

**ENVIRONMENTAL ASSESSMENT
MONTANA FOREST HIGHWAY ROUTE 98
RIMINI ROAD**

**LEWIS & CLARK COUNTY
MP 0.0 to MP 6.1**



Prepared By:
**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
WESTERN FEDERAL LANDS HIGHWAY DIVISION**

July 2006

LIST OF ACRONYMS

3R	Resurfacing, Restoration, and Rehabilitation
4R	Reconstruction, Resurfacing, Restoration, and Rehabilitation
AASHTO	American Association of State Highway & Transportation Officials
ADT	Average Daily Traffic
BST	Bituminous Surface Treatment
CE	Categorical Exclusion
cfs	cubic feet per second
cms	cubic meters per second
DHV	Design Hourly Volume
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FH	Forest Highway
FR	Forest Road
FS	United States Forest Service
FY	Fiscal Year
ft	feet
ft ²	square feet
ha	hectare
kg	kilogram
km	kilometer
km ²	square kilometer
km/h	kilometer per hour
m	meter
m ²	square meter
m ³	cubic meter
mi	mile
mi ²	square mile
MDT	Montana Department of Transportation
MMBF	Million Board Feet
MP	Milepost
mph	mile per hour
NEPA	National Environmental Policy Act
NF	National Forest
NPS	National Park Service
PE	Preliminary Engineering
RV	Recreational Vehicle
RVD	Recreational Visitor Day
SADT	Seasonal Average Daily Traffic
US	United States
USC	United States Code

TABLE OF CONTENTS

Purpose of Project Checklist.....	5
I. Project Introduction.....	6
A. Project Name and Route Identification.....	6
B. Agencies & Contacts	6
II. Description of the Proposed Action.....	7
A. Location of the Improvement.....	7
B. Scope and Nature of the Proposed Work.....	7
III. Purpose and Need for Project	8
IV. Alternatives to be Considered	14
V. Affected Environment.....	16
A. Natural	16
B. Cultural	20
VI. Interrelationships with Other Uses and Jurisdictions	20
A. Land Ownerships	21
B. Planning by Others.....	21
C. Affected Environmental Legislation & Requirements.....	22
D. Potential Permits Required	23
VII. Environmental Impacts.....	24
Earth	24
Air	25
Water	25
Wetlands	26
Flora	27
Fauna	27
Noise	28
Land Use	28
Natural Resources	28
Energy	28
Aesthetics.....	29
Recreation	29
Archaeological/Historical	29
Hazardous Waste	30
Socio-Economic.....	30
Public Services.....	31
Transportation/Circulation.....	32
Utilities.....	32
VIII. Coordination and Consultation.....	34

Purpose of Project Checklist

The project checklist is used by the Western Federal Lands Highway Division (WFLHD) of the Federal Highway Administration (FHWA) as part of its early coordination and data-gathering process. It provides for public and governmental agencies which may be affected by the proposed action, or which may have regulatory or administrative interest, to become informed and involved in the project development process at an early stage.

Besides describing the project need and scope of the proposed improvement, the checklist contains an initial estimate of environmental resources, potential impacts and related issues in the project study area. It also aids in identifying issues that are insignificant or have potential consequences.

The checklist contains the results of location studies, engineering investigations and preliminary environmental studies that have been performed to date. This information will provide the principle input for future NEPA clearance documents and highway design activities associated with the proposed project.

The checklist provides this information to help determine the type of project classification and the scope of the environmental document, e.g. Environmental Impact Statement (EIS), Environmental Assessment (EA), or Categorical Exclusion (CE). One of these documents is required for each project to comply with the National Environmental Policy Act (NEPA).

The checklist is prepared at the beginning of project development and is expanded when new information becomes known throughout the study period. The checklist includes the agencies involved in the project and the contact information of persons representing those agencies.

PROJECT CHECKLIST

Date prepared: March 2005

I. PROJECT INTRODUCTION

A. Project Name and Route Identification

Rimini Road (Montana Forest Highway 98)
US 12 to Chessman Reservoir Intersection, MP 0.0 to MP 6.1
MT PFH 98-1(1)

B. Agencies/Contacts

1. Lead Agency

Federal Highway Administration
Western Federal Lands Highway Division
610 East Fifth Street
Vancouver, Washington 98661-3893

2. Contact Persons

Ted Wood
Project Development Engineer – WFLHD
(360) 619-7715

Danny Capri
Environmental Protection Specialist - WFLHD
(360) 619-7573

3. Partner Agencies

Lewis and Clark County
3402 Cooney Drive
Helena, MT 59601

USFS-Helena National Forest
2880 Skyway Drive
Helena, MT 59601

Montana Department of Transportation
2710 Prospect Avenue
Helena, MT 59620

II. DESCRIPTION OF PROPOSED PROJECT

A. Location of the Project

The Western Federal Lands Highway Division (WFLHD), in partnership with the U.S. Forest Service (USFS), Montana Department of Transportation (MDT), and Lewis and Clark County, is planning to improve 9.8 kilometers (6.1 miles) of Montana Forest Highway 98 (MT FH 98), commonly known as Rimini Road. Rimini Road provides primary access to 40,000 acres of public lands on the Helena National Forest and provides secondary access to an additional 250,000 acres on the Helena and Beaverhead-Deer Lodge National Forests. This portion of the national forest is actively managed to serve the residents of Rimini and visitors to the forest, as well as various commercial interests. The proposed project is located approximately 16 kilometers (10 miles) southwest of Helena, and proceeds to within approximately a mile of the small town of Rimini in southwestern Lewis and Clark County (see Figure 1). This road is currently a two-lane, aggregate surfaced road, with widths varying from 7.3 meters (24 feet) to 4.8 m (16 ft), owned and maintained by the county.

