930 928 926 924 922

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ROBERT PECCIA & ASSOCIATES

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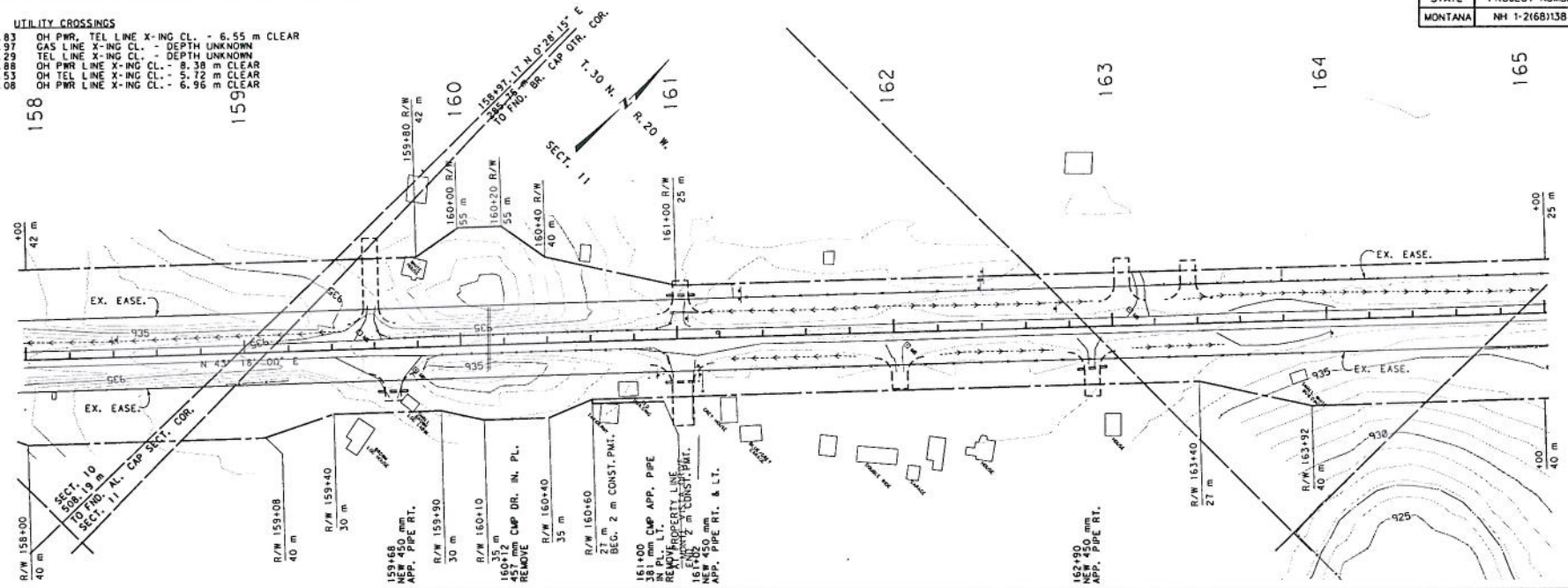
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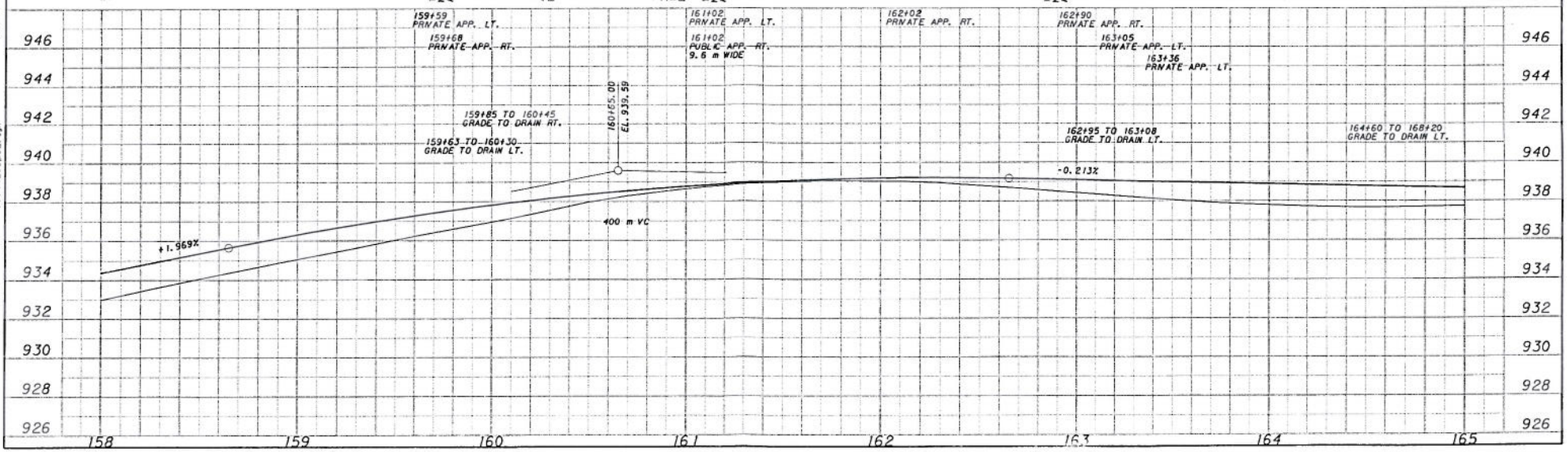
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APPROVED BY
REVISED BY

STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(68)138 F	29

UTILITY CROSSINGS

159+71.83 OH PWR, TEL LINE X-ING CL. - 6.55 m CLEAR
160+12.97 GAS LINE X-ING CL. - DEPTH UNKNOWN
160+90.29 TEL LINE X-ING CL. - DEPTH UNKNOWN
160+91.88 OH PWR LINE X-ING CL. - 8.38 m CLEAR
161+80.53 OH TEL LINE X-ING CL. - 5.72 m CLEAR
162+49.08 OH PWR LINE X-ING CL. - 6.96 m CLEAR





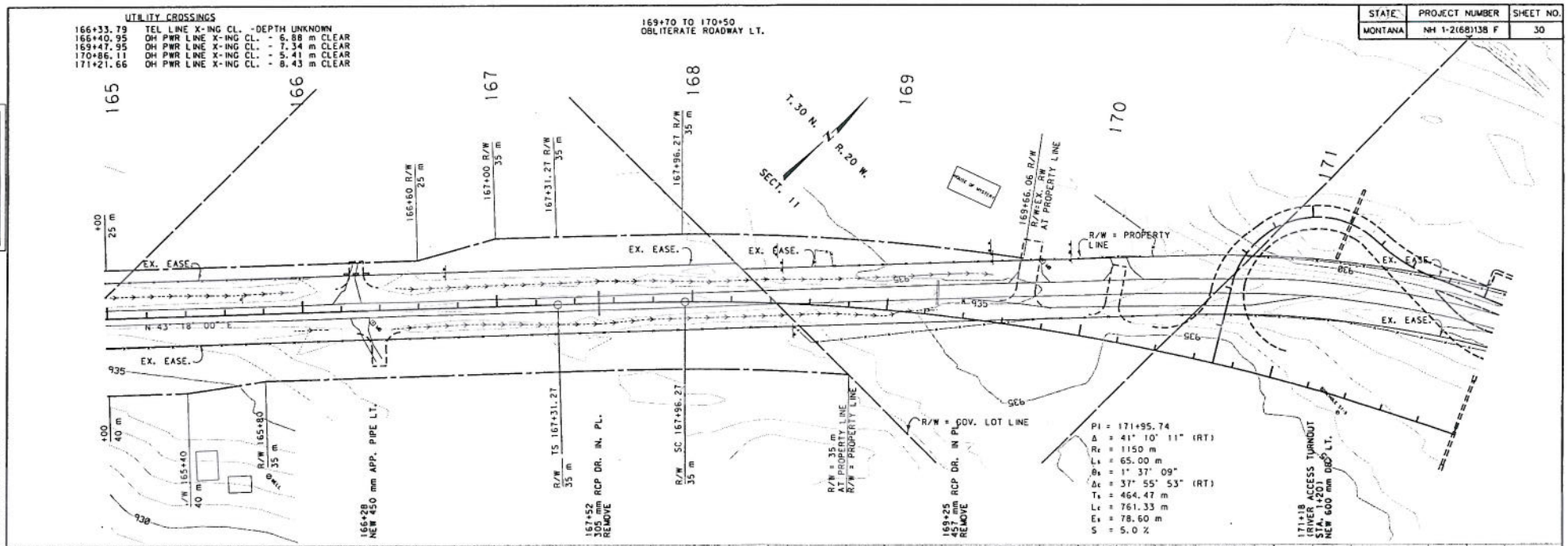
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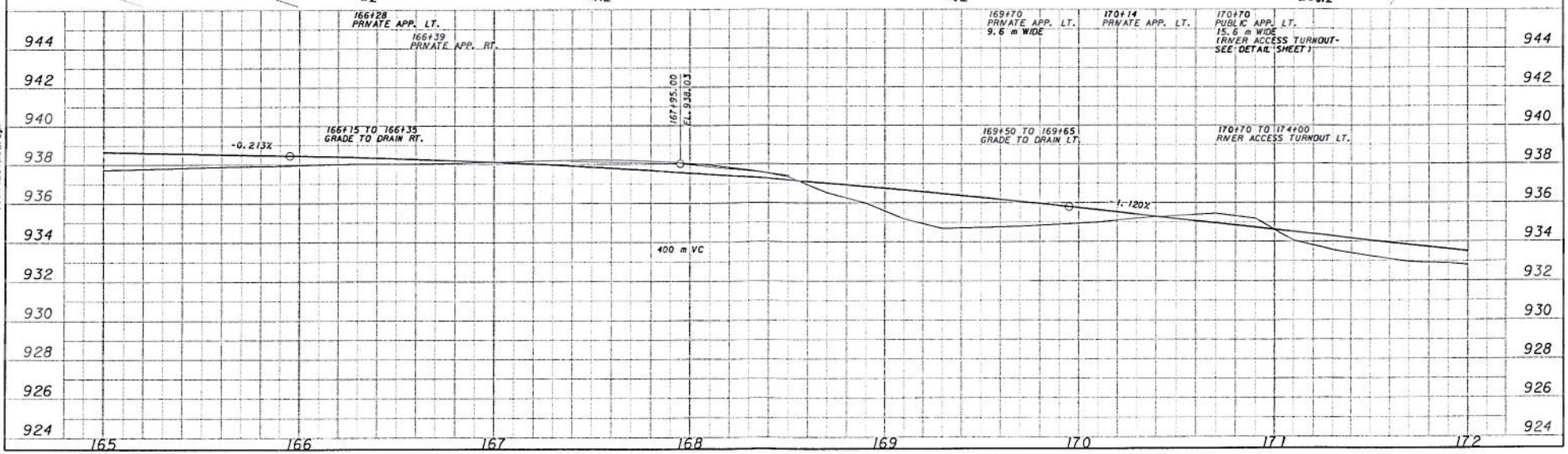
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MONTANA	NH 1-2(68)138 F	30

UTILITY CROSSINGS

166+33.79 TEL LINE X-ING CL. -DEPTH UNKNOWN
166+40.95 OH PWR LINE X-ING CL. - 6.88 m CLEAR
169+47.95 OH PWR LINE X-ING CL. - 7.34 m CLEAR
170+86.11 OH PWR LINE X-ING CL. - 5.41 m CLEAR
171+21.66 OH PWR LINE X-ING CL. - 8.43 m CLEAR

169+70 TO 170+50
OBLITERATE ROADWAY LT.





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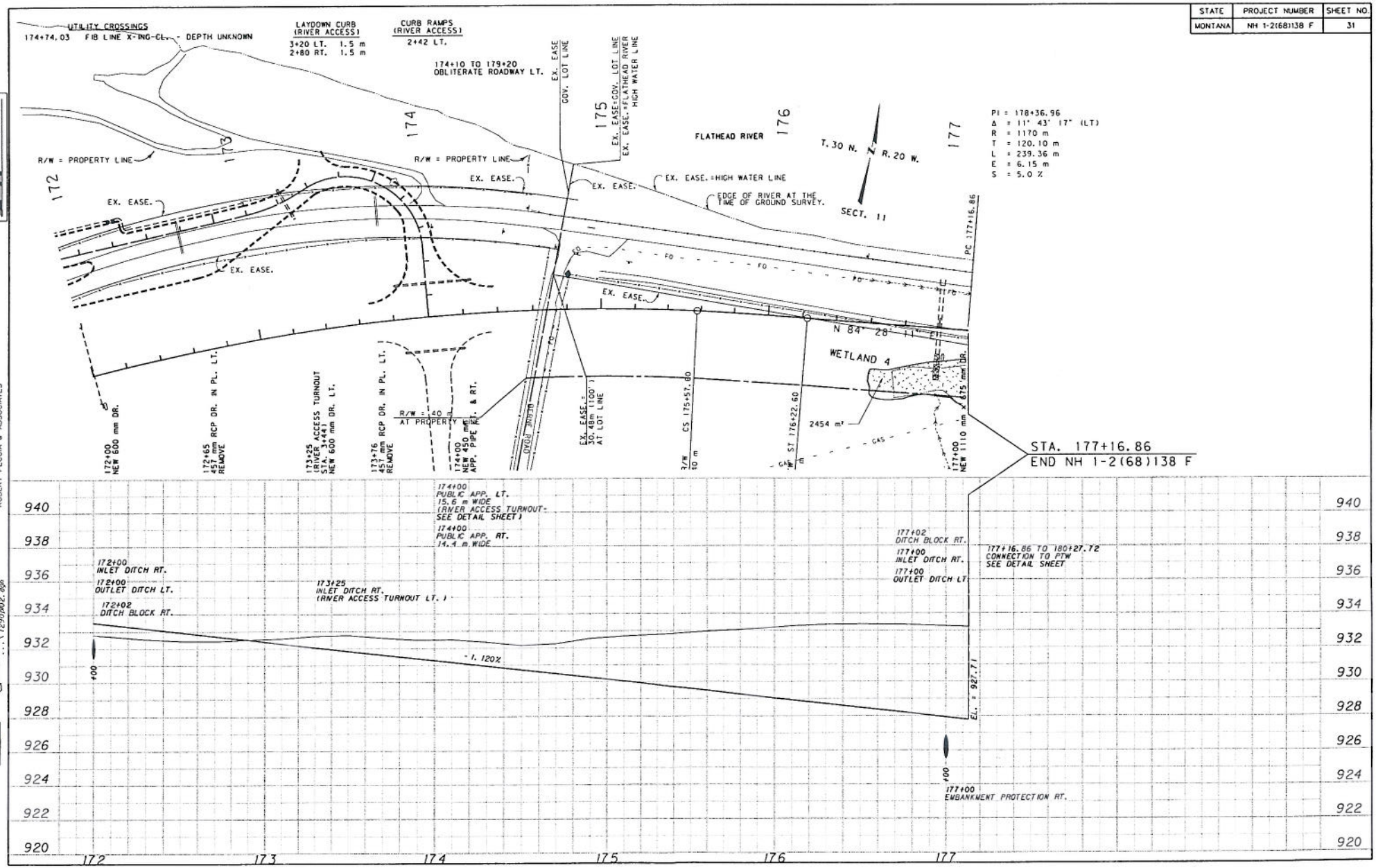
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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(68)138 F	31



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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(92)141 F	22

UTILITY CROSSINGS
178+56.75 GAS LINE X-ING CL. - DEPTH UNKNOWN
182+12.34 GAS LINE X-ING CL. - DEPTH UNKNOWN
182+85.83 FIB LINE X-ING CL. - DEPTH UNKNOWN

PI = 178+20.02
Δ = 8° 28' 11" (LT)
R = 1170 m
T = 86.63 m
L = 172.95 m
E = 3.20 m
S = 5.0 %

PROJECTED SEC. CORNER FALLS IN RIVER - NOTHING FOUND

T. 30 N. R. 20 W.
SECT. 12

FLATHEAD RIVER

EDGE OF RIVER AT THE TIME OF GROUND SURVEY

EX. EASE. = HIGH WATER LINE

Wetland 6

Wetland 4

U.S. GOV. LOT 2 SEC. 12

STA. 177+16.86
BEG NH 1-2(92)141 F

183+77.12
BEG. 75 m EASEMENT

blue: non-wetland Water of the U.S.

178+98.76 TO 190+03.66
GUARDRAIL WIDENING LT.
SEE DETAIL SHEET

178+80.00 TO 183+61.74
ROCKFALL DITCH WIDENING RT.
CONCRETE MEDIAN RAIL RT.
SEE DETAIL SHEET

NEW METAL GUARDRAIL LT.

RETAINING WALL LT.

181+80
INLET DITCH RT.

182+40.00 TO 188+88.62
RETAINING WALL LT.
SEE DETAIL SHEET

-1.120%

300-m VC

-0.205%

178+95.00
EL. 925.71

934
932
930
928
926
924
922
920

177 178 179 180 181 182 183 184

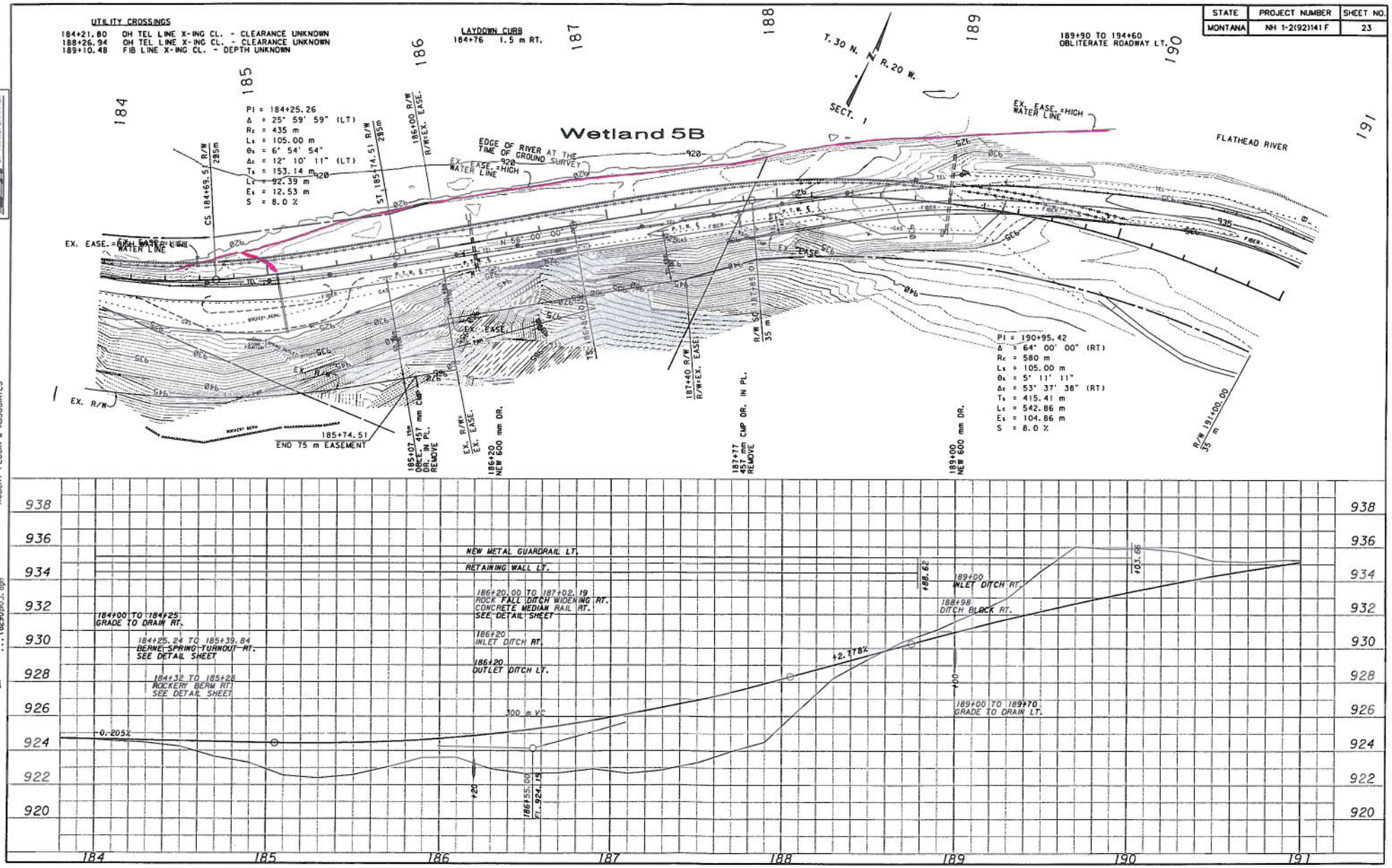
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MONTANA DEPARTMENT OF TRANSPORTATION

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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(92)141 F	23