Rimini Road is functionally classified as a rural minor collector according to the guidelines of the American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets* (2001). This manual provides guidance for minimum design standards for the nation's highway system. A rural collector is a road that carries traffic of primarily intracounty importance. These roads also normally provide service to smaller communities and link the locally important traffic generators with more rural areas. The route is not designated as a scenic byway under either the Forest Service or State of Montana Scenic Byway program. It is not on the National Highway System. The proposed project begins at MP 0.0 at the junction with US 12 and proceeds southwesterly to MP 6.1 at the Chessman Reservoir intersection.

B. Scope and Nature of the Project

The objectives of a Rimini Road project are to: (1) Provide for current and future traffic demands; (2) Improve alignment and safety; (3) Reduce sedimentation and other detrimental impacts to Tenmile Creek; (4) Replace three bridges, make bridge safety upgrades and prevent surface runoff from going directly into the creek; and, (5) Upgrade signing and other roadside safety features to current design standards, which may include the addition of guardrail in some locations.

Funding for the project would come from the Public Lands Highway Program, which is financed by the Federal Highway Trust Fund. The Public Lands Highway Program provides monies for improvements to Forest Highways which are selected public roads wholly or partly within, or adjacent to, and serving the National Forest (NF) system. These roads are necessary for the protection, administration, and utilization of the NF system and use and development of its resources. In Montana, the WFLHD, USFS, and MDT administer the Public Lands Highway Program jointly. The project is currently funded for construction in fiscal year (FY) 2010.

III. PURPOSE AND NEED

Road Use

The route provides primary access to 40,000 acres of National Forest Service Land on the Helena NF and secondary access to 250,000 acres on the Helena and Beaverhead-Deer Lodge National Forests. Recreational, commercial, and residential use exists along this road year-round. Recreational opportunities include four developed sites, a 12-unit campground, a picnic area, and two trailheads. Four special use cabins belonging to the Forest Service occur adjacent to the road. The Tenmile Environmental Education Trail is one of several Forest Development Trails available through a managed partnership between the Forest and the Helena School District. Fishing, berry picking, firewood gathering, hiking and wildlife viewing are activities enjoyed by both residents and tourists.

The road provides access to the Tenmile Creek Watershed, which provides drinking water to the City of Helena. Activities in the watershed must improve or maintain surface and subsurface water quality. Upper Tenmile, located above the Town of Rimini, was listed as a Superfund site in 1999, due to the presence of a large number of abandoned mining sites in the area. The Environmental Protection Agency is actively involved in the clean-up of these sites and will be for years to come. Rimini Road provides access not only to old mine tourist attractions, but to these clean-up efforts as well.

Residents in the town of Rimini use the road to access their homes and businesses. Mail delivery and school bus service is provided throughout the route. The road also links US Highway 12 into the southwestern portion of the Helena and Deer Lodge National Forests. Good road access in and around this end of the forest may benefit local services. The road also provides a means for the County and the Forest Service to manage lands and activities under their jurisdiction.

There is little timber harvest in the vicinity of Rimini Road, but the route leads to more important harvest areas such as Park Lake and Minnehaha Road. Truck traffic makes up about 10% of the estimated road use. The road is owned and maintained by Lewis and Clark County and is open to public travel on a year-round basis.

Traffic Volumes

The Average Daily Traffic (ADT) is the average number of vehicles that travel the route each day over the course of a year. Traffic is counted traveling in both directions. For this road, there are two distinct sections where ADT counts differ markedly. In the first section, up to MP 0.5, the road serves primarily the Landmark subdivision, with other private and public property owners served beyond that point. WFLHD coordinated with MDT in 2002 to obtain additional counts from those shown in the Project Identification Report, based upon comments from the August 2002 public meeting. The MDT set up traffic counters at MPs 0.0, 1.5 and 6.0. These counts showed the 2002 ADT from MP 0.0 to 1.5 is 412 vehicles per day. From MP 1.5 to 6.0 the 2002 ADT is 217 vehicles per day. Beyond this point the 2002 ADT count is 129 vehicles per day. It is estimated that 10% of this traffic is truck traffic.