ROBERT PECCIA & ASSOCIATES

MONTANA DEPARTMENT OF TRANSPORTATION

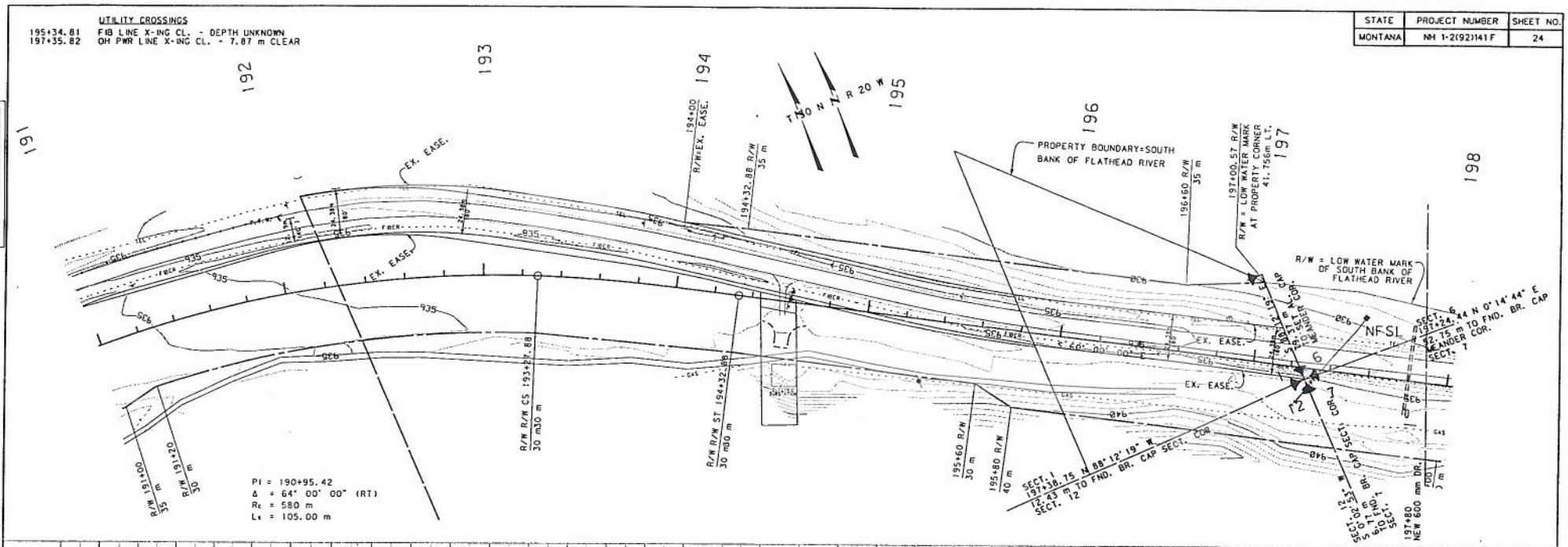
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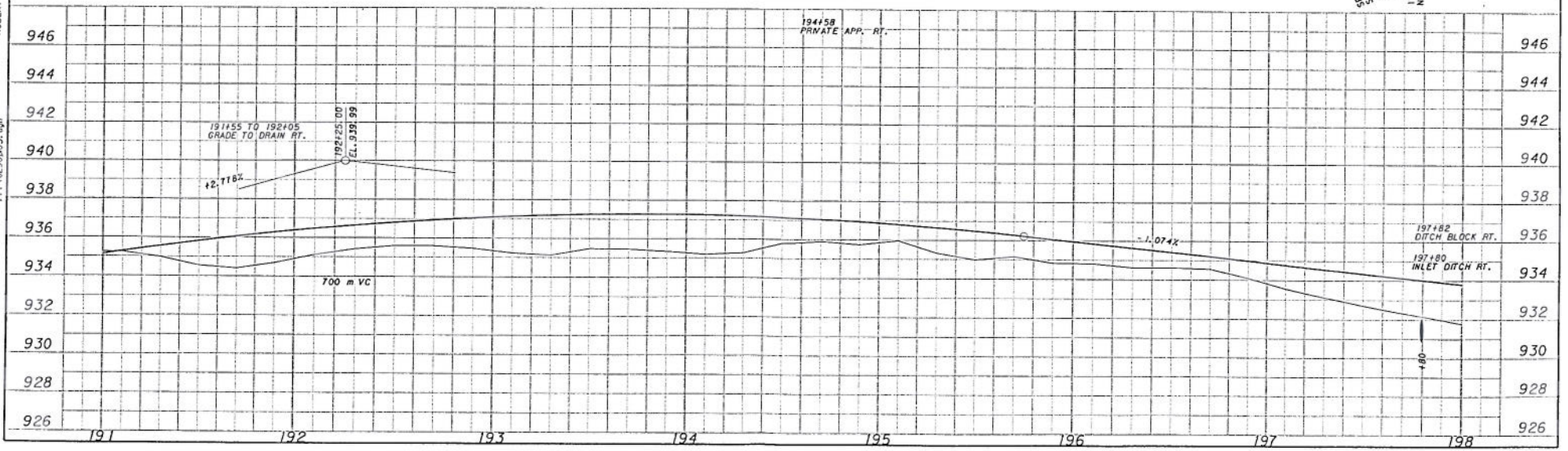
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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(92)141 F	24

UTILITY CROSSINGS
195+34.81 FIB LINE X-ING CL. - DEPTH UNKNOWN
197+35.82 OH PWR LINE X-ING CL. - 7.87 m CLEAR





ROBERT PECCIA & ASSOCIATES
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29 AUG 100
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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(92)141 F	25

UTILITY CROSSINGS

198+47.22 PWR, FIB LINE X-ING CL. - DEPTH UNKNOWN
198+81.82 PWR, FIB LINE X-ING CL. - DEPTH UNKNOWN
199+96.92 GAS LINE X-ING CL. - DEPTH UNKNOWN
204+55.63 FIB LINE X-ING CL. - DEPTH UNKNOWN
204+67.90 FIB LINE X-ING CL. - DEPTH UNKNOWN

R/W = LOW WATER MARK OF SOUTH BANK OF SOUTH FORK OF FLATHEAD RIVER

200+60 TO 202+94 OBLITERATE ROADWAY RT.

PI = 201+49.36
Δ = 50° 00' 01" (LT)
Rc = 580 m
Ls = 105.00 m
θs = 5° 11' 11"
Δc = 39° 37' 39" (LT)
Ts = 323.32 m
Ls = 601.15 m
Ec = 60.83 m
e = 8.0 %

Wetland 5C (S. side of river)

Wetland 5D (N. side of river)

T. 30 N., R. 19 W., SECT. 1

SOUTH FORK FLATHEAD RIVER

198+45 610 mm CMP DR. IN PL. REMOVE

200+80 NEW 600 mm DR.

201+42 610 mm CMP DR. IN PL. REMOVE

203+82 BRIDGE IN PLACE REMOVE

203+35 NEW 19.2 m X 160.0 m BRIDGE

200+60 PRIVATE APP. LT.

201+25 PRIVATE APP. RT.

blue: approx. wetted channel limit 8/12/01

brown: unvegetated cobbles

pink: wetlands

198+70 TO 199+60 GRADE TO DRAIN RT.

200+80 TO 201+19 GRADE TO DRAIN RT.

NEW METAL GUARDRAIL

NEW CONC. CURB & GUTTER LT. INCL. 1 - 6.0 m RADIUS

NEW CONC. CURB & GUTTER RT.

300 m VC

-1.074%

+3.966%

B.E. 202+30.00

B.E. 204+39.93

203+15.00 EL 928.28

198 199 200 201 202 203 204 205

942 940 938 936 934 932 930 928 926 924

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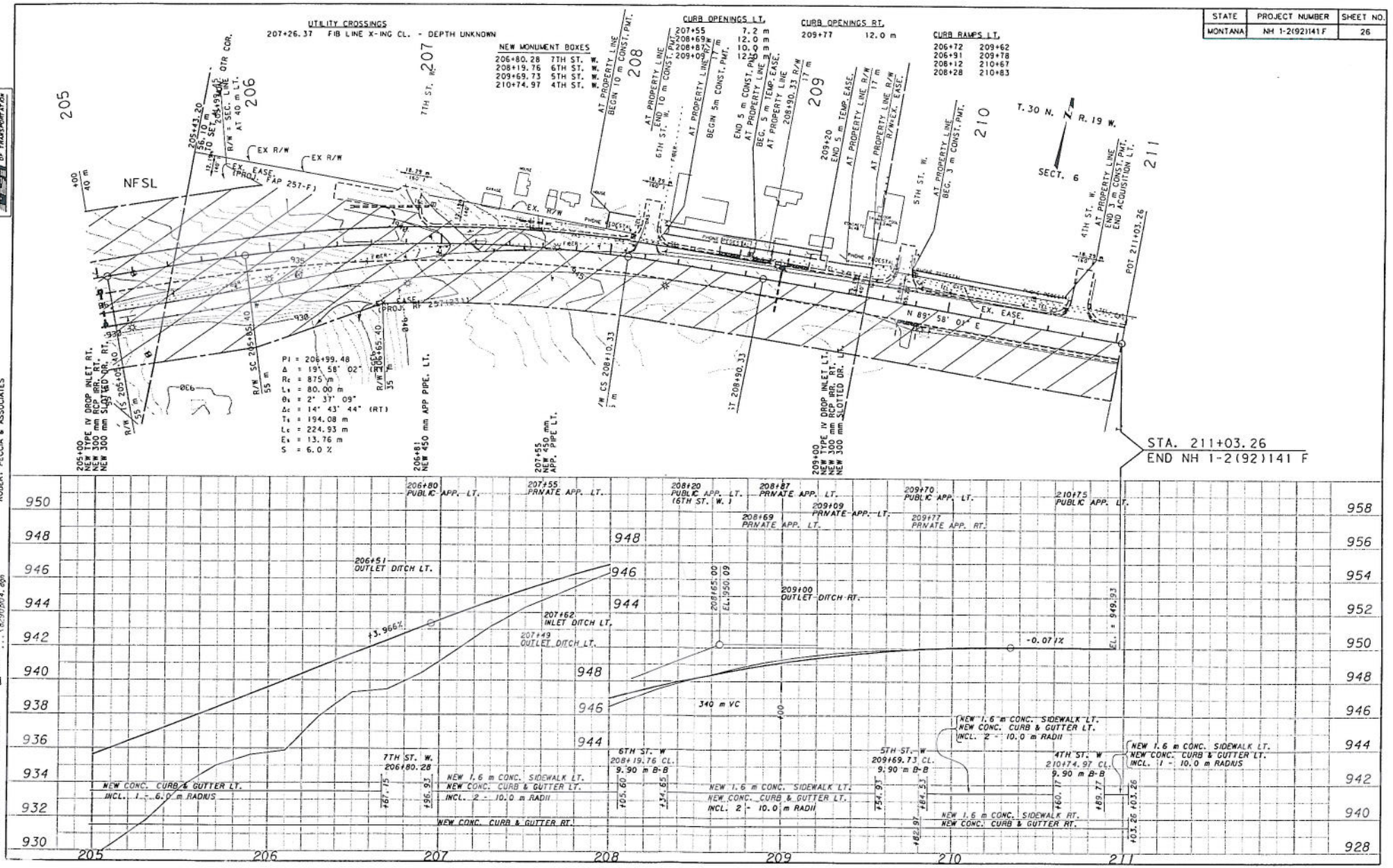
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STATE	PROJECT NUMBER	SHEET NO.
MONTANA	NH 1-2(92)141 F	26



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Appendix B

REPRESENTATIVE WETLAND PHOTOGRAPHS

Montana Department of Transportation
Columbia Heights – Hungry Horse Project



Photo 1:
Wetland 2A/2B
Photo taken north of highway, facing north along west wetland edge. Note emergent, aquatic bed, and scrub-shrub communities.



Photo 2:
Wetland 4
Photo taken south of highway, facing west from east wetland edge.



Photo 3:
Wetland 5B
Photo taken north of highway, facing east along south bank of Flathead River. Note low water. Wetland consists of 1-2 m-wide fringe along ordinary high water mark.



Photo 4
Wetland 5C
Photo taken facing east from floodplain along south bank of the S.F. Flathead River, downstream of bridge.



Photo 5
Wetland 5D
Photo taken facing east along north bank of the S.F. Flathead River, downstream of bridge. Note unvegetated cobbles between wetland and wetted channel in foreground.



Photo 6
Wetland 6
Photo taken south of highway, facing west from approximate Station 182+80. Note high disturbance.

Appendix C

COE AND MDT WETLAND DATA FORMS

Montana Department of Transportation
Columbia Heights – Hungry Horse Project

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Columbia Heights - Hungry Horse 2. Project #: NH 1-2(92)141 F Control #: 1290

3. Evaluation Date: Mo. 10 Day 02 Yr. 00 4. Evaluator(s): Berglund/Harris 5. Wetlands/Site #(s) 2A/2B

6. Wetland Location(s): i. Legal: T 30 (N) or S; R 20 E or (W) S 10 ; T ___ N or S; R ___ E or W; S ___ ;
ii. Approx. Stationing or Mileposts: See plans - 153+60 → 155+60

iii. Watershed: 17010208 GPS Reference No. (if applies): NA
Other Location Information:
Along U.S. Highway 2, Flathead County, between Columbia Heights & Hungry Horse.

7. a. Evaluating Agency: MDT ;
b. Purpose of Evaluation:
1. XX Wetlands potentially affected by MDT project
2. ___ Mitigation wetlands; pre-construction
3. ___ Mitigation wetlands; post-construction
4. ___ Other

8. Wetland size: (total acres) ~5 Acres (visually estimated)
— (measured, e.g. by GPS [if applies])

9. Assessment area: (AA, tot., ac., see instructions on determining AA) ~5 Acres (visually estimated)
— (measured, e.g. by GPS [if applies])

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
Depression	Palustrine	—	EM	F	—	85
11	11	—	AB	F	—	5
11	11	—	SS	C	—	10

(Abbreviations: System: Palustrine(P)/ Subsyst.: none/ Classes: Rock Bottom (RB), Unconsolidated Bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ System: Lacustrine (L)/, Subsyst.: Limnetic (2)/ Classes: RB, UB, AB/ Subsystem: Littoral (4)/ Classes: RB, UB, AB, US, EM/ System: Riverine (R)/ Subsyst.: Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ Subsystem: Upper Perennial (3)/ Classes: RB, UB, AB, US/ Water Regimes: Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) HGM Classes: Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown (Rare) Common Abundant
Comments: Peatlands generally uncommon in northern Rocky Mtns.

12. General condition of AA:
i. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but 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.	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	(high disturbance)	high disturbance

Comments: (types of disturbance, intensity, season, etc.) Bisected by highway and gravel road, bordered by light residential develop.
ii. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list) much fill placed in S. side.

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: Glacial kettle bisected by Highway 2. Surrounding land use = highway, upland forest + light residential development.

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

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 if one is forested)	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	(High)	Moderate	Low

Comments:

2A/2B

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

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

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

Primary or critical habitat (**list species**)	D S	
Secondary habitat (**list species**)	D S	
Incidental habitat (**list species**)	D (S)	grizzly bear
No usable habitat	D S	

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	(.3 (L))	0 (L)

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

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

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

Primary or critical habitat (**list species**)	D S	
Secondary habitat (**list species**)	D (S)	Western toad, possible northern bog lemming
Incidental habitat (**list species**)	D S	
No usable habitat	D S	

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	(.6 (M))	.2 (L)	.1 (L)	0 (L)

Sources for documented use (e.g. observations, records, etc.):
Could be too disturbed for bog lemming

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following [check]):
- ___ observations of abundant wildlife #'s or high species diversity (during any period)
- XX abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ presence of extremely limiting habitat features not available in the surrounding area
- ___ interviews with local biologists with knowledge of the AA

Low (based on any of the following [check]):
- ___ few or no wildlife observations during peak use periods
- ___ little to no wildlife sign
- ___ sparse adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- ___ observations of scattered wildlife groups or individuals or relatively few species during peak periods
- ___ common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ adequate adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, 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 instructions for further definitions of these terms].)

Structural diversity (see #13)	(High)								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				(Uneven)				Even				Uneven				Even			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	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)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	(M)	L	L	M	M	L	L	M	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

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

Comments: Abundant black bear + deer scat observed (s. side only).

2A/2B

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle NA here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted in the comments.)

i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading – 50 to 75% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	H	M	M	M	M	M	L	L
Shading - < 50% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	L	L	L	L

ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* Y N Modified habitat quality rating = (circle) E H M L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)

Comments: NA

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle NA here and proceed to next function.)

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

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			<10, >2 acres			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? Y N

Comments: NA

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle NA here and proceed with the evaluation.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			<5, >1 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**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond < **5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess 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, circle NA here and proceed with the evaluation.)

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

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	.1 (L)

Comments: Highway runoff - sanding, etc.

2A/2B

14H Sediment/Shoreline Stabilization: (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 does not apply, circle NA here and proceed to next function)

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

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments: NA

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions 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	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments: Subsurface outlet

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA)

i. Discharge Indicators

___Springs are known or observed
XX Vegetation growing during dormant season/drought
___Wetland occurs at the toe of a natural slope
XX Seeps are present at the wetland edge
___AA permanently flooded during drought periods
___Wetland contains an outlet, but no inlet
___Other

ii. Recharge Indicators

___Permeable substrate present without underlying impeding layer
XX Wetland contains inlet but no outlet
___Other

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	.1 (H)
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments: Strong groundwater interaction.

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MNHP			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)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	.1 (L)

Comments: Site is likely considered fen due to peat formation.

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y (N) (If yes, rate as [circle] High [1] and go to ii; if no go to iii)

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

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? (Y) N
(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	.1 (L)

Comments: Occurs near town, educational opportunities for rare wetland type, so adjusted to 0.3.

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	LOW	0.3	1	
B. MT Natural Heritage Program Species Habitat	MOD	0.6	1	
C. General Wildlife Habitat	HIGH	0.8	1	
D. General Fish/Aquatic Habitat	NA	-	-	
E. Flood Attenuation	NA	-	-	
F. Short and Long Term Surface Water Storage	MOD	0.6	1	
G. Sediment/Nutrient/Toxicant Removal	MOD	0.5	1	
H. Sediment/Shoreline Stabilization	NA	-	-	
I. Production Export/Food Chain Support	HIGH	0.8	1	
J. Groundwater Discharge/Recharge	HIGH	1	1	
K. Uniqueness	HIGH	0.8	1	
L. Recreation/Education Potential	LOW	0.3	1	
Totals:		5.7	9	

63 %

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II (III) IV

Category I Wetland: (Must satisfy **one** of the following criteria; if does not meet criteria, 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**
- Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
- Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
- Score of .9 or 1 functional point for General Wildlife Habitat; **or**
- Score of .9 or 1 functional point for General Fish/Aquatic 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**
- Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

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 does not satisfy criteria go to Category III)
- "Low" rating for Uniqueness; **and**
- "Low" rating for Production Export/Food Chain Support; **and**
- Total actual functional points < 30% (round to nearest whole #) of total possible functional points

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Columbia Heights - Hungry Horse 2. Project #: NH 1-2(92)141 F Control #: 1290

3. Evaluation Date: Mo. 10 Day 02 Yr. 00 4. Evaluator(s): Berglund/Harris 5. Wetlands/Site #(s) Site #4

6. Wetland Location(s): I. Legal: T 30 (N) or S; R 20 E or (W); S 4 ; T ___ N or S; R ___ E or W; S ___ ;
II. Approx. Stationing or Mileposts: See plans ~Sta 176+60 - 177+85
III. Watershed: 17010208 GPS Reference No. (if applies): NA
Other Location Information:
Along U.S. Highway 2, Flathead County, between Columbia Heights & Hungry Horse.

7. a. Evaluating Agency: MDT ;
b. Purpose of Evaluation:
1. XX Wetlands potentially affected by MDT project
2. ____ Mitigation wetlands; pre-construction
3. ____ Mitigation wetlands; post-construction
4. ____ Other

8. Wetland size: (total acres) 1-2 Ac (visually estimated) (including upstream channel)
— (measured, e.g. by GPS [if applies])

9. Assessment area: (AA, tot., ac., see instructions on determining AA) ~0.7 Ac (visually estimated)
_____ (measured, e.g. by GPS [if applies])
("depression" only)

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
Depression	Palustrine	—	AB	G		50
"	"	—	EM	F		45
"	"	—	SS	C		5

(Abbreviations: System: Palustrine(P)/ Subsyst.: none/ Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ System: Lacustrine (L)/, Subsyst.: Limnetic (2)/ Classes: RB, UB, AB/ Subsystem: Littoral (4)/ Classes: RB, UB, AB, US, EM/ System: Riverine (R)/ Subsyst.: Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ Subsystem: Upper Perennial (3)/ Classes: RB, UB, AB, US/ Water Regimes: Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) HGM Classes: Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown Rare (Common) Abundant
Comments:

12. General condition of AA:
I. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but 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.	moderate disturbance	(moderate disturbance)	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Minor gravel road fill disturbance, adjacent highway
II. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list) _____
III. Provide brief descriptive summary of AA and surrounding land use/habitat: Stream-fed depression w/no surface outlet. Occurs in pastureland on river terrace.

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

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 if one is forested)	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	(High)	Moderate	Low

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

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

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

Primary or critical habitat (list species)	D S	
Secondary habitat (list species)	D S	
Incidental habitat (list species)	D (S)	Bald Eagle, grizzly bear
No usable habitat	D S	

II. **Rating** (use the conclusions from I above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	(.3 (L))	0 (L)

Sources for documented use (e.g. observations, records, etc):
BE occur along marias river.

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

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

Primary or critical habitat (list species)	D S	
Secondary habitat (list species)	D (S)	Western Toad
Incidental habitat (list species)	D S	
No usable habitat	D S	

II. **Rating** (use the conclusions from I above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	(.6 (M))	.2 (L)	.1 (L)	0 (L)

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

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following [check]):
- __ observations of abundant wildlife #'s or high species diversity (during any period)
- __ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ presence of extremely limiting habitat features not available in the surrounding area
- __ interviews with local biologists with knowledge of the AA

Low (based on any of the following [check]):
- __ few or no wildlife observations during peak use periods
- __ little to no wildlife sign
- __ sparse adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- XX observations of scattered wildlife groups or individuals or relatively few species during peak periods
- XX common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ adequate adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, 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 instructions for further definitions of these terms].)

Structural diversity (see #13)	(High)								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				(Uneven)				Even				Uneven				Even			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	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)	**E**	**E**	**E**	**H**	**E**	**E**	**H**	**H**	**E**	**H**	**H**	**M**	**E**	**H**	**M**	**M**	**E**	**H**	**M**	**M**
Moderate disturbance at AA (see #12i)	**H**	**H**	**H**	**H**	(**H**)	**H**	**H**	**M**	**H**	**H**	**M**	**M**	**H**	**M**	**M**	**L**	**H**	**M**	**L**	**L**
High disturbance at AA (see #12i)	**M**	**M**	**M**	**L**	**M**	**M**	**L**	**L**	**M**	**M**	**L**	**L**	**M**	**L**	**L**	**L**	**L**	**L**	**L**	**L**

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

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

Comments:

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle **NA** here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted ih the comments.)

i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading – 50 to 75% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	H	M	M	M	M	M	L	L
Shading - < 50% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	L	L	L	L

ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* **Y** **N** Modified habitat quality rating = (circle) **E** **H** **M** **L**

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)

Comments: NA

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle **NA** here and proceed to next function.)

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

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			<10, >2 acres			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? (Y) N

Comments: Highway

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle **NA** here and proceed with the evaluation.)

I. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			<5, >1 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**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond < **5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess 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, circle **NA** here and proceed with the evaluation.)

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

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	.1 (L)

Comments:

14H Sediment/Shoreline Stabilization: (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 does not apply, circle **NA** here and proceed to next function)

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

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments: NA (Within AA)

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions 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	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments: Subsurface outlet

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA)

i. Discharge Indicators

___Springs 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
___Other

ii. Recharge Indicators

___Permeable substrate present without underlying impeding layer
XX Wetland contains inlet but no outlet
___Other

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	(1 (H))
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments: Recharge site

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MNHP			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)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	.1 (L)

Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y (N) (If yes, rate as [circle] High [1] and go to ii; if no go to iii)

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

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y (N)
(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	(.1 (L))

Comments:

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	LOW	0.3	1	
B. MT Natural Heritage Program Species Habitat	MOD	0.6	1	
C. General Wildlife Habitat	MOD	0.7	1	
D. General Fish/Aquatic Habitat	N/A	–	–	
E. Flood Attenuation	LOW	0.2	1	
F. Short and Long Term Surface Water Storage	HIGH	0.8	1	
G. Sediment/Nutrient/Toxicant Removal	HIGH	1	1	
H. Sediment/Shoreline Stabilization	N/A	–	–	
I. Production Export/Food Chain Support	MOD	0.7	1	
J. Groundwater Discharge/Recharge	HIGH	1	1	
K. Uniqueness	MOD	0.5	1	
L. Recreation/Education Potential	LOW	0.1	1	
Totals:		5.9	10	

59%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II (III) IV

Category I Wetland: (Must satisfy **one** of the following criteria; if does not meet criteria, 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**
- Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
- Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
- Score of .9 or 1 functional point for General Wildlife Habitat; **or**
- Score of .9 or 1 functional point for General Fish/Aquatic 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**
- Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

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 does not satisfy criteria go to Category III)
- "Low" rating for Uniqueness; **and**
- "Low" rating for Production Export/Food Chain Support; **and**
- Total actual functional points < 30% (round to nearest whole #) of total possible functional points

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Columbia Heights - Hungry Horse 2. Project #: NH 1-2(92)141 F Control #: 1290

3. Evaluation Date: Mo. 08 Day 12 Yr. 01 4. Evaluator(s): Berglund/Harris 5. Wetlands/Site #(s) Wetland 5B

6. Wetland Location(s): i. Legal: T 30 (N) or S; R 20 E or (W) S 1 ; T ___ N or S; R ___ E or W; S ___ ;
ii. Approx. Stationing or Mileposts: See plans - ~ station 184+40 → east along river bank

iii. Watershed: 17010208 GPS Reference No. (if applies): NA

Other Location Information:
Along U.S. Highway 2, Flathead County, between Columbia Heights & Hungry Horse.

7. a. Evaluating Agency: MDT

b. Purpose of Evaluation:
1. XX Wetlands potentially affected by MDT project
2. ____ Mitigation wetlands; pre-construction
3. ____ Mitigation wetlands; post-construction
4. ____ Other

8. Wetland size: (total acres) <1 (visually estimated)
— (measured, e.g. by GPS [if applies])

* 9. Assessment area: (AA, tot., ac., see instructions on determining AA) <1 (visually estimated)
— (measured, e.g. by GPS [if applies])

*Non-Wetland Channel not included in AA, per instructions.

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
Riverine (lower perennial)	Palustrine	-	SS	C	-	100

(Abbreviations: System: Palustrine(P)/ Subsyst.: none/ Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ System: Lacustrine (L)/, Subsyst.: Limnetic (2)/ Classes: RB, UB, AB/ Subsystem: Littoral (4)/ Classes: RB, UB, AB, US, EM/ System: Riverine (R)/ Subsyst.: Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ Subsystem: Upper Perennial (3)/ Classes: RB, UB, AB, US/ Water Regimes: Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) HGM Classes: Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown Rare (Common) Abundant
Comments:

12. General condition of AA:
I. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but 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.	moderate disturbance	(moderate disturbance)	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Hydro, AH, via Hungry Horse Dam; Adjacent Highway
ii. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list)

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: Narrow wetland channel fed by spring outlet, along with narrow wetland fringe along S. bank of Flathead River. Surrounding landuse = highway + upland riparian forest.

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

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 if one is forested)	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	High	Moderate	(Low)

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

5B

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

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

Primary or critical habitat (**list species**)	D S	
Secondary habitat (**list species**)	D S	
Incidental habitat (**list species**)	D (S)	Grizzly bear
No usable habitat	D S	Bald eagles likely to use river + riparian forest, but unlikely to use scrub-shrub wetland fringe comprising AA.

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	(.3 (L))	0 (L)

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

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

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

Primary or critical habitat (**list species**)	D S	
Secondary habitat (**list species**)	D S	
Incidental habitat (**list species**)	D (S)	Western toad
No usable habitat	D S	

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	.6 (M)	.2 (L)	(.1 (L))	0 (L)

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

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following [check]):
- __ observations of abundant wildlife #'s or high species diversity (during any period)
- __ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ presence of extremely limiting habitat features not available in the surrounding area
- __ interviews with local biologists with knowledge of the AA

Low (based on any of the following [check]):
- __ few or no wildlife observations during peak use periods
- __ little to no wildlife sign
- __ sparse adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- XX observations of scattered wildlife groups or individuals or relatively few species during peak periods
- XX common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ adequate adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, 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 instructions for further definitions of these terms].)

Structural diversity (see #13)	High								Moderate								(Low)			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				(Even)			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	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)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	(M)	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

Iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

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

Comments:

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle **NA** here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted in the comments.)

i. **Habitat Quality** (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - **>75%** of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading – **50 to 75%** of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	H	M	M	M	M	M	L	L
Shading - **< 50%** of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	L	L	L	L

ii. **Modified Habitat Quality** (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* **Y** **N** Modified habitat quality rating = (circle) **E** **H** **M** **L**

iii. **Rating** (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)

Comments: NA

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle **NA** here and proceed to next function.)

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

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			<10, >2 acres			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle) Y N

Comments:

High/low

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle **NA** here and proceed with the evaluation.)

i. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			<5, >1 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**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond **< 5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess 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, circle **NA** here and proceed with the evaluation.)

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

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	.1 (L)

Comments:

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

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

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments:

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions 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	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments:

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA)

I. Discharge Indicators

- XX Springs are known or observed
- ___ Vegetation growing during dormant season/drought
- ___ Wetland occurs at the toe of a natural slope
- XX Seeps are present at the wetland edge
- ___ AA permanently flooded during drought periods
- ___ Wetland contains an outlet, but no inlet
- XX Other Alluvial Connection

II. Recharge Indicators

- ___ Permeable substrate present without underlying impeding layer
- ___ Wetland contains inlet but no outlet
- ___ Other

III. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	1 (H)
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments:

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MNHP			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)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	.1 (L)

Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y N (if yes, rate as [circle] High [1] and go to ii; if no go to iii)

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

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y N
(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	.1 (L)

Comments: River is obvious recreation site, but not shrub fringe comprising AA.

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	Low	0.3	1	
B. MT Natural Heritage Program Species Habitat	Low	0.1	1	
C. General Wildlife Habitat	mod	0.5	1	
D. General Fish/Aquatic Habitat	NA	–	–	
E. Flood Attenuation	mod	0.4	1	
F. Short and Long Term Surface Water Storage	Low	0.3	1	
G. Sediment/Nutrient/Toxicant Removal	High	1	1	
H. Sediment/Shoreline Stabilization	High	1	1	
I. Production Export/Food Chain Support	Low	0.3	1	
J. Groundwater Discharge/Recharge	High	1	1	
K. Uniqueness	Low	0.3	1	
L. Recreation/Education Potential	Low	0.1	1	
Totals:		5.3	11	

48%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II (III) IV

Category I Wetland: (Must satisfy one of the following criteria; if does not meet criteria, 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**
___ Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
___ Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
___ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
___ Score of .9 or 1 functional point for General Fish/Aquatic 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**
___ Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

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 does not satisfy criteria go to Category III)
___ "Low" rating for Uniqueness; **and**
___ "Low" rating for Production Export/Food Chain Support; **and**
___ Total actual functional points < 30% (round to nearest whole #) of total possible functional points

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Columbia Heights - Hungry Horse 2. Project #: NH 1-2(92)141 F Control #: 1290

3. Evaluation Date: Mo. 08 Day 12 Yr. 01 4. Evaluator(s): Berglund/Harris 5. Wetlands/Site #(s) 5C

6. Wetland Location(s): i. Legal: T 30 (N) or S; R 19 E or (W) S 7 ; T ___ N or S; R ___ E or W; S ___ ;
ii. Approx. Stationing or Mileposts: See plans; SF Flathead River + wetland fringe on S. bank.

iii. Watershed: 170102 09 GPS Reference No. (if applies): ___
Other Location Information:
Along U.S. Highway 2, Flathead County, between Columbia Heights + Hungry Horse

7. a. Evaluating Agency: MDT ;
b. Purpose of Evaluation:
1. XX Wetlands potentially affected by MDT project
2. ___ Mitigation wetlands; pre-construction
3. ___ Mitigation wetlands; post-construction
4. ___ Other

8. Wetland size: (total acres) 3-5 AC (visually estimated)
___ (measured, e.g. by GPS [if applies])

* 9. Assessment area: (AA, tot., ac., see instructions on determining AA) ~10 Acres+ (visually estimated)
___ (measured, e.g. by GPS [if applies])

*AA includes river as wetlands extend below OHW mark + are interspersed w/ bare cobble areas - AA contains ~3 acres of wetlands

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
Riverine (lower perennial)	Palustrine	-	EM	C	-	25
"	"	"	FO	C	-	5
"	Riverine	Lower Perennial	RB	H	-	70

(Abbreviations: System: Palustrine(P)/ Subsyst.: none/ Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ System: Lacustrine (L)/, Subsyst.: Limnetic (2)/ Classes: RB, UB, AB/ Subsystem: Littoral (4)/ Classes: RB, UB, AB, US, EM/ System: Riverine (R)/ Subsyst.: Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ Subsystem: Upper Perennial (3)/ Classes: RB, UB, AB, US/ Water Regimes: Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) HGM Classes: Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown Rare (Common) Abundant
Comments:

12. General condition of AA:
I. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but 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.	moderate disturbance	(moderate disturbance)	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	high disturbance	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Hydraulic modification via dam, minor bridge fill, low foot traffic
II. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list) ___

iii. Provide brief descriptive summary of AA and surrounding land use/habitat: Primarily emergent wetland fringe, some on alluvial deposition areas, along the SF Flathead River. Land use = highway, river, upland forest.

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

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 if one is forested)	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	(High)	Moderate	Low

Comments: Little forested habitat; primarily w/ west tip of wetland.

5C

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

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

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

Primary or critical habitat (list species)	D S	
Secondary habitat (list species)	(D) S	Bull trout
Incidental habitat (list species)	D S	
No usable habitat	D S	

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	(.8 (M))	.7 (M)	.5 (L)	.3 (L)	0 (L)

Sources for documented use (e.g. observations, records, etc):
See 10/11/2000 Supplementary BA for project.

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

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

Primary or critical habitat (list species)	D S	
Secondary habitat (list species)	(D) S	West slope Cutthroat trout
Incidental habitat (list species)	D S	
No usable habitat	D S	

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	(.7 (M))	.6 (M)	.2 (L)	.1 (L)	0 (L)

Sources for documented use (e.g. observations, records, etc.):
West slope Cuts known in reach, but rated "limited value habitat" by MDT, Therefore, Documented Secondary Habitat

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following [check]):
- __ observations of abundant wildlife #'s or high species diversity (during any period)
- __ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ presence of extremely limiting habitat features not available in the surrounding area
- __ interviews with local biologists with knowledge of the AA

Low (based on any of the following [check]):
- __ few or no wildlife observations during peak use periods
- __ little to no wildlife sign
- __ sparse adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- XX observations of scattered wildlife groups or individuals or relatively few species during peak periods
- XX common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ adequate adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

ii. **Wildlife habitat features** (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, 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 instructions for further definitions of these terms].)

Structural diversity (see #13)	(High)				Moderate								Low			
Class cover distribution (all vegetated classes)	Even				(Uneven)				Even				Uneven				Even			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	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)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	(H)	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

iii. **Rating** (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

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

Comments: Human use likely decreases Wildlife use.

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle **NA** here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted ih the comments.)

I. Habitat Quality (circle appropriate AA attributes in matrix to ~~arrive at exceptional (E),~~ high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading – 50 to 75% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	(H)	M	M	M	M	M	L	L
Shading - < 50% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	L	L	L	L

II. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in I above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* (Y) N Modified habitat quality rating = (circle) E H (M) L

on 1996 list

III. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	(Moderate)	Low
(Native game fish)	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)

Comments: MRIS rates as "outstanding" habitat due largely to presence of West-slope Cutthroat trout (previously addressed). Reach is listed on 1996 TMDL list due to hydrologic modification - thus down-graded from "High" to "Moderate" habitat quality. West slope cut habitat rated "limited value" by MRIS.

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle **NA** here and proceed to next function.)

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

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			(<10, >2 acres)			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	(<25%)	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? Y N

Comments: Bridge

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle **NA** here and proceed with the evaluation.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			(<5, >1 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**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond **< 5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess 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, circle **NA** here and proceed with the evaluation.)

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

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		(< 70%)		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	.1 (L)

Comments:

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

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

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments:

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions 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	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments:

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA)

i. Discharge Indicators

___Springs 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
X Other Alluvial flow

ii. Recharge Indicators

___Permeable substrate present without underlying impeding layer
___Wetland contains inlet but no outlet
___Other

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	1 (H)
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments:

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MNHP			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)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	.1 (L)

Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y N (If yes, rate as [circle] High [1] and go to ii; if no go to iii)

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

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y N
(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	.1 (L)

Comments: Fishing, boating, swimming, etc.

SC

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	MOD	0.8	1	
B. MT Natural Heritage Program Species Habitat	MOD	0.7	1	
C. General Wildlife Habitat	MOD	0.7	1	
D. General Fish/Aquatic Habitat	MOD	0.7	1	
E. Flood Attenuation	MOD	0.5	1	
F. Short and Long Term Surface Water Storage	MOD	0.6	1	
G. Sediment/Nutrient/Toxicant Removal	MOD	0.7	1	
H. Sediment/Shoreline Stabilization	MOD	0.7	1	
I. Production Export/Food Chain Support	HIGH	0.9	1	
J. Groundwater Discharge/Recharge	HIGH	1	1	
K. Uniqueness	MOD	0.5	1	
L. Recreation/Education Potential	HIGH	1	1	
Totals:		8.8	12	

73%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I (II) III IV

Category I Wetland: (Must satisfy **one** of the following criteria; if does not meet criteria, 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**
- ___ Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

√

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
- ___ Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
- ___ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
- ___ Score of .9 or 1 functional point for General Fish/Aquatic 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
- XX Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

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 does not satisfy criteria go to Category III)
- ___ "Low" rating for Uniqueness; **and**
- ___ "Low" rating for Production Export/Food Chain Support; **and**
- ___ Total actual functional points < 30% (round to nearest whole #) of total possible functional points

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Columbia Heights - Hungry Horse 2. Project #: NH 1-2(92)141 F Control #: 1290

3. Evaluation Date: Mo. 08 Day 12 Yr. 01 4. Evaluator(s): Berglund/Harris 5. Wetlands/Site #(s) 5D

6. Wetland Location(s): i. Legal: T 30 (N) or S; R 19 E or (W) S 7 ; T ___ N or S; R ___ E or W; S ___ ;
ii. Approx. Stationing or Mileposts: see plans ; fringe wetlands along the north bank of the S.F. Flathead River, beyond OHW mark.
iii. Watershed: 17010209 GPS Reference No. (if applies): NA
Other Location Information:
Along U.S. Highway 2, Flathead County, between Columbia Heights & Hungry Horse.

7. a. Evaluating Agency: MDT ;
b. Purpose of Evaluation:
1. XX Wetlands potentially affected by MDT project
2. ____ Mitigation wetlands; pre-construction
3. ____ Mitigation wetlands; post-construction
4. ____ Other

8. Wetland size: (total acres) 3± Ac (visually estimated)
____ (measured, e.g. by GPS [if applies])

* 9. Assessment area: (AA, tot., ac., see instructions on determining AA) 1-2 Ac (visually estimated)
____ (measured, e.g. by GPS [if applies])

*River not included in AA, per instructions

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
Riverine (lower perennial)	Palustrine	-	EM	C	-	90
11	11	-	FO	C	-	10

(Abbreviations: System: Palustrine(P)/ Subsyst.: none/ Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ System: Lacustrine (L)/, Subsyst.: Limnetic (2)/ Classes: RB, UB, AB/ Subsystem: Littoral (4)/ Classes: RB, UB, AB, US, EM/ System: Riverine (R)/ Subsyst.: Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ Subsystem: Upper Perennial (3)/ Classes: RB, UB, AB, US/ Water Regimes: Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) HGM Classes: Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown Rare (Common) Abundant
Comments:

12. General condition of AA:
I. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but 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.	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	(high disturbance)	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Fill placement for access road, bridge, frontage rd, high foot traffic
II. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list) ____
iii. Provide brief descriptive summary of AA and surrounding land use/habitat: Narrow wetland stringers along north bank of river - surrounding land use = frontage road, upland forest, bridge, river, & nearby Hungry Horse.

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

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 (if one is forested))	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	(High)	Moderate	Low

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

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

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

Primary or critical habitat (list species)	D	S
Secondary habitat (list species)	D	S
Incidental habitat (list species)	D	(S) Bald Eagle, grizzly bear
No usable habitat	D	S

ii. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	(.3 (L))	0 (L)

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

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

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

Primary or critical habitat (list species)	D	S
Secondary habitat (list species)	D	S
Incidental habitat (list species)	D	(S) Bitterroot
No usable habitat	D	S

ii. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	.6 (M)	.2 (L)	(.1 (L))	0 (L)

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

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following [check]):
- __ observations of abundant wildlife #'s or high species diversity (during any period)
- __ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ presence of extremely limiting habitat features not available in the surrounding area
- __ interviews with local biologists with knowledge of the AA

Low (based on any of the following [check]):
- __ few or no wildlife observations during peak use periods
- __ little to no wildlife sign
- __ sparse adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- XX observations of scattered wildlife groups or individuals or relatively few species during peak periods
- XX common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- __ adequate adjacent upland food sources
- __ interviews with local biologists with knowledge of the AA

ii. **Wildlife habitat features** (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, 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 instructions for further definitions of these terms].)

Structural diversity (see #13)	(High)								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				(Uneven)				Even				Uneven				Even			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	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)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	(M)	L	L	M	M	L	L	M	L	L	L	L	L	L	L

iii. **Rating** (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

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

Comments:

5D

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle **NA** here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted ih the comments.)

i. Habitat Quality (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading – 50 to 75% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	H	M	M	M	M	M	L	L
Shading - < 50% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	L	L	L	L

ii. Modified Habitat Quality (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* Y N Modified habitat quality rating = (circle) E H M L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)

Comments: NA

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle **NA** here and proceed to next function.)

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

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			<10, >2 acres			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? (Y) N

Comments:
bridge

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle **NA** here and proceed with the evaluation.)

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			<5, >1 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**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond **< 5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess 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, circle **NA** here and proceed with the evaluation.)

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

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	.1 (L)

Comments:

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

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

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments:

14I. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions 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	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments:

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA)

i. Discharge Indicators

___Springs 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
X Other Alluvial flow - discharge

ii. Recharge Indicators

___Permeable substrate present without underlying impeding layer
___Wetland contains inlet but no outlet
___Other

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	1 (H)
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments:

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MNHP			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)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	.1 (L)

Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y N (If yes, rate as [circle] High [1] and go to ii; If no go to iii)

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

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? Y N
(If yes, go to ii, then proceed to iv; if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	.1 (L)

Comments: Rec. use = hiking, fishing, possible swimming/wading, etc.

5D

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	LOW	0.3	1	
B. MT Natural Heritage Program Species Habitat	LOW	0.1	1	
C. General Wildlife Habitat	MOD	0.5	1	
D. General Fish/Aquatic Habitat	N/A	–	–	
E. Flood Attenuation	LOW	0.2	1	
F. Short and Long Term Surface Water Storage	LOW	0.3	1	
G. Sediment/Nutrient/Toxicant Removal	High	1	1	
H. Sediment/Shoreline Stabilization	MOD	0.7	1	
I. Production Export/Food Chain Support	HIGH	0.8	1	
J. Groundwater Discharge/Recharge	HIGH	1	1	
K. Uniqueness	MOD	0.4	1	
L. Recreation/Education Potential	HIGH	1	1	
Totals:		6.3	11	

57%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II (III) IV

Category I Wetland: (Must satisfy **one** of the following criteria; if does not meet criteria, 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**
___ Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
___ Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
___ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
___ Score of .9 or 1 functional point for General Fish/Aquatic 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**
___ Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

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 does not satisfy criteria go to Category III)
___ "Low" rating for Uniqueness; **and**
___ "Low" rating for Production Export/Food Chain Support; **and**
___ Total actual functional points < 30% (round to nearest whole #) of total possible functional points

MDT Montana Wetland Assessment Form (revised 5/25/1999)

1. Project Name: Columbia Heights - Hungry Horse 2. Project #: NH 1-2(92)141 F Control #: 1290

3. Evaluation Date: Mo. 08 Day 12 Yr. 01 4. Evaluator(s): Berglund/Harris 5. Wetlands/Site #(s) Site 6

6. Wetland Location(s): i. Legal: T 30 (N) or S; R 20 E or (W) S 12 ; T ___ N or S; R ___ E or W; S ___ ;
ii. Approx. Stationing or Mileposts: See plans, Sta 182+40
iii. Watershed: 17010208 GPS Reference No. (if applies): NA
Other Location Information:
Along U.S. Highway 2, Flathead County, between Columbia Heights & Hungry Horse.