Traffic volumes are an important consideration in road design. These volumes are used to determine design standards, i.e. road width, speed, shoulder width, etc, that will be used for road improvement. Future traffic volumes are estimated by applying an annual growth factor to a known traffic volume. The 2002 data was used to estimate the current year (2006), construction year (2010), and design year (2030). Construction for Rimini Road was tentatively programmed to begin in FY 2007. A typical growth factor used in semi-rural Montana is 1% per year and the traffic volume growth estimate is shown in the table below:

	YEAR	ADT (MP 1.5)	ADT (MP 6.0)
CURRENT	2006	428	225
CONSTRUCTION	2010	446	234
DESIGN	2030	544	286

Accident History

For the ten year period from 1989 to 1999, there have been thirty-two recorded accidents on Rimini Road. Seventeen of these accidents occurred within the first few miles south of the junction with Highway 12. The higher accident rate in this area may be due to the presence of several sharp, blind curves. Approximately 50% of the accidents involved injury, but there were no fatalities. Reasons for the accidents, as stated in accident reports, include road conditions, such as washboarding and potholes, sight distance, collisions with animals, and driver error. At times in rural areas minor accidents go unreported, so the accident rate may be higher than the calculated rate. The overall accident rate calculated for the period 1/89 – 2/99 is 3.98.

Physical and Operational Deficiencies

The road has a gravel surface throughout its length. Safety hazards that result from the gravel surface can include dusty conditions during the summer months, as well as potholing and washboarding. The shoulders are narrow and trees and other vegetation often come right down to the edge of the roadside, limiting driver sight distance. Trees limit the clear zone and cast shadows on the road that slow the melting of ice in the winter. Sharp curves exist in some areas and there are no real drainage ditches.

The average width of Rimini Road is 6.1 meters (20 feet), however there are some sections of the road where the width decreases to 4.8 meters (16 feet) wide. The warning, regulatory, guide and speed limit signs need to be upgraded to current standards. Private mailboxes, fences, and utility poles often exist within the right-of-way or right along the road's edge. The FHWA develops Forest Highway projects to meet the minimum standards of either the American Association of State Highway Transportation Officials (AASHTO) or the public road agency in charge of the route.

The road parallels Tenmile Creek and, due to the lack of drainage features and close proximity to the creek, portions of the road are sometimes flooded during storm events. There are many issues associated with Tenmile Creek erosion, stream sedimentation, and water quality along this

corridor. The creek has eroded away portions of the stream bank in some areas. Vehicles traveling on the gravel surface contribute sediment to the creek during periods of runoff and during grading operations performed by the County. The creek is listed as a Section 303(d) stream under the Clean Water Act, which means that water quality is limited for a particular factor or combination of factors including nutrients, flow alteration, sediments, and heavy metals. It is a priority for this stream to establish Total Maximum Daily Loads for the factors that are most limiting.

Rimini Road is located within the Tenmile Creek Watershed. The watershed drains an area that covers 80 km² (31 mi²). The peak discharge for a 100-year event is 33 cms (1150 cfs), although during the floods of 1981, the flow volume reached a level of 93 cms (3290 cfs) just 4.0 km (2.5 mi) north of Rimini. Tenmile Creek closely parallels Rimini Road for most of its length and there are bridge crossings at five locations. The floods in 1981 washed out two of the five bridges, but these structures have since been replaced and appear to be in good operating condition with sufficient carrying capacity.

The three remaining bridges were inspected in April 1999, and also reviewed during the field review in September of 2000. Two of the remaining three bridges have narrow widths [6.7 meters (22 feet)] and all three have below legal carrying capacity. The bridge railing on these three bridges does not meet AASHTO requirements. If the proposed road is reconstructed, these three bridges will be replaced. The table below is a summary of the length, width, type and selected deficiencies of each bridge, followed by a more detailed description of the three bridges in need of replacement.

Table 1. Bridge Locale & Description. Milepost and Live Load Capacity are abbreviated MP and LLC respectively.

MP	Length	Width	Type	LLC	Legal Guardrail
1.1	11.3 m (36 ft)	7.6 m (28 ft)	Timber	Below	No
2.4	11.3 m (36 ft)	6.7 m (22 ft)	Timber	Below	No
3.3	14.3 m (47 ft)	6.7 m (22 ft)	Timber	Below	No
4.4	18.3 m (60 ft)	7.3 m (24 ft)	Concrete	Met	Yes
5.2	21.3 m (70 ft)	7.3 m (24 ft)	Concrete	Met	Yes

Bridge No. 1 (Milepost 1.1)

This bridge is a single span structure built in 1955. The bridge rail consists of timber posts with timber railing and does not meet AASHTO requirements. There is no approach guardrail but there are hazard markers at each end of the bridge. The live load (weight of vehicles traveling over the top) capacity of the bridge is below the legal limit.

Bridge No. 2 (Milepost 2.39)

This bridge is a single span structure and was built in 1955. It is similar in construction and deficiency level to Bridge No. 1. This bridge has a live load that is below legal limits. There may be inadequate width between the bottom of the bridge and the river surface (freeboard) during flood events to pass debris and/or water.

Bridge No. 3 (Milepost 3.29)

This is another single span structure also constructed in 1955. It is similar in construction and deficiency level to Bridge No. 2. The bridge has a below-legal live load capacity. The freeboard may be inadequate to handle storm events.