7. a. Evaluating Agency: MDT ;
b. Purpose of Evaluation:
1. XX Wetlands potentially affected by MDT project
2. ____ Mitigation wetlands; pre-construction
3. ____ Mitigation wetlands; post-construction
4. ____ Other

8. Wetland size: (total acres) .1 ACRE (visually estimated)
— (measured, e.g. by GPS [if applies])

9. Assessment area: (AA, tot., ac., see instructions on determining AA) .1 ACRE (visually estimated)
— (measured, e.g. by GPS [if applies])

10. Classification of Wetland and Aquatic Habitats in AA (HGM according to Brinson, first col.; USFWS according to Cowardin [1979], remaining cols.)

HGM Class	System	Subsystem	Class	Water Regime	Modifier	% of AA
Riverine, (Intermittent)	Palustrine	—	EM	C	—	10
11	11	—	SS	F	—	90

(Abbreviations: System: Palustrine(P)/ Subsyst.: none/ Classes: Rock Bottom (RB), Unconsolidated bottom (UB), Aquatic Bed (AB), Unconsolidated Shore (US), Moss-lichen Wetland (ML), Emergent Wetland (EM), Scrub-Shrub Wetland (SS), Forested Wetland (FO)/ System: Lacustrine (L)/, Subsyst.: Limnetic (2)/ Classes: RB, UB, AB/ Subsystem: Littoral (4)/ Classes: RB, UB, AB, US, EM/ System: Riverine (R)/ Subsyst.: Lower Perennial (2)/ Classes: RB, UB, AB, US, EM/ Subsystem: Upper Perennial (3)/ Classes: RB, UB, AB, US/ Water Regimes: Permanently Flooded (H), Intermittently Exposed (G), Semipermanently Flooded (F), Seasonally Flooded (C), Saturated (B), Temporarily Flooded (A), Intermittently Flooded (J) Modifiers: Excavated (E), Impounded (I), Diked (D), Partly Drained (PD), Farmed (F), Artificial (A) HGM Classes: Riverine, Depressional, Slope, Mineral Soil Flats, Organic Soil Flats, Lacustrine Fringe

11. Estimated relative abundance: (of similarly classified sites within the same Major Montana Watershed Basin, see definitions)
(Circle one) Unknown Rare (Common) Abundant
Comments:

12. General condition of AA:
i. Regarding disturbance: (use matrix below to determine [circle] appropriate response)

Conditions within AA	Predominant conditions adjacent to (within 500 feet of) AA		
	Land managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or buildings.	Land not cultivated, but moderately grazed or hayed or selectively logged; or has been subject to minor clearing; contains few roads or buildings.	Land cultivated or heavily grazed or logged; subject to substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.
AA occurs and is managed in predominantly natural state; is not grazed, hayed, logged, or otherwise converted; does not contain roads or occupied buildings.	low disturbance	low disturbance	moderate disturbance
AA not cultivated, but 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.	moderate disturbance	moderate disturbance	high disturbance
AA cultivated or heavily grazed or logged; subject to relatively substantial fill placement, grading, clearing, or hydrological alteration; high road or building density.	high disturbance	(high disturbance)	high disturbance

Comments: (types of disturbance, intensity, season, etc.): Direct Human disturbance, garbage, road fill + sediments
ii. Prominent weedy, alien, & introduced species (including those not domesticated, feral): (list) ____
iii. Provide brief descriptive summary of AA and surrounding land use/habitat: Narrow seep/drainage along south side of highway - surrounding land use: upland forest + highway.

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

# of "Cowardin" vegetated classes present in AA (see #10)	≥ 3 vegetated classes (or ≥ 2 if one is forested)	2 vegetated classes (or 1 if forested)	≤ 1 vegetated class
Rating (circle)	High	(Moderate)	Low

Comments:

SECTION PERTAINING to FUNCTIONS & VALUES ASSESSMENT

6

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

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

Primary or critical habitat (**list species**)	D S	
Secondary habitat (**list species**)	D S	
Incidental habitat (**list species**)	D (S)	grizzly bear
No usable habitat	D S	

II. **Rating** (use the conclusions from I above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.9 (H)	.8 (M)	.7 (M)	.5 (L)	.3 (L)	0 (L)

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

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

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

Primary or critical habitat (**list species**)	D S	
Secondary habitat (**list species**)	D (S)	Western toad
Incidental habitat (**list species**)	D S	
No usable habitat	D S	

II. **Rating** (use the conclusions from i above and the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function)

Highest Habitat Level	doc./primary	sus/primary	doc./secondary	sus./secondary	doc./incidental	sus./incidental	None
Functional Points and Rating	1 (H)	.8 (H)	.7 (M)	.6 (M)	.2 (L)	.1 (L)	0 (L)

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

14C. General Wildlife Habitat Rating:

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

Substantial (based on any of the following [check]):
- ___ observations of abundant wildlife #'s or high species diversity (during any period)
- ___ abundant wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ presence of extremely limiting habitat features not available in the surrounding area
- ___ interviews with local biologists with knowledge of the AA

Low (based on any of the following [check]):
- ___ few or no wildlife observations during peak use periods
- ___ little to no wildlife sign
- ___ sparse adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

Moderate (based on any of the following [check]):
- XX observations of scattered wildlife groups or individuals or relatively few species during peak periods
- XX common occurrence of wildlife sign such as scat, tracks, nest structures, game trails, etc.
- ___ adequate adjacent upland food sources
- ___ interviews with local biologists with knowledge of the AA

ii. Wildlife habitat features (working from top to bottom, circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) rating. Structural diversity is from #13. For class cover to be considered evenly distributed, 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 instructions for further definitions of these terms].)

Structural diversity (see #13)	High								Moderate								Low			
Class cover distribution (all vegetated classes)	Even				Uneven				Even				Uneven				Even			
Duration of surface water in ≥ 10% of AA	P/P	S/I	T/E	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)	E	E	E	H	E	E	H	H	E	H	H	M	E	H	M	M	E	H	M	M
Moderate disturbance at AA (see #12i)	H	H	H	H	H	H	H	M	H	H	M	M	H	M	M	L	H	M	L	L
High disturbance at AA (see #12i)	M	M	M	L	M	M	L	L	M	M	L	L	M	L	L	L	L	L	L	L

iii. Rating (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

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

Comments:

14D. General Fish/Aquatic Habitat Rating: (Assess this function if the AA is used by fish or the existing situation is "correctable" such that the AA could be used by fish [i.e., fish use is precluded by perched culvert or other barrier, etc.]. If the AA is not or was not historically used by fish due to lack of habitat, excessive gradient, etc., circle **NA** here and proceed to the next function. If fish use occurs in the AA but is not desired from a resource management perspective [such as fish use within an irrigation canal], then Habitat Quality [i below] should be marked as "Low", applied accordingly in ii below, and noted ih the comments.)

i. **Habitat Quality** (circle appropriate AA attributes in matrix to arrive at exceptional (E), high (H), moderate (M), or low (L) quality rating.

Duration of surface water in AA	Permanent / Perennial			Seasonal / Intermittent			Temporary / Ephemeral		
Cover - % of waterbody in AA containing cover objects such as submerged logs, large rocks & boulders, overhanging banks, floating-leaved vegetation, etc.	>25%	10–25%	<10%	>25%	10–25%	<10%	>25%	10–25%	<10%
Shading - >75% of streambank or shoreline within AA contains riparian or wetland scrub-shrub or forested communities	E	E	H	H	H	M	M	M	M
Shading -- 50 to 75% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	H	M	M	M	M	M	L	L
Shading - < 50% of streambank or shoreline within AA contains rip. or wetland scrub-shrub or forested communities	H	M	M	M	L	L	L	L	L

ii. **Modified Habitat Quality** (Circle the appropriate response to the following question. If answer is Y, then reduce rating in i above by one level [E = H, H = M, M = L, L = L]). *Is fish use of the AA precluded or significantly reduced by a culvert, dike, or other man-made structure or activity or is the waterbody included on the MDEQ list of waterbodies in need of TMDL development with listed "Probable Impaired Uses" including cold or warm water fishery or aquatic life support?* Y N Modified habitat quality rating = (circle) E H M L

iii. **Rating** (use the conclusions from i and ii above and the matrix below to arrive at [circle] the functional points and rating [E = exceptional, H = high, M = moderate, or L = low] for this function)

Types of fish known or suspected within AA	*Modified Habitat Quality (ii)*			
	Exceptional	High	Moderate	Low
Native game fish	1 (E)	.9 (H)	.7 (M)	.5 (M)
Introduced game fish	.9 (H)	.8 (H)	.6 (M)	.4 (M)
Non-game fish	.7 (M)	.6 (M)	.5 (M)	.3 (L)
No fish	.5 (M)	.3 (L)	.2 (L)	.1 (L)

Comments: NA

14E. Flood Attenuation: (applies only to wetlands subject to flooding via in-channel or overbank flow. If wetlands in AA are not flooded from in-channel or overbank flow, circle **NA** here and proceed to next function.)

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

Estimated wetland area in AA subject to periodic flooding	≥ 10 acres			<10, >2 acres			≤2 acres		
% of flooded wetland classified as forested, scrub/shrub, or both	75%	25-75%	<25%	75%	25-75%	<25%	75%	25-75%	<25%
AA contains **no outlet or restricted outlet**	1(H)	.9(H)	.6(M)	.8(H)	.7(H)	.5(M)	.4(M)	.3(L)	.2(L)
AA contains **unrestricted outlet**	.9(H)	.8(H)	.5(M)	.7(H)	.6(M)	.4(M)	.3(L)	.2(L)	.1(L)

ii. Are residences, businesses, or other features which may be significantly damaged by floods located within 0.5 miles downstream of the AA (circle)? (Y) N

Comments: Highway

14F. Short and Long Term Surface Water Storage: (Applies to wetlands that flood or pond from overbank or in-channel flow, precipitation, upland surface flow, or groundwater flow. If no wetlands in the AA are subject to flooding or ponding, circle **NA** here and proceed with the evaluation.)

i. **Rating** (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Abbreviations for surface water durations are as follows: P/P = permanent/perennial; S/I = seasonal/intermittent; and T/E = temporary/ephemeral [see instructions for further definitions of these terms].)

Estimated maximum acre feet of water contained in wetlands within the AA that are subject to periodic flooding or ponding	>5 acre feet			<5, >1 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**	1(H)	.9(H)	.8(H)	.8(H)	.6(M)	.5(M)	.4(M)	.3(L)	.2(L)
Wetlands in AA flood or pond < **5 out of 10 years**	.9(H)	.8(H)	.7(M)	.7(M)	.5(M)	.4(M)	.3(L)	.2(L)	.1(L)

Comments:

14G. Sediment/Nutrient/Toxicant Retention and Removal: (Applies to wetlands with potential to receive excess 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, circle NA here and proceed with the evaluation.)

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

Sediment, nutrient, and toxicant input levels within AA	AA receives or surrounding land use with potential to deliver low to moderate levels of sediments, nutrients, or compounds such that other functions are not substantially impaired. Minor sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.				Waterbody on MDEQ list of waterbodies in need of TMDL development for "probable causes" related to sediment, nutrients, or toxicants or AA receives or surrounding land use with potential to deliver high levels of sediments, nutrients, or compounds such that other functions are substantially impaired. Major sedimentation, sources of nutrients or toxicants, or signs of eutrophication present.			
% cover of wetland vegetation in AA	≥ 70%		< 70%		≥ 70%		< 70%	
Evidence of flooding or ponding in AA	Yes	No	Yes	No	Yes	No	Yes	No
AA contains **no or restricted outlet**	1 (H)	.8 (H)	.7 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)	.2 (L)
AA contains **unrestricted outlet**	.9 (H)	.7 (M)	.6 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)	.1 (L)

Comments:

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

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

% Cover of wetland streambank or shoreline by species with deep, binding rootmasses	*Duration of surface water adjacent to rooted vegetation*		
	permanent / perennial	seasonal / intermittent	Temporary / ephemeral
≥ 65%	1 (H)	.9 (H)	.7 (M)
35-64%	.7 (M)	.6 (M)	.5 (M)
< 35%	.3 (L)	.2 (L)	.1 (L)

Comments:

14i. Production Export/Food Chain Support:

i. Rating (working from top to bottom, use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function. Factor A = acreage of vegetated component in the AA; Factor B = structural diversity rating from #13; Factor C = whether or not the AA contains a surface or subsurface outlet; the final three rows pertain to duration of surface water in the AA, where P/P = permanent/perennial; S/I = seasonal/intermittent; T/E /A= temporary/ephemeral or absent [see instructions 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	1H	.9H	.9H	.8H	.8H	.7M	.9H	.8H	.8H	.7M	.7M	.6M	.7M	.6M	.6M	.4M	.4M	.3L
S/I	.9H	.8H	.8H	.7M	.7M	.6M	.8H	.7M	.7M	.6M	.6M	.5M	.6M	.5M	.5M	.3L	.3L	.2L
T/E/A	.8H	.7M	.7M	.6M	.6M	.5M	.7M	.6M	.6M	.5M	.5M	.4M	.5M	.4M	.4M	.2L	.2L	.1L

Comments:

14J. Groundwater Discharge/Recharge: (Check the indicators in i & ii below that apply to the AA)

i. Discharge Indicators

- XX Springs are known or observed
- ___ Vegetation growing during dormant season/drought
- ___ Wetland occurs at the toe of a natural slope
- XX Seeps are present at the wetland edge
- ___ AA permanently flooded during drought periods
- ___ Wetland contains an outlet, but no inlet
- ___ Other

ii. Recharge Indicators

- ___ Permeable substrate present without underlying impeding layer
- ___ Wetland contains inlet but no outlet
- ___ Other

iii. Rating: Use the information from i and ii above and the table below to arrive at [circle] the functional points and rating [H = high, L = low] for this function.

Criteria	*Functional Points and Rating*
AA is known Discharge/Recharge area or one or more indicators of D/R present	1 (H)
No Discharge/Recharge indicators present	.1 (L)
Available Discharge/Recharge information inadequate to rate AA D/R potential	N/A (Unknown)

Comments:

14K. Uniqueness:

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

Replacement potential	AA contains fen, bog, warm springs or mature (>80 yr-old) forested wetland or plant association listed as "S1" by the MNHP			AA does not contain previously cited rare types and structural diversity (#13) is high or contains plant association listed as "S2" by the MNHP			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)	1 (H)	.9 (H)	.8 (H)	.8 (H)	.6 (M)	.5 (M)	.5 (M)	.4 (M)	.3 (L)
Moderate disturbance at AA (#12i)	.9 (H)	.8 (H)	.7 (M)	.7 (M)	.5 (M)	.4 (M)	.4 (M)	.3 (L)	.2 (L)
High disturbance at AA (#12i)	.8 (H)	.7 (M)	.6 (M)	.6 (M)	.4 (M)	.3 (L)	.3 (L)	.2 (L)	.1 (L)

Comments:

14L. Recreation/Education Potential: i. Is the AA a known rec./ed. site: (circle) Y N (If yes, rate as [circle] High [1] and go to ii; if no go to iii)

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

iii. Based on the location, diversity, size, and other site attributes, is there strong potential for rec./ed. use? (Y) N

(If yes, go to ii, then proceed to iv, if no, then rate as [circle] Low [0.1])

iv. Rating (use the matrix below to arrive at [circle] the functional points and rating [H = high, M = moderate, or L = low] for this function.

Ownership	*Disturbance at AA (#12i)*		
	low	moderate	high
public ownership	1 (H)	.5 (M)	.2 (L)
private ownership	.7 (M)	.3 (L)	.1 (L)

Comments: Lower reach is known rest stop, but highly disturbed. ∴ matrix was applied and site was not automatically scored 1.0.

FUNCTION & VALUE SUMMARY & OVERALL RATING

Function & Value Variables	Rating	Actual Functional Points	Possible Functional Points	Functional Units; (Actual Points x Estimated AA Acreage)
A. Listed/Proposed T&E Species Habitat	LOW	0.3	1	
B. MT Natural Heritage Program Species Habitat	MOD	0.6	1	
C. General Wildlife Habitat	LOW	0.3	1	
D. General Fish/Aquatic Habitat	NA	—	—	
E. Flood Attenuation	MOD	0.4	1	
F. Short and Long Term Surface Water Storage	LOW	0.3	1	
G. Sediment/Nutrient/Toxicant Removal	MOD	0.5	1	
H. Sediment/Shoreline Stabilization	MOD	0.6	1	
I. Production Export/Food Chain Support	MOD	0.5	1	
J. Groundwater Discharge/Recharge	HIGH	1	1	
K. Uniqueness	LOW	0.2	1	
L. Recreation/Education Potential	LOW	0.2	1	
Totals:		4.9	11	

45%

OVERALL ANALYSIS AREA (AA) RATING: (Circle appropriate category based on the criteria outlined below) I II (III) IV

Category I Wetland: (Must satisfy **one** of the following criteria; if does not meet criteria, 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**
___ Total actual functional points > 80% (round to nearest whole #) of total possible functional points.

Category II Wetland: (Criteria for Category I not satisfied **and** meets any **one** of the following criteria; if not satisfied, go to Category IV)
___ Score of 1 functional point for Species Rated S1, S2, or S3 by the MT Natural Heritage Program; **or**
___ Score of .9 or 1 functional point for General Wildlife Habitat; **or**
___ Score of .9 or 1 functional point for General Fish/Aquatic 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**
___ Total Actual Functional Points > 65% (round to nearest whole #) of total possible functional points.

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 does not satisfy criteria go to Category III)
___ "Low" rating for Uniqueness; **and**
___ "Low" rating for Production Export/Food Chain Support; **and**
___ Total actual functional points < 30% (round to nearest whole #) of total possible functional points

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 2-Oct-2000
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 1

Do Normal Circumstances exist on the site?	(Yes) No	Community ID:	em/ss/ab
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID:	2A/2B
Is the area a potential Problem Area?	Yes (No)	Field Location:	
(If needed, explain on the reverse side)		Site 2a/2b, Station 154	

VEGETATION (USFWS Region No. 9)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Typha latifolia	Herb	OBL	*Phalaris arundinacea*	Herb	FACW
Cattail,Broad-Leaf			Grass,Reed Canary		
Scirpus acutus	Herb	OBL	*Glyceria elata*	Herb	FACW+
Bulrush,Hard-Stem			Grass,Tall Manna		
Lemna minima	Herb	OBL	*Populus balsamifera*	Shrub	FAC
Duckweed,Least			Poplar,Balsam		
Ranunculus aquatilis	Herb	OBL	*Geum macrophyllum*	Herb	FACW+
Butter-Cup,White Water			Avens,Large-Leaf		
Alnus incana	Shrub	FACW	*Carex retrorsa*	Herb	FAC
Alder,Speckled			Sedge,Retrorse		
Carex rostrata	Herb	OBL	*Carex lasiocarpa*	Herb	OBL
Sedge,Beaked			Sedge,Woolly-Fruit		
Cornus stolonifera	Shrub	FACW	*Salix bebbiana*	Shrub	FACW
Dogwood,Red-Osier			Willow,Bebb		
Solanum dulcamara	Vine	FAC			
Nightshade,Climbing					

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 15/15 = 100.00%

FAC Neutral: 12/12 = 100.00%

Numeric Index: 27/15 = 1.80

Remarks:
Estimated 85% EM, 10% SS, 5% AB

HYDROLOGY

YES Recorded Data(Describe in Remarks):
- NO Stream, Lake or Tide Gauge
- YES Aerial Photographs
- NO Other

NO No Recorded Data

Field Observations

Depth of Surface Water:	= 2 (in.)
Depth to Free Water in Pit:	N/A (in.)
Depth to Saturated Soil:	N/A (in.)

Wetland Hydrology Indicators
- Primary Indicators
  - YES Inundated
  - YES Saturated in Upper 12 Inches
  - NO Water Marks
  - NO Drift Lines
  - NO Sediment Deposits
  - NO Drainage Patterns in Wetlands
- Secondary Indicators
  - NO Oxidized Root Channels in Upper 12 Inches
  - NO Water-Stained Leaves
  - YES Local Soil Survey Data
  - YES FAC-Neutral Test
  - NO Other(Explain in Remarks)

Remarks:
Appears to be fed primarily by groundwater; recharge/discharge site.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 2-Oct-2000
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 1

SOILS

Map Unit Name (Series and Phase): Muck and Peat
Map Symbol: Ms Drainage Class: Unknown
Taxonomy (Subgroup): Histosol / Histic Epipedon
Mapped Hydric Inclusion? Field Observations Confirm Mapped Type? (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
10	6	10YR2/1	N/A	N/A	N/A	Silt, Decomposed leaves
10	8	10YR7/2	7.5YR6/8	Common	Distinct	Silt loam

Hydric Soil Indicators:
- NO Histosol
- YES Histic Epipedon
- NO Sulfidic Odor
- NO Aquic Moisture Regime
- NO Reducing Conditions
- YES Gleyed or Low Chroma Colors
- NO Concretions
- NO High Organic Content in Surface Layer in Sandy Soils
- NO Organic Streaking in Sandy Soils
- YES Listed on Local Hydric Soils List
- NO Listed on National Hydric Soils List
- NO Other (Explain in Remarks)

Remarks:
Soils contain substantial amounts of organic material (peat) on both sides of the highway; Peat starts to appear further from the highway on the south side.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland?	(Yes) No
Wetland Hydrology Present?	(Yes) No		
Hydric Soils Present?	(Yes) No		

Remarks:
Site consists of an apparent glacial kettle bisected by highway that is fed by groundwater and surface runoff. Site exhibits substantial peat accumulation. There appears to be no downstream surface discharge; no downstream surface connection to Water of U.S. Site may be non-jurisdictional.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site: Columbia Heights-Hungry Horse	Project No: C#1280	Date: 2-Oct-2000
Applicant/Owner: Montana Department of Transportation		County: Flathead
Investigators: Berglund/Harris		State: Montana
		Plot ID: 2

Do Normal Circumstances exist on the site?	(Yes) No	Community ID: em/ss/sb
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID: Site 4
Is the area a potential Problem Area?	Yes (No)	Field Location:
(If needed, explain on the reverse side)		S. of Highway, Station 177

VEGETATION (USFWS Region No. 9)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Agrostis alba	Herb	FACW	*Carex rostrata*	Herb	OBL
Redtop			Sedge,Beaked		
Alopecurus pratensis	Herb	FACW	*Ceratophyllum demersum*	Herb	OBL
Foxtail,Meadow			Hornwort,Common		
Juncus longistylis	Herb	FACW	*Cirsium arvense*	Herb	FACU+
Rush,Long-Style			Thistle,Creeping		
Eleocharis palustris	Herb	OBL	*Salix bebbiana*	Shrub	FACW
Spikerush,Creeping			Willow,Bebb		
Beckmannia syzigachne	Herb	OBL	*Salix drummondiana*	Shrub	FACW
Sloughgrass,American			Willow,Drummond		
Juncus balticus	Herb	OBL	*Salix geyeriana*	Shrub	FACW+
Rush,Baltic			Willow,Geyer		
Phleum pratense	Herb	FACU	*Cornus stolonifera*	Shrub	FACW
Timothy			Dogwood,Red-Osier		
Epilobium ciliatum	Herb	FACW-	*Populus balsamifera*	Shrub	FAC
Willow-Herb,Hairy			Poplar,Balsam		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 14/16 = 87.50%
FAC Neutral: 13/15 = 86.67%
Numeric Index: 32/16 = 2.00

Remarks:
Estimated 80%AB, 45%EM, 5%SS

HYDROLOGY

YES Recorded Data(Describe in Remarks):
- NO Stream, Lake or Tide Gauge
- YES Aerial Photographs
- NO Other

NO No Recorded Data

Field Observations

Depth of Surface Water:	= 12 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators
- Primary Indicators
  - YES Inundated
  - YES Saturated in Upper 12 Inches
  - NO Water Marks
  - NO Drift Lines
  - NO Sediment Deposits
  - YES Drainage Patterns in Wetlands
- Secondary Indicators
  - NO Oxidized Root Channels in Upper 12 Inches
  - NO Water-Stained Leaves
  - NO Local Soil Survey Data
  - YES FAC-Neutral Test
  - NO Other(Explain in Remarks)

Remarks:
Appears to be fed solely from upstream drainage, but is groundwater recharge site.