Summary

Rimini Road provides access to portions of the Helena and Beaverhead-Deerlodge National Forests, as well as to private residences and mining sites. Deficiencies along the road that detract from this goal include:

1. The average current road width [6.0 meters (20 feet)] is too narrow for safe use as defined by the current design standards. In some areas the road width decreases to 4.8 meters (16 feet).
2. The gravel surface is difficult and expensive for the County to maintain. Dust and washboarding in the summer months are potentially hazardous conditions. Dust and sediments from the gravel surface also wash into the adjacent Tenmile Creek.
3. Three of the five bridges are below standards for width, live load capacity, and bridge railing.
4. There are areas of limited sight distance due to blind curves and vegetation alongside the roadway and there is little or no clear zone in many locations.

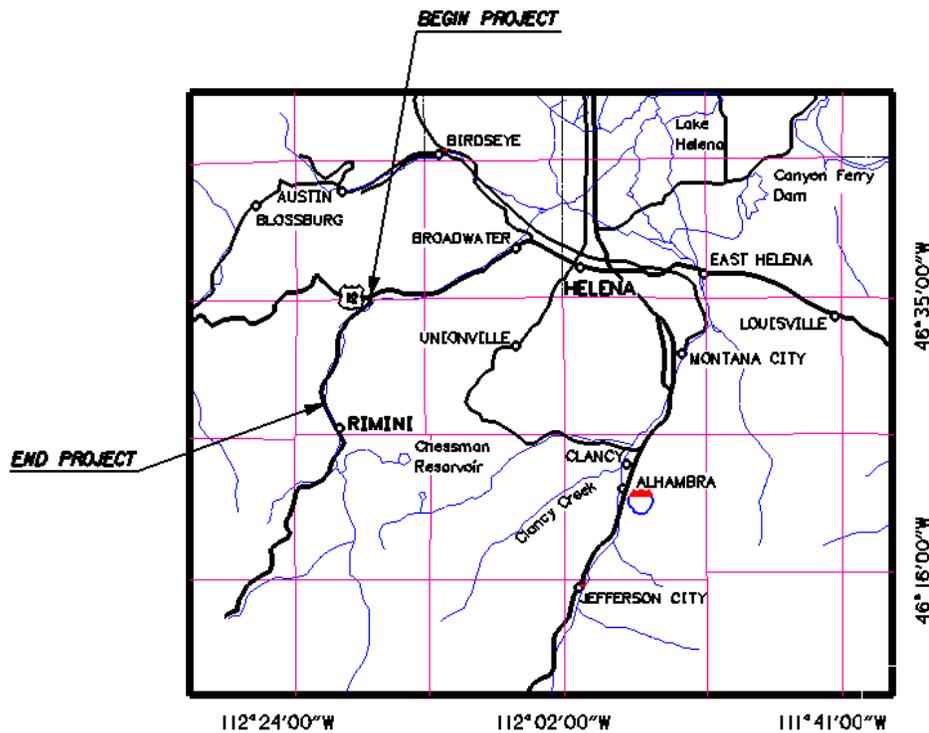


Figure 1. Project Location Map

IV. ALTERNATIVES TO BE CONSIDERED

ALTERNATIVES TO BE CONSIDERED

WFLHD is considering five alternatives for improving Rimini Road: **(1)** No Action; **(2)** Resurfacing, Restoration, and Rehabilitation (3R); **(3)** Reconstruction; and, **(4)** Reconstruction with Curvilinear Alignment. **(5)** Gravel surface instead of a paved surface on alternatives 2, 3, and 4. Alternatives on completely new alignment were not considered, although minor realignments to straighten sharp curves, to add curves to tangent sections, and to widen the existing surface are part of several of the action alternatives.

Alternative 1: No Action

Under this alternative the road would remain in its present condition. Routine maintenance by the County, such as blading, would continue. Washboarding and dusty conditions during the summer would also continue. This alternative does not address the needs of present and future road users and would not solve any of the maintenance problems or safety conditions, including bridge replacement.

Disadvantages of this alternative include high maintenance costs, continued sedimentation into Tenmile Creek, and continued safety deficiencies. Advantages include no changes to existing conditions.

Alternative 2: Resurfacing, Restoration, and Rehabilitation (3R)

The intent of this alternative is to improve roadway safety by selectively upgrading the existing roadway and roadside features without the cost of full reconstruction. Under this alternative, the existing alignment would not change appreciably. The sharp curves at the beginning of the project would remain, there would be some shifting of the road away from the adjacent creek, the first three bridges would be replaced requiring some realignment at the bridges, the road width uniform (24 feet), and roadside signing and shoulders would be improved.

Disadvantages of this alternative include short-term traffic delays, right of way impacts near bridges, unresolved safety issues due to sight distance problems, unexpectedly sharp curves after long straight sections of road, and potential speeding. Advantages include partial resolution of safety issues due to realignment, signing, and widening.

Alternative 3: Reconstruction

The intent of this alternative is to improve roadway safety by upgrading existing highway and roadside features. In this alternative, most or all roadway and roadside features would be improved to meet current AASHTO design guidelines. The sharp curves at the beginning of the project would be revised, there would be more shifting of the road away from the adjacent creek, the first three bridges would be replaced, the road would be widened to 28 feet from MP 0.0 to MP 1.4 and 24 feet from MP 1.4 to MP 6.1. Signing and shoulders would be improved.

Disadvantages of this alternative include short-term traffic delays due to construction; some right of way negotiations and acquisitions due to realignment of the road and bridges, safety problems due to speeding on long tangent sections and potential wildlife mortality caused by the speeding. Other disadvantages include the potential realignment of the waterline, and possible adverse affects to historic properties, such as the historic rail grade and water ditch. Advantages include reduced maintenance costs to the County, reduced sedimentation into Tenmile Creek, and improvements in safety due to increased sight distances, traffic signing, and widened traffic lanes and shoulders.

Alternative 4: Reconstruction with Curvilinear Alignment

The intent of this alternative is to improve roadway safety by upgrading existing highway and roadside features. In this alternative, the roadway would retain the same width characteristics of alternative 3. From MP 1.4 on, the roadway would incorporate a more curvilinear alignment instead on the straight sections that Alternative 3 contains.. The intent of the curvilinear alignment is to more naturally fit the roadway to the existing contours of the land, to shift the road away from the adjacent creek, and to improve driver safety by reducing speed thru the use of a curvilinear alignment along the entire route.

Disadvantages of this alternative include short-term traffic delays and increased right-of-way impacts. Other disadvantages include the potential realignment of the waterline, and possible adverse affects to historic properties, such as the historic rail grade and water ditch. Advantages include reduced maintenance costs to the County, reduced sedimentation into Tenmile Creek, and improvements in safety due to constrained vehicle speeds and widened traffic lanes and shoulder.

Alternative 5: Gravel Surface instead of Paved Surface on Alternatives 2, 3, and 4

The primary advantage of a gravel surface versus a paved surface would be a lower initial cost. All the other characteristics of the alternatives would remain the same.

Disadvantages: Accidents would not be reduced if the road had a gravel surface instead of a paved surface. An unpaved road may appear wider and safer (to the motorist) and encourage higher speeds. Other disadvantages include continued dust problems and stream sedimentation, and continued high maintenance costs (periodic compaction and surface grading, use of chemicals or water to abate dust).

V. AFFECTED ENVIRONMENT

A. Natural

1. Geomorphology (terrain, geology, hydrology)

The project area is located within the Tenmile Creek Watershed, just east of the Continental Divide in the Rocky Mountains, just outside Helena. The watershed has an area of 80 square kilometers (31 square miles). The topography has been highly influenced by glacial activity and has formed many of the cirque basins, moraine and colluvial deposits, and terraces and floodplains in the area. Rimini Road winds through a complex geological terrain consisting of highly folded and faulted sedimentary and volcanic rock. Large areas of granite that originate deep within the earth but have worked their way to the surface are called batholiths. The batholith that intrudes into much of the project area as rock formations has been termed the “Boulder Batholith.” The rock formations are exposed in the hillside outcrops along both sides of Tenmile Creek. From Milepost 0.0 to 1.0, the exposed rock is predominantly hard, well-bedded sandstone. For the remainder of the route to the Town of Rimini, the rock mostly consists of granite and very hard, fine-grained, dark-colored rocks called hornfels.

Tenmile Creek, a perennial fourth order stream, closely parallels Rimini Road for most of its length and there are bridge crossing at five locations. Tenmile Creek’s headwaters are approximately five miles upstream of the community of Rimini.

2. Climate

At 4,090 feet elevation, the city is just 15 miles east of the Continental Divide, and the climate is semiarid high desert, with an average of only 12 inches of rainfall a year. Winters tend to be cold and moist, whereas summers are warm and dry. Snowfall averages 46 inches a year, and about 20 days a year drop to zero degrees Fahrenheit or colder.

3. Vegetation

Botanical resources in the project corridor consist of wetlands, mixed with some forested and shrub-dominated riparian areas, and grass and forest-dominated uplands. Forested habitat within the watershed has been influenced by past land management activities (i.e. logging). Currently, mature second-growth conifer forests dominate the watershed and occupy nearly 85 percent of the landscape. There have been no major fires in the last 100 years and most conifer trees are nearly a century old. Douglas fir (*Pseudotsuga menziesii*) intermixed with ponderosa pine (*Pinus ponderosa*) occur at the lower elevations, while lodgepole pine (*Pinus contorta*) scattered with alpine fir (*Abies bifolis*) and Engelmann spruce (*Picea engelmanni*) are common at the higher elevations. Within the project corridor, upland habitat is dominated by lodgepole pine stands with a shrub and herbaceous understory. The understory includes western snowberry (*Symphoricarpos occidentalis*), grouse whortleberry (*Vaccinium scoparium*), and Oregon grape (*Berberis repens*).

Non-forested areas exist along Highway 12 and toward the ridgetops in the northern half of the drainage near Lazyman and Bear Gulch. Upland meadows in the project corridor are dominated by timothy (*Phleum partense*). Smaller grasslands also occur in the valley bottom below Rimini,

and the headwaters of most streams support a considerable number of small, patchy, wet meadows. Riparian and wetland areas provide dense shrub cover with an overstory dominated by conifers. Talus slopes, the largest of which covers the upper half of Red Mountain, along with large boulders and small rock outcroppings, also occur throughout the watershed.