WetForm^{MT}

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site: Columbia Heights-Hungry Horse	Project No: C#1280	Date: 2-Oct-2000
Applicant/Owner: Montana Department of Transportation		County: Flathead
Investigators: Berglund/Harris		State: Montana
		Plot ID: 2

SOILS

Map Unit Name (Series and Phase): Mires loam, 0-3% slopes
Map Symbol: Mn Drainage Class: WD
Taxonomy (Subgroup): Unknown
Profile Description
Mapped Hydric Inclusion?
Field Observations Confirm Mapped Type? (Yes) No

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
10	B	10YR2/1	N/A	N/A	N/A	Loam

Hydric Soil Indicators:
- NO Histosol
- NO Histic Epipedon
- YES Sulfidic Odor
- NO Aquic Moisture Regime
- NO Reducing Conditions
- YES Gleyed or Low Chroma Colors
- NO Concretions
- NO High Organic Content in Surface Layer in Sandy Soils
- NO Organic Streaking in Sandy Soils
- NO Listed on Local Hydric Soils List
- NO Listed on National Hydric Soils List
- NO Other (Explain in Remarks)

Remarks:
Gravels appear at about 12".

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:
Site consists of a depression south of the highway on a river terrace that is fed by an apparent perennial drainage. There is no surface discharge and no surface connection to the river or other Water of U.S.; site is likely recharge area. Jurisdiction unknown.

WetForm^{MT}

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 3

Do Normal Circumstances exist on the site?	(Yes) No	Community ID: EM/SS
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID: Site 6
Is the area a potential Problem Area?	Yes (No)	Field Location:
(If needed, explain on the reverse side)		S. of Highway, Station 182+80

VEGETATION (USFWS Region No. 9)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Phalaris arundinacea	Herb	FACW	*Rubus parviflorus*	Shrub	FACU+
Grass,Reed Canary			Thimble-Berry,Western		
Agrostis alba	Herb	FACW	*Cornus stolonifera*	Shrub	FACW
Redtop			Dogwood,Red-Osier		
Alopecurus pratensis	Herb	FACW	*Smilacina stellata*	Herb	FAC-
Foxtail,Meadow			False-Solomon's-Seal,Starry		
Acer glabrum	Shrub	FAC			
Maple,Rocky Mountain					

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 5/7 = 71.43%

FAC Neutral: 4/5 = 80.00%

Numeric Index: 18/7 = 2.57

Remarks:
EM at highway, SS up drainage

HYDROLOGY

NO Recorded Data(Describe in Remarks):
- N/A Stream, Lake or Tide Gauge
- N/A Aerial Photographs
- N/A Other

YES No Recorded Data

Field Observations

Depth of Surface Water:	= 2 (in.)
Depth to Free Water in Pit:	N/A (in.)
Depth to Saturated Soil:	N/A (in.)

Wetland Hydrology Indicators
Primary Indicators
- YES Inundated
- YES Saturated in Upper 12 Inches
- NO Water Marks
- NO Drift Lines
- YES Sediment Deposits
- YES Drainage Patterns in Wetlands

Secondary Indicators
- NO Oxidized Root Channels in Upper 12 Inches
- NO Water-Stained Leaves
- NO Local Soil Survey Data
- YES FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:
Site is intermittent seep / drainage, fed by groundwater and surface runoff.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 3

SOILS

Map Unit Name (Series and Phase): Unmapped
Map Symbol: NA Drainage Class: Unknown
Taxonomy (Subgroup): Unknown
Profile Description
Mapped Hydric Inclusion?
Field Observations Confirm Mapped Type? Yes (No)

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
10	A/B	N/A	N/A	N/A	N/A	Sand

Hydric Soil Indicators:
- NO Histosol
- NO Histic Epipedon
- NO Sulfidic Odor
- NO Aquic Moisture Regime
- NO Reducing Conditions
- NO Gleyed or Low Chroma Colors
- NO Concretions
- YES High Organic Content in Surface Layer in Sandy Soils
- NO Organic Streaking in Sandy Soils
- NO Listed on Local Hydric Soils List
- NO Listed on National Hydric Soils List
- NO Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:
Site consists of narrow seep / drainage south of highway. Is heavily disturbed in higway vicinity; lots of garbage present. No surface connection to river observed; jurisdiction unknown.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 4

Do Normal Circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation:)? Yes (No)
Is the area a potential Problem Area? Yes (No)
(If needed, explain on the reverse side)

Community ID: SS
Transect ID: Site 5B
Field Location:
pipe @ Sta. 185 and riverbank to W. E

VEGETATION (USFWS Region No. 9)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Cornus stolonifera	Shrub	FACW	*Calamagrostis canadensis*	Herb	FACW+
Dogwood,Red-Osier			Reedgrass,Blue-Joint		
Salix exigua	Shrub	OBL	*Solidago canadensis*	Herb	FACU
Willow,Sandbar			Golden-Rod,Canada		
Populus balsamifera	Shrub	FAC	*Equisetum arvense*	Herb	FAC
Poplar,Balsam			Horsetail,Field		
Agrostis alba	Herb	FACW			
Redtop					

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 6/7 = 85.71%
FAC Neutral: 4/5 = 80.00%
Numeric Index: 17/7 = 2.43

Remarks:
100%SS

HYDROLOGY

NO Recorded Data(Describe in Remarks):
N/A Stream, Lake or Tide Gauge
N/A Aerial Photographs
N/A Other
YES No Recorded Data

Field Observations
Depth of Surface Water: = 6 (in.)
Depth to Free Water in Pit: N/A (in.)
Depth to Saturated Soil: N/A (in.)

Wetland Hydrology Indicators
Primary Indicators
YES Inundated
YES Saturated in Upper 12 Inches
YES Water Marks
YES Drift Lines
YES Sediment Deposits
YES Drainage Patterns in Wetlands
Secondary Indicators
NO Oxidized Root Channels in Upper 12 Inches
NO Water-Stained Leaves
NO Local Soil Survey Data
YES FAC-Neutral Test
NO Other(Explain in Remarks)

Remarks:
Narrow channel at culvert sourced by spring outlet (6" inundation); narrow fringe along immediate riverbank sourced by flooding / possible alluvial flow (saturated @ 12").

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 4

SOILS

Map Unit Name (Series and Phase): Unmapped
Map Symbol: NA Drainage Class: Unknown
Taxonomy (Subgroup): Unknown
Profile Description
Mapped Hydric Inclusion?
Field Observations Confirm Mapped Type? Yes (No)

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
8	B	10YR3/2	N/A	N/A	N/A	Sandy loam

Hydric Soil Indicators:
NO Histosol
NO Histic Epipedon
NO Sulfidic Odor
NO Aquic Moisture Regime
NO Reducing Conditions
NO Gleyed or Low Chroma Colors
NO Concretions
NO High Organic Content in Surface Layer in Sandy Soils
YES Organic Streaking in Sandy Soils
NO Listed on Local Hydric Soils List
NO Listed on National Hydric Soils List
NO Other (Explain in Remarks)

Remarks:
Faint organic streaking present; hydric soils indicators weak, but apparent.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is the Sampling Point within the Wetland? (Yes) No

Remarks:
Site consists of a narrow wetland channel at a pipe outlet and a 1-2 m-wide wetland fringe along the immediate south bank of the Flathead River. These wetlands are likely jurisdictional.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 5

Do Normal Circumstances exist on the site?	(Yes) No	Community ID:	Non-wetland Riparian
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID:	5 upland
Is the area a potential Problem Area?	Yes (No)	Field Location:	
(If needed, explain on the reverse side)		Sta. 184+80, btwn. river & highway.	

VEGETATION (USFWS Region No. 9)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Cornus stolonifera	Shrub	FACW	*Symphoricarpos albus*	Shrub	FACU
Dogwood,Red-Osier			Snowberry		
Equisetum hyemale	Herb	FACW	*Agrostis alba*	Herb	FACW
Horsetail,Rough			Redtop		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 3/4 = 75.00%

FAC Neutral: 3/4 = 75.00%

Numeric Index: 10/4 = 2.50

Remarks:

HYDROLOGY

NO Recorded Data(Describe in Remarks):
- N/A Stream, Lake or Tide Gauge
- N/A Aerial Photographs
- N/A Other

YES No Recorded Data

Field Observations

Depth of Surface Water:	N/A (in.)
Depth to Free Water in Pit:	N/A (in.)
Depth to Saturated Soil:	N/A (in.)

Wetland Hydrology Indicators

Primary Indicators
- NO Inundated
- NO Saturated in Upper 12 Inches
- NO Water Marks
- NO Drift Lines
- NO Sediment Deposits
- NO Drainage Patterns in Wetlands

Secondary Indicators
- NO Oxidized Root Channels in Upper 12 Inches
- NO Water-Stained Leaves
- NO Local Soil Survey Data
- YES FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:
Some old flood deposits present, but vegetated over. No recent signs of flooding or saturation. This "bench" is within the 100-year floodplain, but is about 5 feet+ higher in elevation than the 2-year flood event as calculated by Robert Peccia & Associates.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site:	Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner:	Montana Department of Transportation		County: Flathead
Investigators:	Berglund/Harris		State: Montana
			Plot ID: 5

SOILS

Map Unit Name (Series and Phase): Unmapped

Map Symbol: NA Drainage Class: Unknown

Taxonomy (Subgroup): Unknown

Mapped Hydric Inclusion?

Field Observations Confirm Mapped Type? Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
10	A/B	10YR4/2	N/A	N/A	N/A	Silt

Hydric Soil Indicators:
- NO Histosol
- NO Histic Epipedon
- NO Sulfidic Odor
- NO Aquic Moisture Regime
- NO Reducing Conditions
- NO Gleyed or Low Chroma Colors
- NO Concretions
- NO High Organic Content in Surface Layer in Sandy Soils
- NO Organic Streaking in Sandy Soils
- NO Listed on Local Hydric Soils List
- NO Listed on National Hydric Soils List
- NO Other (Explain in Remarks)

Remarks:
No hydric soil indicators observed; likely flooded historically, and may flood periodically, but hydric soils not forming.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland?	Yes (No)
Wetland Hydrology Present?	Yes (No)		
Hydric Soils Present?	Yes (No)		

Remarks:
This site is indicative of riparian communities (which also contain black cottonwood & other species not represented in this plot) between the highway and the river. These sites may have historically been wetlands, but convincing, recent indicators of hydric soils and wetland hydrology were not observed, despite taking several probe samples. The site occurs within the 100-year floodplain, but approximately 5'+ above the two-year (normal) flood elevation.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site: Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner: Montana Department of Transportation		County: Flathead
Investigators: Berglund/Harris		State: Montana
		Plot ID: 6

Do Normal Circumstances exist on the site?	(Yes) No	Community ID:	EM / FO
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID:	Site 5C/5D
Is the area a potential Problem Area? (If needed, explain on the reverse side)	Yes (No)	Field Location:	198+50 to e. of bridge along river.

VEGETATION (USFWS Region No. 9)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Populus balsamifera	Tree	FAC	*Phleum pratense*	Herb	FACU
Poplar,Balsam			Timothy		
Agrostis alba	Herb	FACW	*Dactylis glomerata*	Herb	FACU
Redtop			Grass,Orchard		
Phalaris arundinacea	Herb	FACW	*Calamagrostis canadensis*	Herb	FACW+
Grass,Reed Canary			Reedgrass,Blue-Joint		
Plantago major	Herb	FAC+	*Alopecurus pratensis*	Herb	FACW
Plantain,Common			Foxtail,Meadow		
Carex limosa	Herb	OBL	*Glycyrrhiza lepidota*	Herb	FAC+
Sedge,Mud			Licorice,American		
Carex flava	Herb	OBL	*Cornus stolonifera*	Shrub	FACW
Sedge,Yellow			Dogwood,Red-Osier		
Mentha arvensis	Herb	FAC	*Salix exigua*	Shrub	OBL
Mint,Field			Willow,Sandbar		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 12/14 = 85.71%
FAC Neutral: 8/10 = 80.00%
Numeric Index: 33/14 = 2.36

Remarks:
FO 5-10%, EM 90-95%

HYDROLOGY

YES Recorded Data(Describe in Remarks):
- NO Stream, Lake or Tide Gauge
- YES Aerial Photographs
- NO Other

NO No Recorded Data

Field Observations:
- Depth of Surface Water: N/A (in.)
- Depth to Free Water in Pit: N/A (in.)
- Depth to Saturated Soil: = 0 (in.)

Wetland Hydrology Indicators
Primary Indicators
- NO Inundated
- YES Saturated in Upper 12 Inches
- YES Water Marks
- YES Drift Lines
- YES Sediment Deposits
- YES Drainage Patterns in Wetlands

Secondary Indicators
- NO Oxidized Root Channels in Upper 12 Inches
- NO Water-Stained Leaves
- NO Local Soil Survey Data
- YES FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:
Likely sourced by surface flooding and subsurface flow associated with Flathead River.

DATA FORM
ROUTINE WETLAND
(1987 COE Wetlands Delineation Manual)

Project/Site: Columbia Heights-Hungry Horse	Project No: C#1290	Date: 12-Aug-2001
Applicant/Owner: Montana Department of Transportation		County: Flathead
Investigators: Berglund/Harris		State: Montana
		Plot ID: 6

SOILS

Map Unit Name (Series and Phase): Unmapped
Map Symbol: NA Drainage Class: Unknown
Taxonomy (Subgroup): Unknown
Mapped Hydric Inclusion? Field Observations Confirm Mapped Type? Yes (No)
Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
3	A/B	10YR3/2	N/A	N/A	N/A	Sand

Hydric Soil Indicators:
- NO Histosol
- NO Histic Epipedon
- NO Sulfidic Odor
- NO Aquic Moisture Regime
- NO Reducing Conditions
- NO Gleyed or Low Chroma Colors
- NO Concretions
- YES High Organic Content in Surface Layer in Sandy Soils
- NO Organic Streaking in Sandy Soils
- NO Listed on Local Hydric Soils List
- NO Listed on National Hydric Soils List
- NO Other (Explain in Remarks)

Remarks:
Soils consist of 2-3" of sand /silt over embedded river cobbles; no pit possible. High organic content in surface layer.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes) No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes) No	
Hydric Soils Present?	(Yes) No	

Remarks:
Site consists of wetlands associated with the immediate Flathead River channel and floodplain in the bridge vicinity. These wetlands are interspersed with large areas of unvegetated river cobble. These wetlands are likely jurisdictional.

APPENDIX 7

FEMA Floodplain Map

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Floodway Data table shown on this FIRM.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

FEMA recommends that a Flood Insurance Policy be purchased for structures in areas where **levees** are shown as providing protection from the 1% annual chance flood. Flooding is not covered by standard property/fire/dwelling insurance policies nor is it covered by Homeowners Insurance, Renters Insurance, Condominium Owners Insurance, or Commercial Property Insurance. Contact your insurance agent and local floodplain administrator for further information.

Visit http://www.fema.gov/pdf/fhm/frm_gsah.pdf for information on levees and the risk of flooding in areas shown as being protected by levees.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1990 or later.

This map reflects more detailed up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://www.msc.fema.gov.

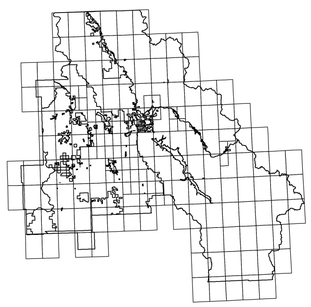
If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.

Flathead County Vertical Datum Offset Table

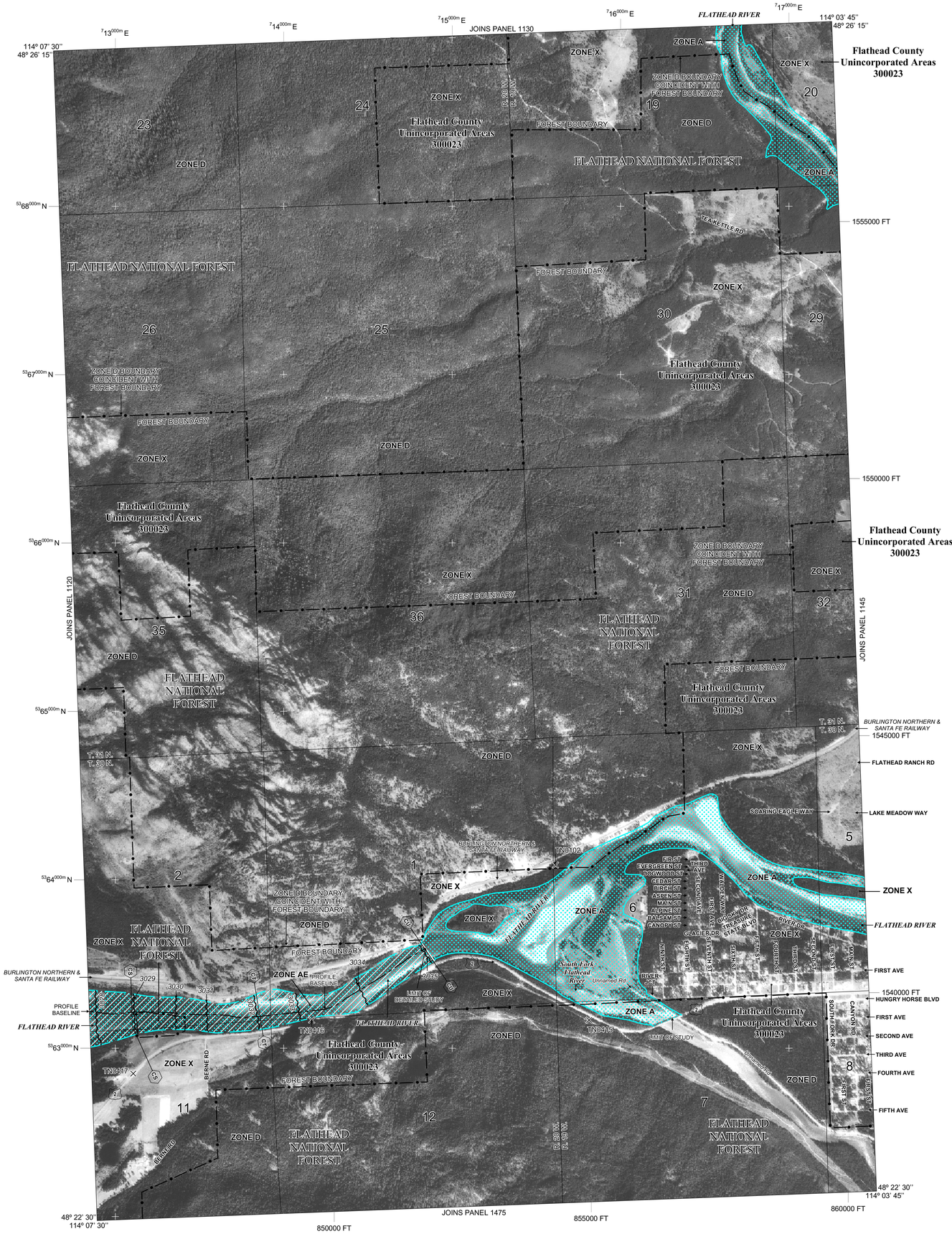
Flooding Source	Vertical Datum Offset (ft)	Flooding Source	Vertical Datum Offset (ft)
Flathead River	3.7		

Example: To convert Flathead River elevations to NAVD 88, 3.7 feet were added to the NGVD 29 elevations.

Panel Location Map



As per the Administrative Rules of Montana (ARM) 36.15.501(6), "The designated floodplain boundary is based on base flood elevations. The mapped floodplain boundary may be used as a guide for determining whether property is within the designated floodplain, but the exact boundary shall be determined according to the base flood elevation. If the local administrator determines it is unclear whether property is in or out of the floodplain, the local administrator shall require the applicant to provide additional information which may include elevations obtained through a level survey performed by a professional engineer or registered land surveyor."