No federally listed threatened or endangered plant species occur in the watershed. Although Forest Service sensitive plant species occur within the forest boundaries, none are known to occur within the project corridor. The nature of the project corridor (herbicide spraying, vehicle use) limits the occurrence of sensitive plant species. Although no federally listed or sensitive plant species were known to occur in or near the project corridor, surveys for these species were conducted during field investigations to verify species absence and determine if potential habitat is available. No sensitive or listed species or available habitat was found in surveys of the project corridor.

4. Wildlife

A wide variety of wildlife species use the project corridor. Among these are black bear, mule deer, elk, moose, and small mammals. Wetlands near the headwaters provide valuable habitat for concentrations of wildlife. Ridgetops provide key summer habitat, security, and movement corridors. The area functions as a vital linkage zone between the Bob Marshall Wilderness complex and the Greater Yellowstone Ecosystem, especially for grizzlies, lynx, gray wolves and wolverines.

The U.S. Fish and Wildlife Service (USFWS) identifies three threatened animal species that may occur within the vicinity of Rimini (Table 2). No designated critical habitat occurs in the watershed. Though grizzly bears do not occur in the project corridor and are not included on the list provided by the USFWS, they were examined in a biological resource assessment due to the proximity to migration corridors. Grizzly bears migrate from the Bob Marshall Wilderness Area over the divide, and have been sighted in numerous locations, particularly along the boundary between the Deerlodge and Helena National Forests. Since grizzly bears do not use the project corridor, there will be no direct effects, and since the Tenmile Creek watershed is outside the established recovery zone and designated linkage zone, a project within the existing corridor will likely have no effect on grizzly bears.

Table 2. Federally listed species that may occur in the project vicinity.

Species	Scientific Name	Status	Expected Occurrence
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Resident, year long, spring fall migrant, nesting, near or along major waterways
Gray wolf	<i>Canis lupis</i>	Threatened	Resident, transient
Canada lynx	<i>Lynx canadensis</i>	Threatened	Resident

Bald eagles are assumed not to use habitat within the project corridor due to lack of potential

nesting sites, foraging possibilities or wintering habitat available within the project corridor. Since bald eagles and their habitat do not occur in the project area, and known nesting sites are well outside of the potential area of effects, the project should have no effect on bald eagles.

The proposed project is located in the northwest Montana wolf recovery area. The upper reaches of the watershed, predominantly along the Continental Divide, provide an important linkage zone for wolves moving through the area. Since 1992, there have been reports of the Boulder pack coming over the ridge in the upper Tenmile watershed. This pack no longer exists and while no established pack is known to occupy the watershed, dispersers from other packs continue to enter the area from the northern Continental Divide ecosystem. Visiting wolves prefer the wet, gentle terrain at the tops of the drainage. No denning or rendezvous sites are known to occur in the watershed. The closest denning site occurs south of Avon, Montana, more than 29 km (18 mi) from the project corridor. The proposed project is not likely to affect wolves as they are not known to use the project corridor. In addition, wolves have been documented to avoid areas

In the winter of 2000, lynx tracks were discovered in the project corridor during a survey conducted by the Montana Fish, Wildlife, and Parks. In addition, a road-killed lynx was recovered in the project vicinity, 3 miles west of Tenmile Creek on U.S. Highway 12. The primary effect of the proposed project to lynx would be a possible contribution to the impediment of lynx movement and dispersal through the project corridor. Lynx successfully cross many types of roads, including unpaved forest roads, secondary paved roads and highways. Few records exist of lynx kills by vehicles and roads do not appear to be a significant direct cause of lynx mortality. This possible affect to lynx may be compensated by the replacement of three bridges with bridges that overspan the river, allowing for the passage of all wildlife underneath the road.

Of the twelve species listed by the USFS as sensitive within the Helena National Forest, none had recorded observations when queried in the Montana Natural Heritage Program's database. However, interviews with agency biologists determined that northern goshawks use habitat within the project corridor. Therefore surveys were conducted to determine the presence of sensitive species and available habitat in the project corridor. No sensitive species were found in the study area during field surveys. Sensitive species known to occur in the project vicinity are limited to the northern goshawk and the fisher. Sensitive species with available habitat in the project vicinity, in addition to the two species stated above, are the wolverine and the western toad.

5. Fisheries

There are no federally listed or Forest Service sensitive fish species in the Tenmile Creek Watershed. The stream supports nonnative trout species including, rainbow, brook and brown trout. Brook trout is the dominant species throughout the project corridor, with rainbow trout also occurring throughout. Brown trout occur downstream of the project corridor. Cutthroat trout, an indicator species for forest management purposes, historically dominated the drainage. No native fish species are now present in the watershed.

Some tributary streams to Tenmile Creek within the project corridor also support nonnative trout species. Walker Creek supports both brook and rainbow trout. Bear Gulch does not support any fish, with a passage barrier existing at the mouth of this stream. Lazyman Gulch and Deer Creek are intermittent and do not support any fish. Moose Creek supports a resident population of brook trout, but a passage barrier exists at the mouth in the form of a water supply intake. Minnehaha Creek supports a population of resident brook trout. A weir near the mouth acts as an impediment to fish movement.