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
4989000m N	1000-meter Universal Transverse Mercator grid values, zone 11
4989000 FT	5000-foot grid ticks: Montana State Plane coordinate system, (FIPS Zone 2500), Transverse Mercator
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
September 28, 2007

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET
300 0 300 600 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1140G

FIRM

FLOOD INSURANCE RATE MAP

FLATHEAD COUNTY, MONTANA AND INCORPORATED AREAS

PANEL 1140 OF 3525

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FLATHEAD COUNTY	300023	1140	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
30029C1140G
EFFECTIVE DATE
SEPTEMBER 28, 2007

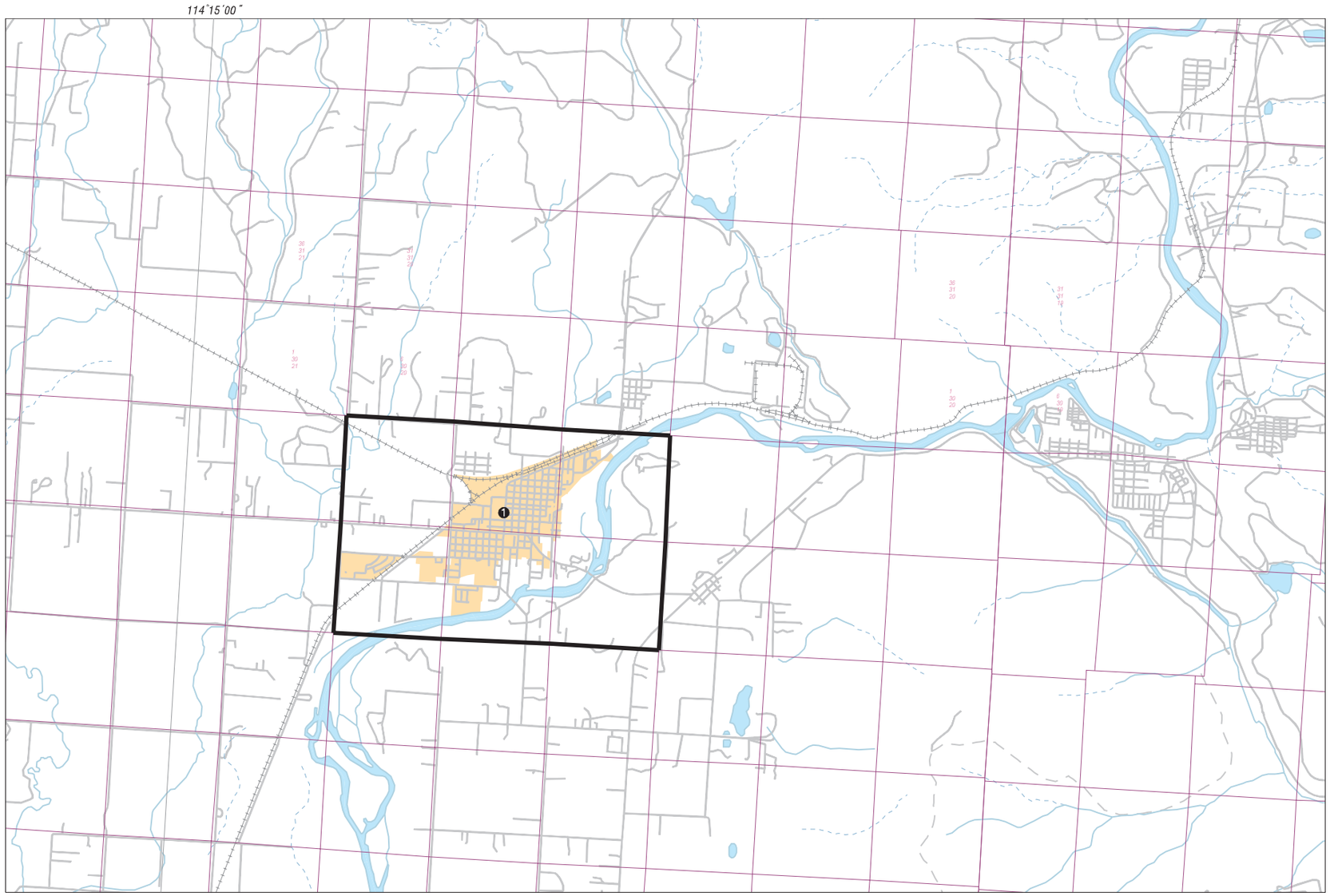
Federal Emergency Management Agency

APPENDIX 8

Columbia Falls Nonattainment Area

FLATHEAD COUNTY

Columbia Falls PM-10 Nonattainment Area



COLUMBIA FALLS PM-10 Nonattainment Area:*
T30N, R20W; Sections 7,8,9,16,17 and 18.

* Boundary as described by 56 FR 56794, November 6, 1991.

❶ Columbia Falls Jr. High School PM-10 SLAMS monitoring site. HIVOL sampler with Years of Record 1985 to present. AIRS number 30-029-0003, UTM location Zone 11, 708380mE; 5361434mN.

LEGEND

- Designated PM-10 Nonattainment Area Boundary
- Improved Road
- Interstate Highway
- Trail
- Railroad
- River
- Stream
- Public Land Survey
- Municipal Area
- Water Body

NRIS does not guarantee the data for functionality, accuracy, or being free from errors. The user assumes responsibility to verify usability for their purposes.

Background data from TIGER files and BLM PLSS or UTM grid generated in Arc/Info.

0 2500 5000 7500 10000
Scale of Feet

0 1000 2000 3000
Scale of Meters

N

Montana State Library
Natural Resource Information System
Map #98NRIS248-4 - 08/28/98

APPENDIX 9

MFISH Reports

Flathead River
River Mile: 0 to 158.2
Miles: 158.2
Total Stream Miles: 158.2
HUC: Flathead Lake (17010208)
Tributary To: Clark Fork River
Regions: Region 1
Counties: Flathead; Lake; Sanders

Fish Distribution Download Data

Begin Mile	End Mile	Species	Abundance	Use Type	Life History	Origin	Genetic Status	Data Rating	Data Source
105	125.8	Black Bullhead	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
141.8	145	Brook Trout	Rare	Year-round resident	Resident	Introduced	Not Applicable	Extrapolated from multiple surveys/observations	FWP
0	77.4	Brown Trout	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
0	6.8	Bull Trout	Rare	Fluvial/Adfluvial population, Spawning elsewhere	Fluvial	Native	Genetically pure, determined by genetic analysis	Extrapolated from multiple surveys/observations	FWP
6.8	72.9	Bull Trout	Common	Fluvial/Adfluvial population, Spawning elsewhere	Not applicable	Native	Genetically pure, determined by genetic analysis	Extrapolated from multiple surveys/observations	FWP
105	158.2	Bull Trout	Common	Primarily migrating	Not applicable	Native	Genetically pure, determined by genetic analysis	Extrapolated from multiple surveys/observations	FWP
0	4.5	Kokanee	Rare	Unknown	Unknown	Introduced	Not Applicable	No Survey, Professional judgment	FWP
0	4.5	Lake Trout	Rare	Unknown	Unknown	Introduced	Not Applicable	No Survey, Professional judgment	FWP
105	125.8	Lake Trout	Common	Primarily migrating	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
125.8	148.6	Lake Trout	Common	Feeding run	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
148.6	158.2	Lake Trout	Unknown	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
105	148.6	Lake Whitefish	Abundant	Primarily migrating	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
148.6	158.2	Lake Whitefish	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional	FWP

								judgment	
0	77.4	Largemouth Bass	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
105	125.8	Largemouth Bass	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
0	77.4	Largescale Sucker	Common	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
105	125.8	Largescale Sucker	Abundant	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
125.8	158.2	Largescale Sucker	Common	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
0	44.8	Longnose Dace	Rare	Year-round resident	Resident	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
105	158.2	Longnose Sucker	Rare	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
105	158.2	Mottled Sculpin	Rare	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
0	4.4	Mountain Whitefish	Common	Year-round resident	Resident	Native	Not Applicable	Extrapolated from multiple surveys/observations	FWP
43	49	Mountain Whitefish	Common	Year-round resident	Resident	Native	Not Applicable	Extrapolated from a single survey/observation	PC
105	120.8	Mountain Whitefish	Common	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from multiple surveys/observations	FWP
120.8	158.2	Mountain Whitefish	Abundant	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from multiple surveys/observations	FWP
0	4.5	Northern Pike	Common	Year-round resident	Resident	Introduced	Not Applicable	No Survey, Professional judgment	FWP
0	77.4	Northern Pike	Common	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
4.5	77.4	Northern Pike	Common	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
105	125.8	Northern Pike	Abundant	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
105	125.8	Northern Pike	Common	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
125.8	148.6	Northern Pike	Rare	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
0	77.4	Peamouth	Common	Year-round	Not	Native	Not	No Survey,	FWP

				resident	applicable		Applicable	Professional judgment	
105	125.8	Peamouth	Common	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
125.8	148.6	Peamouth	Rare	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
105	125.8	Pumpkinseed	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
105	125.8	Pygmy Whitefish	Common	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
125.8	148.6	Pygmy Whitefish	Common	Year-round resident	Adfluvial	Native	Not Applicable	No Survey, Professional judgment	FWP
0	77.4	Rainbow Trout	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	Extrapolated from a single survey/observation	FWP
105	125.8	Rainbow Trout	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	Extrapolated from multiple surveys/observations	FWP
125.8	142.7	Rainbow Trout	Rare	Both resident and Fluvial/Adfluvial populations	Not applicable	Introduced	Genetically pure, determined by genetic analysis	Extrapolated from multiple surveys/observations	FWP
142.7	158.1	Rainbow Trout	Common	Both resident and Fluvial/Adfluvial populations	Resident	Introduced	Not Applicable	Extrapolated from multiple surveys/observations	FWP
0	77.4	Redside Shiner	Common	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
105	148.6	Redside Shiner	Rare	Year-round resident	Not applicable	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
0	77.4	Slimy Sculpin	Rare	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
105	125.8	Slimy Sculpin	Rare	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
125.8	158.2	Slimy Sculpin	Abundant	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
0	4.5	Smallmouth Bass	Abundant	Year-round resident	Resident	Introduced	Not Applicable	Extrapolated from a single survey/observation	FWP
4.5	44.8	Smallmouth Bass	Common	Year-round resident	Resident	Introduced	Not Applicable	Extrapolated from a single survey/observation	FWP
77.4	140	Westslope Cutthroat Trout	Abundant	Year-round resident	Resident	Native	Hybridized and Pure populations exist in	Extrapolated from multiple surveys/observations	FWP

							stream based on genetic analysis		
140	145	Westslope Cutthroat Trout	Abundant	Year-round resident	Unknown	Native	Hybridized species based on genetic analysis less than 90%	Extrapolated from multiple surveys/observations	FWP
145	158	Westslope Cutthroat Trout	Abundant	Year-round resident	Unknown	Native	Potentially hybridized with records of contaminating species	Extrapolated from multiple surveys/observations	FWP
105.4	158.1	Westslope X Rainbow	Common	Year-round resident	Resident	Not applicable	Not Applicable	No Survey, Professional judgment	FWP
43.8	44.8	White Sucker	Unknown	Year-round resident	Resident	Native	Not Applicable	Extrapolated from a single survey/observation	FWP
0	77.4	Yellow Perch	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	Extrapolated from a single survey/observation	FWP
105	125.8	Yellow Perch	Rare	Year-round resident	Not applicable	Introduced	Not Applicable	Extrapolated from a single survey/observation	FWP

South Fork Flathead River
River Mile: 0 to 98
Miles: 98
Total Stream Miles: 98
HUC: South Fork Flathead (17010209)
Tributary To: Flathead River
Regions: Region 1
Counties: Flathead; Powell

Fish Distribution Download Data

Begin Mile	End Mile	Species	Abundance	Use Type	Life History	Origin	Genetic Status	Data Rating	Data Source
38.3	57.7	Arctic Grayling	Rare	Primarily spawning and rearing	Adfluvial	Introduced	Not Applicable	No Survey, Professional judgment	FWP
0	5.1	Bull Trout	Abundant	Fluvial/Adfluvial population, Spawning elsewhere	Not applicable	Native	Potentially unaltered with no record of stocking	Extrapolated from a single survey/observation	FWP
38.7	58.1	Bull Trout	Abundant	Primarily migrating	Not applicable	Native	Potentially unaltered with no record of stocking	Extrapolated from a single survey/observation	FWP
58.3	93.9	Bull Trout	Abundant	Primarily migrating	Not applicable	Native	Potentially unaltered with no record of stocking	Extrapolated from a single survey/observation	FWP
93.9	98	Bull Trout	Abundant	Primarily spawning and rearing	Fluvial	Native	Potentially unaltered with no record of stocking	Extrapolated from a single survey/observation	FWP
0	5.1	Kokanee	Incidental	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
0	5.1	Largescale Sucker	Common	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
38.3	97.9	Largescale Sucker	Common	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
0	5.1	Longnose Sucker	Unknown	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
38.3	57.7	Longnose Sucker	Rare	Year-round resident	Adfluvial	Native	Not Applicable	No Survey, Professional judgment	FWP
0	5.1	Mountain Whitefish	Rare	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP

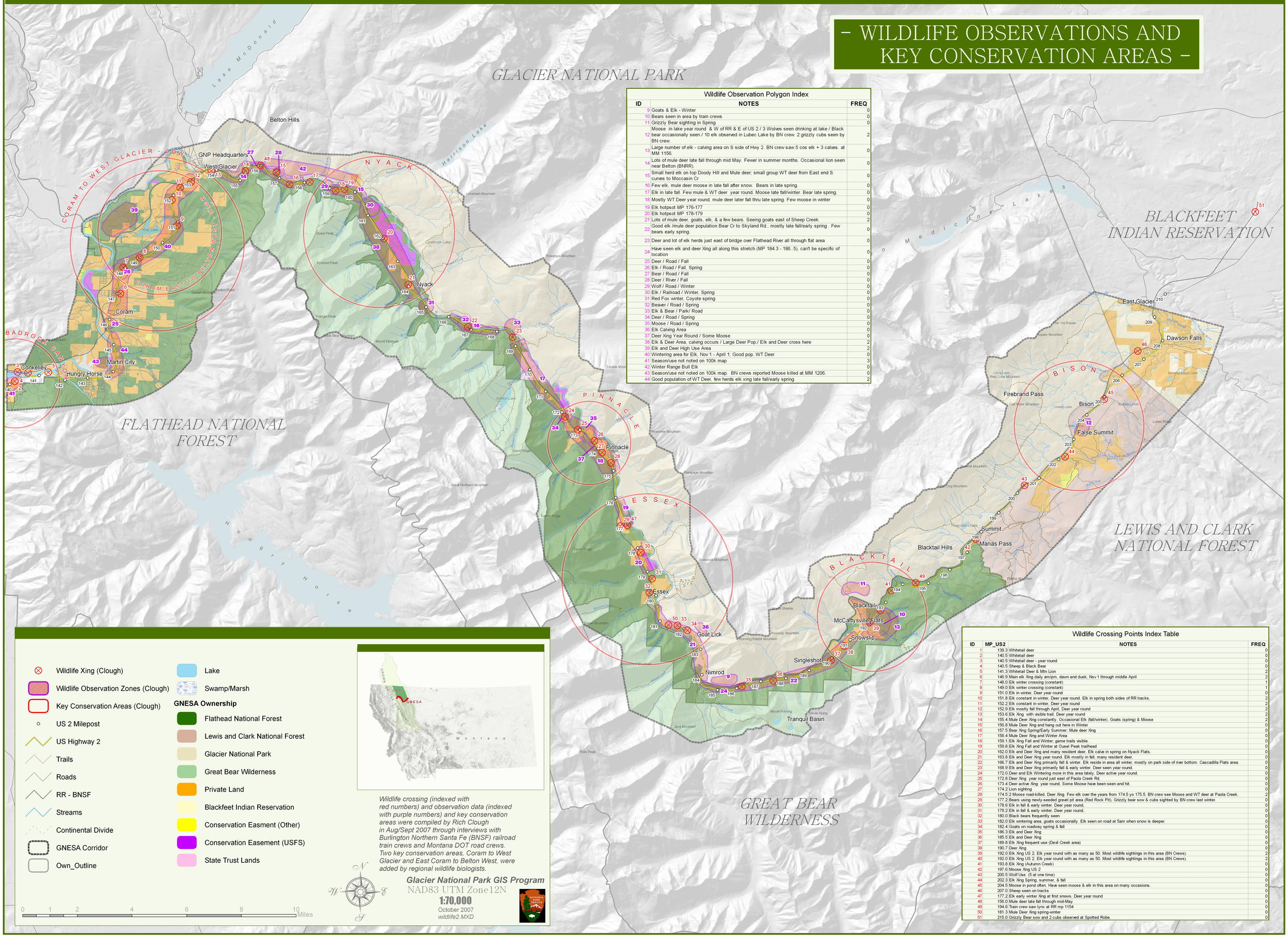
38.3	97.9	Mountain Whitefish	Abundant	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
38.3	57.7	Northern Pike	Common	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
0	5.1	Rainbow Trout	Incidental	Year-round resident	Not applicable	Introduced	Not Applicable	No Survey, Professional judgment	FWP
0	5.1	Sculpin	Unknown	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
38.3	97.9	Slimy Sculpin	Common	Year-round resident	Not applicable	Native	Not Applicable	No Survey, Professional judgment	FWP
0	5.2	Westslope Cutthroat Trout	Abundant	Year-round resident	Resident	Native	Genetically pure, determined by genetic analysis	Extrapolated from multiple surveys/observations	FS
39.7	97.9	Westslope Cutthroat Trout	Abundant	Year-round resident	Resident	Native	Genetically pure, determined by genetic analysis	Extrapolated from multiple surveys/observations	FWP

APPENDIX 10

Map of Great Northern Environmental Stewardship Area

Great Northern Environmental Stewardship Area

- WILDLIFE OBSERVATIONS AND KEY CONSERVATION AREAS -



Wildlife Observation Polygon Index

ID	NOTES	FREQ
9	Goats & Elk - Winter	0
10	Bears seen in area by train crews	0
11	Grizzly Bear sighting in Spring	0
12	Moose in lake year round & W of RR & E of US 2 / 3 Wolves seen drinking at lake / Black bear occasionally seen / 10 elk observed in Lubec Lake by BN crew. 2 grizzly cubs seen by BN crew.	2
13	Large number of elk - calving area on S side of Hwy 2. BN crew saw 5 cos elk + 3 calves. at MM 1156.	0
14	Lots of mule deer late fall through mid May. Fewer in summer months. Occasional lion seen near Belton (BNRR).	0
15	Small herd elk on top Doody Hill and Mule deer; small group WT deer from East end S curves to Moccasin Cr	0
16	Few elk, mule deer moose in late fall after snow. Bears in late spring.	0
17	Elk in late fall. Few mule & WT deer year round. Moose late fall/winter. Bear late spring.	0
18	Mostly WT Deer year round, mule deer later fall thru late spring. Few moose in winter	0
19	Elk hotpsot MP 176-177	0
20	Elk hotpsot MP 178-179	0
21	Lots of mule deer, goats, elk, & a few bears. Seeing goats east of Sheep Creek.	2
22	Good elk /mule deer population Bear Cr to Skyland Rd., mostly late fall/early spring . Few bears early spring.	0
23	Deer and lot of elk herds just east of bridge over Flathead River all through flat area	0
24	Have seen elk and deer Xing all along this stretch (MP 184.3 - 186..5), can't be specific of location	0
25	Deer / Road / Fall	0
26	Elk / Road / Fall, Spring	0
27	Bear / Road / Fall	0
28	Deer / River / Fall	0
29	Wolf / Road / Winter	0
30	Elk / Railroad / Winter, Spring	0
31	Red Fox winter, Coyote spring	0
32	Beaver / Road / Spring	0
33	Elk & Bear / Park/ Road	0
34	Deer / Road / Spring	0
35	Moose / Road / Spring	0
36	Elk Calving Area	0
37	Deer Xing Year Round / Some Moose	0
38	Elk & Deer Area, calving occurs / Large Deer Pop./ Elk and Deer cross here	2
39	Elk and Deer High Use Area	2
40	Wintering area for Elk, Nov 1 - April 1; Good pop. WT Deer	0
41	Season/use not noted on 100k map	3
42	Winter Range Bull Elk	0
43	Season/use not noted on 100k map. BN crews reported Moose killed at MM 1206.	0
44	Good population of WT Deer, few herds elk xing late fall/early spring	2

Wildlife Crossing Points Index Table

ID	MP_US2	NOTES	FREQ
1	139.3	Whitetail deer	0
2	140.5	Whitetail deer	0
3	140.5	Whitetail deer - year round	0
4	140.5	Sheep & Black Bear	0
5	141.3	Whitetail Deer & Mtn Lion	2
6	146.9	Main elk Xing daily am/pm, dawn and dusk, Nov 1 through middle April	2
7	148.0	Elk winter crossing (constant)	1
8	149.0	Elk winter crossing (constant)	1
9	151.0	Elk in winter. Deer year round	0
10	151.6	Elk constant in winter. Deer year round. Elk in spring both sides of RR tracks.	2
11	152.2	Elk constant in winter. Deer year round	2
12	152.9	Elk mostly fall through April, Deer year round	2
13	153.6	Elk Xing with visible trail. Deer year round	2
14	155.4	Mule Deer Xing constantly, Occasional Elk (fall/winter), Goats (spring) & Moose	2
15	156.8	Mule Deer Xing and hang out here in Winter	0
16	157.5	Bear Xing Spring/Early Summer; Mule deer Xing	0
17	158.4	Mule Deer Xing and Winter Area	0
18	159.1	Elk Xing Fall and Winter; game trails visible.	0
19	159.8	Elk Xing Fall and Winter at Ousel Peak trailhead	0
20	162.0	Elk and Deer Xing and many resident deer. Elk calve in spring on Nyack Flats.	0
21	163.6	Elk and Deer Xing year round. Elk mostly in fall, many resident deer.	0
22	166.7	Elk and Deer Xing primarily fall & winter. Elk reside in area all winter, mostly on park side of river bottom. Cascadilla Flats area.	0
23	168.9	Elk and Deer Xing primarily fall & early winter. Deer seen year round.	0
24	172.0	Deer and Elk Wintering more in this area lately. Deer active year round.	0
25	172.8	Deer Xing year round just east of Paola Creek Rd.	0
26	173.4	Deer active Xing year round. Some Moose have been seen and hit.	0
27	174.2	Lion sighting	0
28	174.5	2 Moose road-killed. Deer Xing. Few elk over the years from 174.5 yo 175.5. BN crew see Moose and WT deer at Paola Creek.	2
29	177.2	Bears using newly-seeded gravel pit area (Red Rock Pit). Grizzly bear sow & cubs sighted by BN crew last winter.	0
30	178.6	Elk in fall & early winter. Deer year round.	0
31	179.2	Elk in fall & early winter. Deer year round,	0
32	180.0	Black bears frequently seen	0
33	182.0	Elk wintering area, goats occasionally. Elk seen on road at 5am when snow is deeper.	0
34	182.4	Goats on roadway spring & fall	0
35	186.3	Elk and Deer Xing	0
36	185.5	Elk and Deer Xing	0
37	189.6	Elk Xing frequent use (Devil Creek area)	0
38	190.7	Deer Xing	0
39	192.0	Elk Xing US 2. Elk year round with as many as 50. Most wildlife sightings in this area (BN Crews).	2
40	192.0	Elk Xing US 2. Elk year round with as many as 50. Most wildlife sightings in this area (BN Crews).	2
41	193.6	Elk Xing (Autumn Creek)	0
42	197.6	Moose Xing US 2	0
43	200.5	Wolf Use (5 at one time)	0
44	202.3	Elk Xing Spring, summer, & fall	0
45	204.5	Moose in pond often. Have seen moose & elk in this area on many occasions.	0
46	207.0	Sheep seen on tracks	0
47	177.2	Elk early winter Xing at first snows. Deer year round	0
48	156.0	Mule deer late fall through mid-May	0
49	194.6	Train crew saw lynx at RR mp 1154	0
50	181.3	Mule Deer Xing spring-winter	0
51	215.0	Grizzly Bear sow and 2 cubs observed at Spotted Robe.	0

- Wildlife Xing (Clough)
- Wildlife Observation Zones (Clough)
- Key Conservation Areas (Clough)
- US 2 Milepost
- US Highway 2
- Trails
- Roads
- RR - BNSF
- Streams
- Continental Divide
- GNESA Corridor
- Own_Outline
- Lake
- Swamp/Marsh

GNESA Ownership

- Flathead National Forest
- Lewis and Clark National Forest
- Glacier National Park
- Great Bear Wilderness
- Private Land
- Blackfeet Indian Reservation
- Conservation Easment (Other)
- Conservation Easement (USFS)
- State Trust Lands

Wildlife crossing (indexed with red numbers) and observation data (indexed with purple numbers) and key conservation areas were compiled by Rich Clough in Aug/Sept 2007 through interviews with Burlington Northern Santa Fe (BNSF) railroad train crews and Montana DOT road crews. Two key conservation areas, Coram to West Glacier and East Coram to Belton West, were added by regional wildlife biologists.