The creek closely parallels the road as it winds through the middle of a valley that is physically limited and constrained. Should the road be widened away from the creek and the existing encroachments removed, the meanders and riparian border can be restored at great benefit to the overall system and its inhabitants. Although not within the realm of control for this project, the City of Helena draws a considerable amount of water from the creek for municipal use, which reduces the surface flow. The project must consider the already-strained nature of the creek due to this use.

Five bridge crossings occur within the project limits and several of the alternatives propose to replace three of these bridges. To ensure adequate stream flows and provide an “underpass” for animal movement, bridges may be designed to overspan the creek. If the existing gravel surface is paved, a reduction in sediments into the creek will improve water quality and enhance living conditions for the fish.

Best Management Practices (BMPs) during construction, such as straw bales and silt fences, will become important mitigation measures for this project to help eliminate or minimize short-term erosion into the creek. A long-term mitigation to minimize pollutants into the creek may be to design vegetation buffers between the road and the creek to catch runoff before it enters the water. The road may also be sloped to help runoff find its way more easily to this natural filtration system.

B. Cultural

1. Land Use, Economics and Social

All known mine sites are currently inactive, but exposed waste piles and mine spoils remain. These wastes contain trace metals that are toxic to human health and water quality. Portions of the road that pass through the town of Rimini were constructed years ago, possibly with mining wastes. The wastes are not currently exposed, but could become so if the roadbed were disturbed. A hazardous waste survey, conducted in the summer of 2004, recommended that fill material at and around two sample point locations be removed prior to a Rimini Road project. The EPA is currently in the remediation process with related hazardous waste sites outside of the project area.

The Forest Service manages and maintains campgrounds, picnic areas, roads, and trails for public recreation within the Helena National Forest. The Forest Service has managed logging in the area since the early 20th century.

The upper Tenmile Creek watershed has been the principal source of drinking water for the City of Helena since the 1860s. Surface flow patterns have been radically altered by the City of Helena diversions from the Tenmile Creek and its tributaries for over 140 years.

2. Historical and Archaeological

Many small, hard rock mining operations sprang up in 1860s, when gold was discovered in southwestern Montana. Mining continued through the 1930's, although intermittent activities continued during and after World War II. The last active commercial mine closed in 1953. Homesteading occurred along the road itself as settlers looked for places to live while they extracted lead, gold, zinc, and copper from at least 150 mining sites.

A cultural resource survey was performed for the length of the project in the summer of 2003. Historic sites, such as ditches, railroads and mining remnants, exist along the project area, although the presence of cultural resources is much less likely within the disturbed road prism than in the town of Rimini. Prehistoric resources were not located during the inventory.

The town of Rimini was included within the original cultural resource inventory and a number of historic properties were recorded and evaluated. The project has since been revised and the town is no longer within the area of potential effects.

The project corridor includes lands ceded by the Confederated Salish and Kootenai Tribes (Tribes) of the Flathead Nation, who exercise reserved treaty rights under the Treaty of Hellgate, 1855. WFLHD and the cultural resource consultant have consulted with the Tribes concerning potential effects to treaty rights and historic properties. No potential effects to either treaty rights or cultural properties of concern to the Tribes were identified.

VI. INTERRELATIONSHIPS WITH OTHER USES AND JURISDICTIONS

A. Land Ownerships (general)

Land adjacent to the project is both privately and publicly owned. From MP 0.0 to MP 2.5, land adjacent to the road is primarily private property. All of the land adjacent to the road from MP 2.5 to MP 8.1 is owned by the United States of America and is administered by the USFS as part of the Helena National Forest.

B. Planning by Others

Public land is managed by the Helena National Forest according to the Forest Plan, the Regional Guide for the Northern Region and the Rangeland Renewable Resources Planning Act (RPA) Program. The Forest Plan is a guideline for all natural resource management activities and establishes management standards for the Helena National Forest. It describes resource management practices, levels of resource production and management, and availability and suitability of lands for resource management.

The Divide Landscape Analysis also provides guidelines for the natural resource management activities and standards for the Helena National Forest, by providing a historic perspective on land use and an understanding of how resource impacts created by modern features and conditions fit into the “bigger picture.”

The Upper Tenmile Watershed provides the main source of drinking water for the City of Helena. As a result, the Forest Service has done little in the way of timber harvest, prescribed burning, road or trail building, and other activities commonly carried out on other parts of the Forest. From about 20 years ago to the present, small-scale harvest has occurred periodically in and around the project area. Future management activities will focus on mine waste clean up, stream and riparian restoration, and road management. Select timber harvest and prescribed burning will be used to reduce fuel loading, encourage aspen growth, and enhance habitats for lynx, elk, and moose.

Lewis and Clark County currently maintains the section of road proposed for improvements. The County would continue to have jurisdiction over the road upon completion of the project. This project has been selected by the Forest Service, the Federal Highway Administration and the Montana Department of Transportation, known collectively as the Tri-Agencies, as an eligible project under the Forest Highway Program, which provides the primary federal funding for the project.