0 1 2 4 6 8 10 Miles

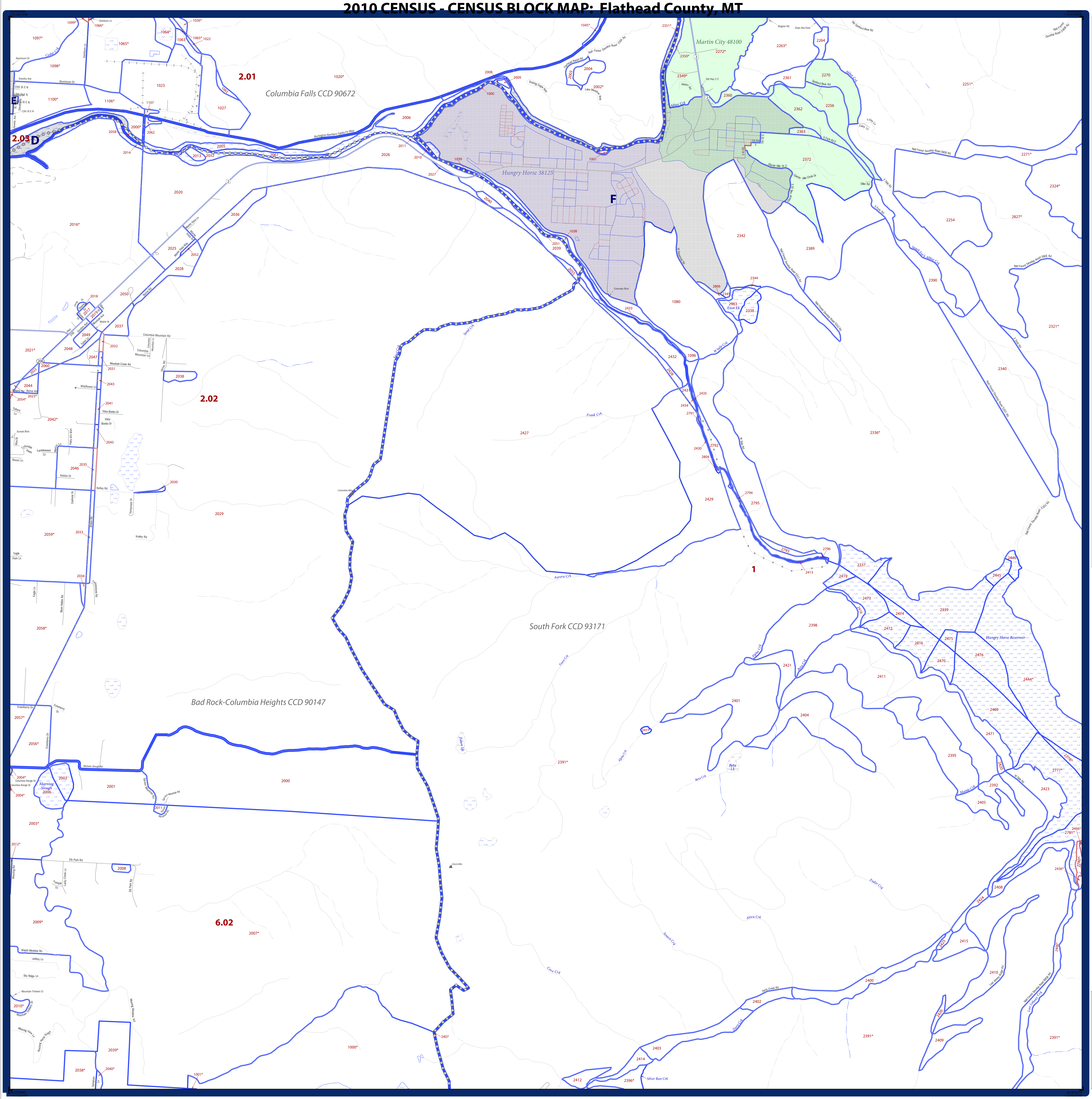
Glacier National Park GIS Program
NAD83 UTM Zone12N
1:70,000
October 2007
wildlife2.MXD

APPENDIX 11

Census Block Map and Data

	Total population (all races)		White alone or in combination		Black or African American alone or in combination		American Indian and Alaska Native alone or in combination		Asian alone or in combination		Native Hawaiian and Other Pacific Islander alone or in combination		Some Other Race alone or in combination	
Geography	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Block 1039, Block Group 1, Census Tract 1, Flathead County, Montana	0		0		0		0		0		0		0	
Block 1020, Block Group 1, Census Tract 2.01, Flathead County, Montana	25	100	25	100	1	4	0	0	0	0	0	0	0	0
Block 1027, Block Group 1, Census Tract 2.01, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2005, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2006, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2010, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2011, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2012, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2013, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2020, Block Group 2, Census Tract 2.02, Flathead County, Montana	17	100	16	94.1	0	0	0	0	1	5.9	0	0	0	0
Block 2026, Block Group 2, Census Tract 2.02, Flathead County, Montana	18	100	17	94.4	0	0	0	0	1	5.6	0	0	0	0
Block 2027, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2036, Block Group 2, Census Tract 2.02, Flathead County, Montana	10	100	10	100	0	0	0	0	0	0	0	0	0	0
Block 2039, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2040, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	
Block 2061, Block Group 2, Census Tract 2.02, Flathead County, Montana	0		0		0		0		0		0		0	

2010 CENSUS - CENSUS BLOCK MAP: Flathead County, MT



LEGEND

SYMBOL DESCRIPTION	SYMBOL	LABEL STYLE
International		CANADA
Federal American Indian Reservation		L'ANSE RESVN 1880
Off-Reservation Trust Land, Hawaiian Home Land		T1880
Oklahoma Tribal Statistical Area, Alaska Native Village Statistical Area, Tribal Designated Statistical Area		KAW OTSA 5690
American Indian Tribal Subdivision		EAGLE NEST DIST 200
State American Indian Reservation		Tama Resvn 9400
State Designated Tribal Statistical Area		Lumbee SDTSA 9815
Alaska Native Regional Corporation		NANA ANRC 52120
State (or statistically equivalent entity)		NEW YORK 36
County (or statistically equivalent entity)		MONTGOMERY 031
Minor Civil Division (MCD)[1]		Bristol town 07485
Census County Division (CCD), Census Subarea (CSA), Unorganized Territory (UT)		Hanna CCD 91650
Consolidated City		MILFORD 47500
Incorporated Place[1,2]		Davis 18100
Census Designated Place (CDP)[2]		Incline Village 35100
Census Tract		33.07
Census Block[3]		3012

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
Interstate	3	Geographic Offset or Corridor	
U.S. Highway	2	Water Body	Pleasant Lake
State Highway	4	Swamp, Marsh, or Gravel Pit/Quarry	Okefenokee Swamp
Other Road	Russell St	Glacier	Bering Glacier
Cul-de-sac		Military	Fort Belvoir
Circle		National or State Park, Forest, or Recreation Area	Yosemite NP
4WD Trail, Stairway, Alley, Walkway, or Ferry		Airport	Oxnard Arpt
Railroad	Southern RR	Selected Mountain Peaks	Mt Shasta
Pipeline or Power Line		Island Name	DEER IS
Ridge or Fence		Inset Area	A
Property Line		Outside Subject Area	
Perennial Stream	Tumbling Cr		
Intermittent Stream	Piney Cr		
Nonvisible Boundary or Feature Not Elsewhere Classified			

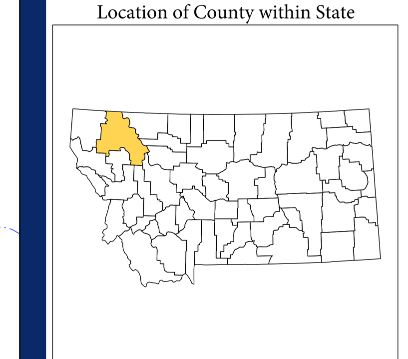
Where state, county, and/or MCD/CCD boundaries coincide, the map shows the boundary symbol for only the highest-ranking of these boundaries. Where American Indian reservation and American Indian tribal subdivision boundaries coincide, the map shows only the American Indian reservation boundaries. Where Oklahoma tribal statistical area boundaries and American Indian tribal subdivision boundaries coincide, the map shows only the Oklahoma tribal statistical area boundaries.

1 A '°' following an MCD name denotes a false MCD. A '°' following a place name indicates that a false MCD exists with the same name and FIPS code as the place; the false MCD label is not shown.

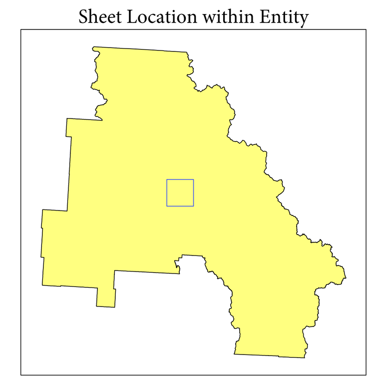
2 Place label color correlates to the place fill color.

3 A '*' following a block number indicates that the block number is repeated elsewhere in the block.

Location of County within State



Sheet Location within Entity



All legal boundaries and names are as of January 1, 2010. The boundaries shown on this map are for Census Bureau statistical data collection and tabulation purposes only; their depiction and designation for statistical purposes does not constitute a determination of jurisdictional authority or rights of ownership or entitlement.

Geographic Vintage: 2010 Census (reference date: January 1, 2010)
Data Source: U.S. Census Bureau's MAF/TIGER database (TAB10ST30)
Map Created by Geography Division: April 10, 2011

U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. Census Bureau

Projection: Albers Equal Area Conic
Datum: NAD 83
Spheroid: GRS 80
1st Standard Parallel: 45 07 55
2nd Standard Parallel: 48 13 38
Central Meridian: -110 02 38
Latitude of Projection's Origin: 44 21 29
False Easting: 0
False Northing: 0

0 0.6 1.2 1.8 2.4 3 Kilometers
0 0.4 0.8 1.2 1.6 2 Miles
The plotted map scale is 1:19000

N W E S

USCENSUSBUREAU

Key to Sheets

29	30	31
37	38	39
47	48	49

PARENT SHEET 38

Total Sheets: 118
- Index Sheets: 1
- Parent Sheets: 92
- Inset Sheets: 25

NAME: Flathead County (029)
ENTITY TYPE: County or statistically equivalent entity
ST: Montana (30)

Geographic Unit (GU) Block Map Series
2010 CENSUS BLOCK MAP (PARENT) - County
210030029038

APPENDIX 12

Berne Memorial Park Documentation

Drawn from Appendix 8 of the 1995 FEIS

STATE HIGHWAY COMMISSION OF MONTANA
Right of Way Division

Project: FAP 257 A FLATHEAD COUNTY

BARGAIN AND SALE DEED

THIS INDENTURE, made this 22 day of December, 1953, IN CONSIDERATION of the sum of ONE HUNDRED AND FIFTY DOLLARS ($150.00), lawful money of the United States to them in hand paid by the STATE OF MONTANA, the receipt whereof is hereby acknowledged, WITNESSETH THAT,

JOHN P. SIMPSON and HAZEL M. SIMPSON, husband and wife,
of Tacoma, Washington

do hereby GRANT, BARGAIN, SELL and CONVEY unto the STATE OF MONTANA for the benefit and use of its State Highway Commission, the following described real property, to-wit:

On Right 18+00.0 to 37+00.0

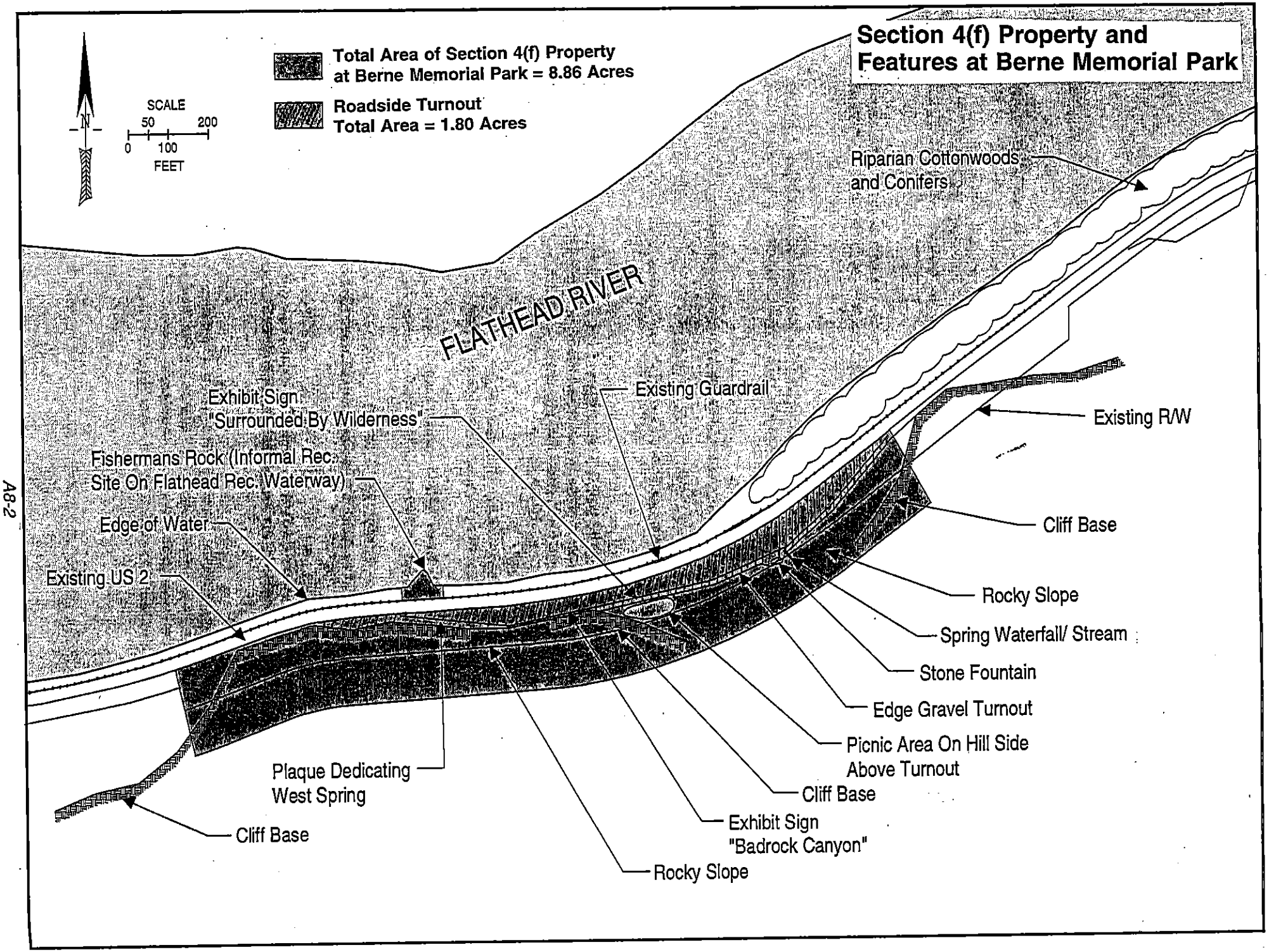
A tract of land in NW¼NW¼ Section 12 and SW¼SE¼SW¼ Section 1, Township 30 North, Range 20 West, M.P.M., Flathead County, Montana, more particularly described as follows:

A strip of land 100 feet wide, lying between two parallel lines which are parallel to and respectively 100 feet and 200 feet distant southeasterly when measured at right angles from the following described center line: Beginning at a point on the center line of State Highway Project No. FAP 257-A, which said point is north 1281.0 feet, and east 468.7 feet, more or less, from the witness corner on west line of Section 12; thence from the said point of beginning northeasterly along a curve to the left of 1910.0 feet radius, 103.8 feet; thence North 72° 11' East, 140.6 feet; thence along a curve to the right of 818.6 feet radius, 190.2 feet; thence North 85° 30' East, 518.4 feet; thence along a curve to the left of 1432.5 feet radius, 745.4 feet; thence North 55° 41' East, 201.6 feet, more or less, to a point on the center line of said State Highway Project No. FAP 257-A, which said point is north 1789.1 feet, and east 2266.2 feet, more or less, from the witness corner on west line of Section 12, and containing in all 4.36 acres, more or less.

EXCEPTING AND RESERVING, however, all ores and minerals, including gas and oil, beneath the surface of the above-described and conveyed premises, together with the right to mine for and extract the same, provided that in the exercise of such mining right the surface thereof shall not be disturbed, interfered with, or in anywise damaged.

TO HAVE AND TO HOLD the above described and conveyed premises, with all the reversions, remainders, tenements, hereditaments and appurtenances thereto, unto the STATE OF MONTANA, and to its successors and assigns forever.

The State of Montana, by acceptance of this deed, and as part consideration for the grant hereby made, covenants to and with the above named grantors, their heirs, executors, administrators and assigns, that this conveyance is subject to the following restrictions and limitations as to the use of said premises; that said property be used solely as a roadside park (including use of a part thereof as a Port of Entry station) and for a highway right of way, and that neither said property nor any part thereof shall ever be used by the grantee above named or by its successors or assigns for any commercial enterprise; any breach of the foregoing conditions, or any of them,


Section 4(f) Property and Features at Berne Memorial Park
Total Area of Section 4(f) Property at Berne Memorial Park = 8.86 Acres
Roadside Turnout Total Area = 1.80 Acres
N
SCALE
0 50 100 200
FEET
FLATHEAD RIVER
Riparian Cottonwoods and Conifers
Existing Guardrail
Exhibit Sign "Surrounded By Wilderness"
Existing R/W
Fishermans Rock (Informal Rec. Site On Flathead Rec. Waterway)
Edge of Water
Existing US 2
Cliff Base
Rocky Slope
Spring Waterfall/ Stream
Stone Fountain
Edge Gravel Turnout
Picnic Area On Hill Side Above Turnout
Plaque Dedicating West Spring
Cliff Base
Exhibit Sign "Badrock Canyon"
Cliff Base
Rocky Slope

occurring after the delivery of this deed, shall have the effect of forfeiting the title of the grantee and thereupon the title to said real property shall revert to the grantors, their heirs and assigns, each of whom respectively shall have the right of immediate re-entry upon said premises in the event of any such breach; said restrictions and conditions contained in this deed shall be covenants running with the land.

The State of Montana further covenants and agrees, as a part of the consideration for this conveyance, that the park to be created upon the above described property shall be named and known as "Barne Roadside Park"X

IN WITNESS WHEREOF the undersigned have executed these presides the day and year first above written.

X Correction deed taken Aug. 4, 1959, changes this to "Barne Memorial Park."

A. C. S.

John P. Simpson

John P. Simpson

Hazel M. Simpson

Hazel M. Simpson

STATE OF WASHINGTON)
: ss:
County of Pierce)

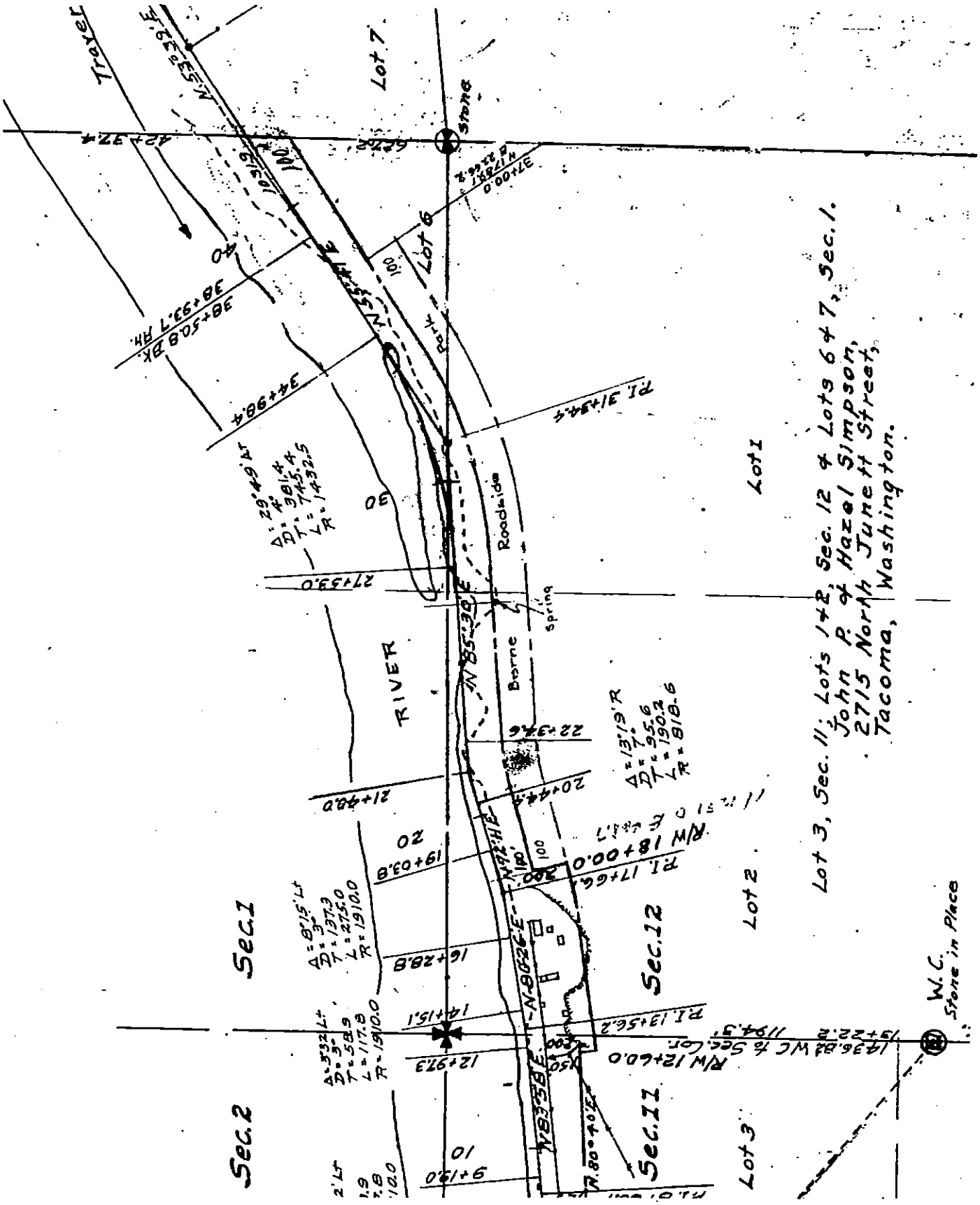
On this 22nd day of December, 1953, before me, the undersigned, a Notary Public in and for the State of Washington, personally appeared John P. Simpson and Hazel M. Simpson, known to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

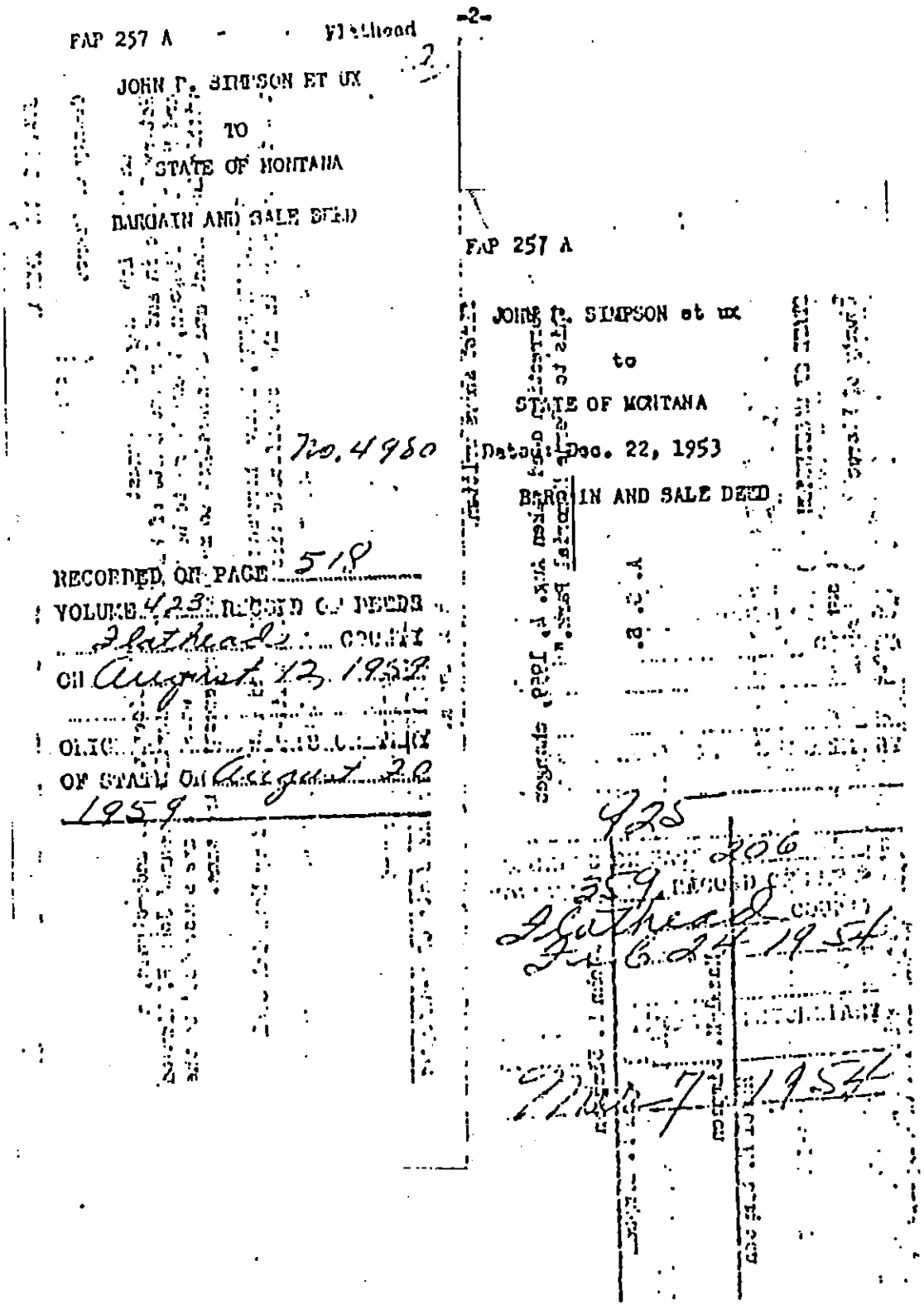
IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

Signe Benton

Notary Public for the State of Washington
Residing at Tacoma
My Commission Expires March 5, 1955

(NOTARIAL SEAL)


Lot 3, Sec. 11; Lots 1 & 2, Sec. 12 & Lots 6 & 7, Sec. 1.
John P. & Hazel Simpson,
2715 North Jumett Street,
Tacoma, Washington.
Lot 7
Lot 6
Lot 1
Lot 2
Lot 3
Sec. 1
Sec. 12
Sec. 11
Sec. 2
Traver
Stone
Roadside
Spring
Barne
RIVER
W.C. Stone in Place
R/W 18+00.0
R/W 12+60.0
N 33° 32' E
N 85° 30' E
N 8° 40' E
N 80° 40' E
N 88° 22' E
N 88° 58' E



FAP 257 A - Flathead

JOHN P. SIMPSON ET UX

TO

STATE OF MONTANA

BARGAIN AND SALE DEED

No. 4980

RECORDED ON PAGE 518

VOLUME 423 RECORD OF DEEDS

Flathead COUNTY

ON August 13, 1959

OFFICIAL RECORDS

OF STATE ON August 26

1959

-2-

FAP 257 A

JOHN P. SIMPSON et ux

to

STATE OF MONTANA

Dated Dec. 22, 1953

BARGAIN AND SALE DEED

425

206

RECORD

Flathead COUNTY

Dec 24 1954

7 1954

A. C. SHANKY, Land Agent

C. E. CUNNINGHAM, Secretary

Jan. 4, 1954

FPA 257-A

Roadside Park-Badrock Canyon

At its meeting on August 26th, 27th and 28th, 1953, the Commission approved the purchase of a tract in Badrock Canyon, for use as a roadside Park, at a cost of $150.00, from John P. and Hazel M. Simpson of Tacoma, Washington.

In negotiating for the deed it was necessary for us to agree to two conditions, as follows:

(1) That the land be used only for right of way and roadside park purposes, and that in the event of a breach of the covenant the title be forfeited to the grantors, their successors or assigns; and,

(2) That the park be named and known as "Borne Roadside Park", and that signs placed upon the land to so attest.

Billie and Mike Borne were the uncles of Mrs. Simpson. Billie homesteaded the land in the canyon, possibly inthe late '80's or early '90's, and lived there until his death several years ago. Both of the Bornes were well-known to the writer as a small boy.

In line with the Commission's expressed policy of honoring the memory of the State's pioneers where it can fittingly do so, it is recommended that the Commission accept the conditions set forth above.

A.C.SHANKY, Land Agent

ACS:ek

cc: Maintenance Engr.

Roadside Camp in Bad Rock Canyon

Montana's state highway department is establishing a roadside park in Bad Rock canyon along U. S. highway No. 2.

Fred Wells, Kalispell, division maintenance engineer, also has recommended that the rustic port-of-entry building with its modern rest rooms be moved to the canyon, and that the entire grounds there be landscaped.

It is felt that having the roadside park and port-of-entry station together will result in better maintained facilities for Montana visitors, and in addition provide less highway hazards than the present port-of-entry location.

The development will be near the fountain erected by Kalispell, Whitefish, West Glacier and Martin City Lions clubs. A Lions group has since been organized in Columbia Falls.

Bad Rock canyon is the gateway into the Flathead valley for the Great Northern railroad, Flathead river and U. S. highway No. 2. The scenic location, without any developed accommodations, is receiving extensive use by motorists as a camping and picnic spot. Sanitary situations are serious.

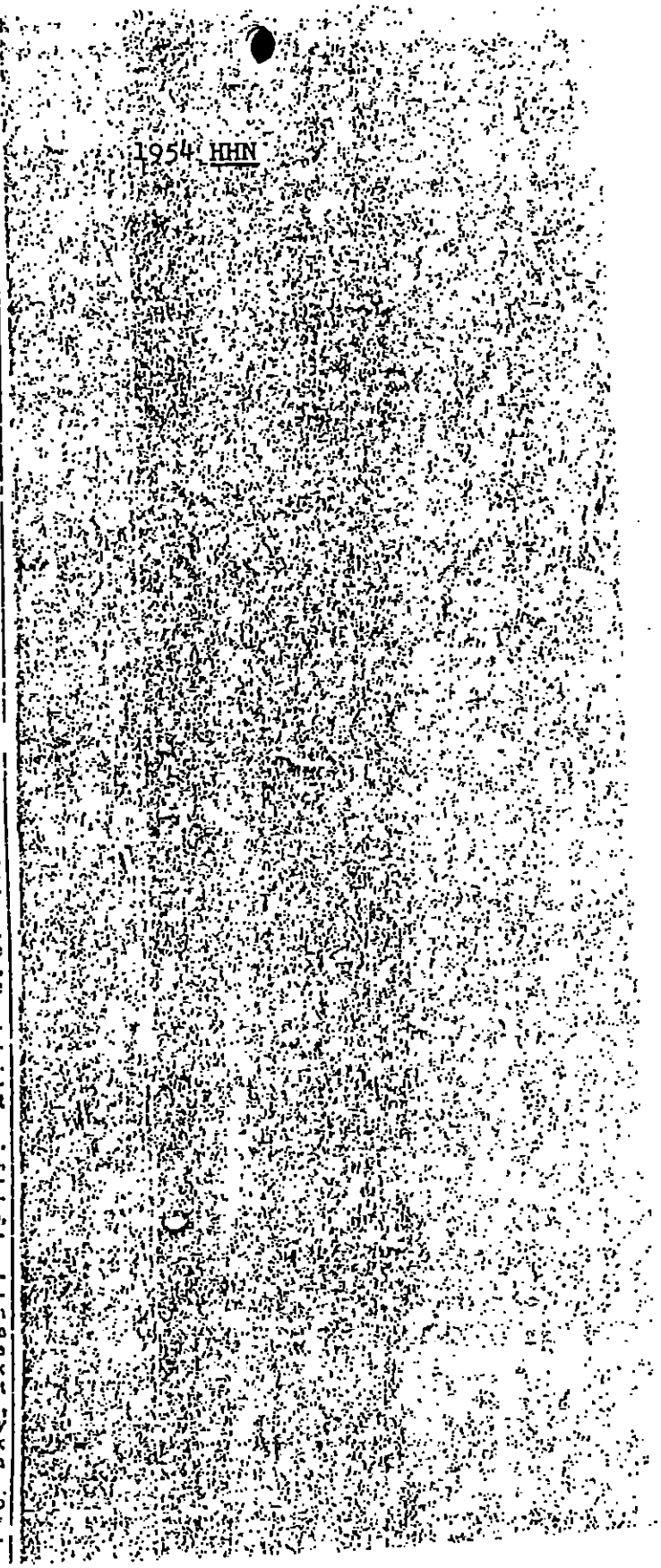
Encouraging the State Highway Commission decision to make the canyon spot a roadside park was the persistent efforts of Mrs. Maybelle Kelley, who carries the star route mail from Columbia Falls to Hungry Horse and Martin City. A mailcarrier in this area since 1918, Mrs. Kelley, a grandmother, drives her mail truck through the canyon four times a day.

Complete lack of accommodations for Montana visitors in scenic Bad Rock canyon disturbed her. There were campers and picnickers all through the summer, but no facilities.

Mrs. Kelley wrote Governor J. Hugo Aronson and Scott P. Hart, state highway engineer in Helena. She suggested a series of editorials in the Hungry Horse News, local newspaper, and included editorials with her letters.

W. E. Bawden, maintenance engineer for the highway department in Helena wrote "I am pleased to advise you that we will make arrangements to have two toilets placed in this park immediately. . . . It is possible that we can also place some tables . . . I feel sure that we can classify this camp site as a roadside park and make some improvements in the facilities and its policing."

The star route mail carrier to Hungry Horse and Martin City from Columbia Falls is accomplishing her mission



—Form 4

INTER-DEPARTMENTAL MEMORANDUM

STATE HIGHWAY COMMISSION

Kalispell, Montana - May 21, 1949

STATE HIGHWAY COMMISSION
RECEIVED
MAY 23 19[illegible]

Ray Spurzem, District Engineer

Subject: FAP 2[illegible]

A. G. Swaney, Land Agent

.....	State Hwy Engr...	.....
.....	Adm. Aid & Secty...	.....
.....	Construction	.....
.....	Maintenance.....	.....
.....	Surveys & Plans.....	.....
.....	Bridges	.....
.....	Personnel.....	.....
.....	Accounting.....	.....
.....	Attorney.....	.....
.....	.....	.....
.....		.....

Attached, herewith, please find two application forms, completed by the Lions Club of Kalispell, Whitefish and Martin City, for permission to erect a fountain at a large spring on the above mentioned project.

I have seen the plans of this proposed fountain and believe it will be a wonderful improvement and will in no way interfere with any of our operations.

RS:ah

Ray Spurzem

Avoid Verbal Instructions

FAP 257-A
(Project affected)

(Maintenance number)

APPLICATION FOR PERMIT TO

Construct Drinking Fountain in Bad Rock Canyon on Hiway #2
(insert nature of permit)

1. Name of Applicant: Martin City, Whitefish & Kalispell Lions Clubs

2. Address of Applicant: Kalispell Lions Club, Kalispell, Montana
P. O. Box 747

3. If Applicant is a Corporation give state of incorporation and names of President and Secretary:

4. Nature of Permit desired: (give sufficient detail to permit thorough understanding by officers of department reviewing this application).

The Martin City, Whitefish and Kalispell Lions Clubs request permission to construct a public drinking fountain at the spring in Bad Rock canyon on U. S. Hiway Nbr 2. Said fountain to be constructed of native rock as pictured on enclosed drawings and blue prints and costs of construction to be assumed by the above mention Lions Clubs. This fountain is proposed as a public service to the people and the state, and as a convenience for those using Hiway #2.

5. Submit four blueprints or sketches the size of this sheet showing details and specifications of proposed installations or structures (If desired, the back of this form may be used for sketch).

6. Highway survey stations at or near which installations or structures will be installed:

State Hiway Dept., Kalispell, Montana

7. For how long a period is the permit desired:
For as long as is necessary to complete the project.

8. Remarks:

Construction of this project is proposed to begin as soon as permission is grantedby the State Highway Commission.

Dated at Kalispell, Montana, this sixteenth day of May 1949.

President, Kalispell Lions Club

(signature and title)
Secretary, Kalispell Lions Club

RECOMMENDED FOR APPROVAL:

May 21, 1949
(date)

District Engineer at Kalispell

APPROVED:

5-23-49
(date)

(signature)

INSTRUCTIONS CONCERNING USE OF THIS FORM: Applicant will complete this form in triplicate and transmit it to the District Engineer of the Montana Highway Department within whose district the highway is situated. The District Engineer will, if he approves application, indicate his approval by signing all copies and forwarding two copies to Right of Way Acquisition Unit, Helena; if he disapproves he shall indicate reasons therefor in letter of transmittal. If application is approved in Helena, a permit will be completed and returned to District Engineer who will have permittee sign acceptance on all copies, the original of which will be delivered to him. District Engineer will retain one copy for his files, returning remaining two copies to Helena, where one will be filed in Right of Way office and the other in Maintenance Section.

Agreement # 92-10-06

MEMORANDUM OF UNDERSTANDING

BETWEEN

MONTANA DEPARTMENT OF TRANSPORTATION

AND

U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION

AND

USDA FOREST SERVICE, FLATHEAD NATIONAL FOREST

This agreement, made and entered into by and between the Montana Department of Transportation, hereinafter referred to as the State; the U.S. Department of Transportation, Federal Highway Administration, hereinafter referred to as the Federal Highway Administration; and the USDA Forest Service, Flathead National Forest, hereinafter referred to as the Forest Service; under the provisions of the Multiple Use and Sustained Yield Act of June 12, 1960 (16 U.S.C. 528-531).

WITNESSETH:

WHEREAS, the State and the Federal Highway Administration are responsible for construction and reconstructing public highways; and

WHEREAS, the Forest Service is responsible for providing recreation opportunities to the general public; and

WHEREAS, the State and the Federal Highway Administration are considering several alternatives for reconstruction of a portion of U.S. Highway 2, and one or more of those alternatives will require the relocation of the Berne Park Memorial Site; and

WHEREAS, if such an alternative is chosen, the State, Federal Highway Administration, and the Forest Service desire to construct a boat ramp and related facilities for the use of the general public at the new site;

NOW THEREFORE, in consideration of the above premises, the parties hereto agree that the contemplated mitigation work will be carried out during the term of this agreement, only if there is no feasible and prudent alternative to the relocation of Berne Park as determined through the NEPA and 4(f) process. Further, it is understood that this agreement will not in any way limit the evaluation of alternatives. No project development will proceed until the NEPA process has been completed. If an alternative is eventually selected which will require the relocation of Berne Park, the parties hereto also agree as follows:

A. <u>The State and the Federal Highway Administration Shall</u>:

1. Acquire land for the relocation of U.S. Highway 2 and the Berne Park Memorial Site.

2. Obtain title to the land for a boat ramp and related facilities in the name of the United States.

3. Construct the new Berne Park Memorial Site and the access road to the proposed boat ramp.

B. The Forest Service Shall:

1. Prepare the deeds, obtain title opinion from the Office of General Council, review the Certificate of Survey, and accept the lands under the Act of October 10, 1978 (7 U.S.C. 2269).

2. Once the title has been obtained by the Forest Service and if after completion of the NEPA and 4(f) process it is determined that Berne Park is to be relocated, then the Forest Service will construct the proposed boat ramp, toilet facilities, and foot path.

3. Be responsible for maintenance of the facilities associated with the boat ramp.

C. It is Mutually Agreed and Understood By and Between the Said Parties That:

1. No contribution herein provided for shall entitle the State to any share or interest in any land, materials, and equipment acquired. All such land, interest in land, materials, and equipment shall remain the property of the United States.

2. Nothing herein shall be construed as obligating any of the parties to expend or as involving the United States in any contract or other obligation for the future payment of money in excess of appropriations authorized by law and administratively allocated for this work.

3. The term of this agreement shall extend from the time of execution of all the parties hereto and shall continue until construction (if any) of the new road is completed. In the event there is no construction, this agreement expires upon the completion of the NEPA/4(f) process.

4. Nothing herein obligates either party to perform any action until all environmental and necessary other laws have been complied with.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the last date written below.

Hank Honeywell — 4-2-92

USDT, FEDERAL HIGHWAY ADMINISTRATION — DATE

Howard A. Johnson — 4/2/92

MONTANA DEPARTMENT OF TRANSPORTATION — DATE

Joel D. Holtrop — 4/14/92

USDA FOREST SERVICE, FLATHEAD NATIONAL FOREST — DATE

MAL:D:CD:kmc:2.jrh