C. Will any of the following Environmental Legislation and Requirements be affected by the Proposal?

	Yes	Maybe	No
1. Coastal Zone Management Act	___	___	<u>X</u>
2. Executive Order 11988 (Floodplains)	<u>X</u>	___	___
3. Executive Order 11990 (Wetlands)	<u>X</u>	___	___
4. National Historic Preservation Act (Section 106)	<u>X</u>	___	___
5. Farmland Protection Policy Act (Prime and Unique Farmlands)	___	___	<u>X</u>
6. Land Use Requirements	___	<u>X</u>	___
7. Section 4(f)	<u>X</u>	___	___
8. Endangered Species Act	<u>X</u>	___	___
9. In Vicinity of Airports	___	___	<u>X</u>
10. Fish & Wildlife Coordination Act	<u>X</u>	___	___

11.	Clean Water Act/Safe Drinking Water Act	___	<u>X</u>	___
12.	Wild & Scenic Rivers Act	___	___	<u>X</u>
13.	Clean Air Act	___	___	<u>X</u>
14.	Hazardous Waste Acts	___	<u>X</u>	___
15.	Noise Requirements	___	<u>X</u>	___

Comments:

The project is within a floodplain and wetland/riparian areas exist along the river. A cultural resource inventory of the area has documented a number of significant historic structures and features. Compliance with Section 106 of the Historic Preservation Act of 1966 and Section 4(f) of the USDOT Act of 1966 will be required. Many listed species, especially carnivores, are found within the project vicinity. Clean water and hazardous materials are both issues because of the presence of mine wastes in the area and because of Helena's municipal use of the creek water.

D. Potential Permits Required

		Yes	Maybe	No
1.	Federal			
a.	COE's Section 404 Permit, Clean Water Act of 1977 (P.L. 95-217, Section 404)	<u>X</u>	___	___
b.	US Coast Guard Permit, Rivers & Harbors Act and the Surface Transportation Assistance Act	___	___	<u>X</u>
c.	Special Use Permit (USDA Forest Service)	___	<u>X</u>	___
d.	COE's Section 401 Permit Water Quality Certification	___	<u>X</u>	___
e.	National Pollutant Discharge Elimination System (NPDES)	<u>X</u>	___	___
2.	State			
a.	Stream Channel Alteration Permit (Department of Water Resources - MPDES)	<u>X</u>	___	___
b.	Surface Mining Permit (Department of Public Lands)	___	<u>X</u>	___
c.	Lake Encroachment Permit (Department of Public Lands)	___	___	<u>X</u>
d.	Short-Term Water Quality Variance	___	<u>X</u>	___

3. **County**

a. Material Source

___ X ___

b. Burning permit

___ X ___

Comments:

A special use permit may be required by the Forest Service for use of a materials source or to burn materials on National Forest lands. Erosion control devices will be required in areas of ground disturbance to minimize soil erosion and to protect adjacent wetlands and Ten Mile Creek. A Surface Mining Permit may be required to access aggregate at the materials source.

VII. ENVIRONMENTAL IMPACTS

[For each question, the extent of the anticipated impact is estimated to be high (H), medium (M), low (L) or not applicable (N/A). Negative and beneficial impacts are not differentiated. For high or medium impacts, comments elaborate on the impacts, list proposed mitigation and mention any substantial differences in alternatives.]

Earth: Will the proposal result in:	H	M	L	N/A
1. Unstable earth conditions or changes in geologic sub-structures?	—	—	<u>X</u>	—
2. Disruptions, displacement, compaction, or overcovering of the soil?	—	—	<u>X</u>	—
3. Change in topography or ground surface relief features?	—	—	<u>X</u>	—
4. The destruction, covering, or modification of any unique geologic or physical features?	—	—	<u>X</u>	—
5. Any increase in wind or water erosion of soils either on or off the site?	—	—	<u>X</u>	—
6. Changes in deposition or erosion of beach sands that may modify the bed of the ocean, bay, or inlet?	—	—	—	<u>X</u>
7. Changes in siltation, deposition, or erosion which may modify the channel of a river or stream or the bed of a lake?	—	<u>X</u>	—	—

Comments:

Ground-disturbing activities will occur as part of normal construction within the existing area of disturbance. There may be a short-term increase in the release of sediments into Tenmile Creek should the BMPs fail during a storm event. Short-term changes in erosion potential will continue until vegetation is reestablished. In the long-term, if a paving alternative is selected, the level of sedimentation entering Tenmile Creek should be significantly reduced. Realigning the road away from the creek should allow a return to a more pristine natural state.

Air: Will the proposal result in:	H	M	L	N/A
1. Air emissions or deterioration of ambient air quality?	—	—	<u>X</u>	—
2. The creation of objectionable odors?	—	—	<u>X</u>	—
3. Alteration of air movement, moisture or temperature, or any change in climate either locally or regionally?	—	—	—	<u>X</u>

Comments:

Temporary odors and dust may result from paving activities and hauling or crushing rock if a paving alternative is selected.

Water: Will the proposal result in:	H	M	L	N/A
1. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?	—	<u>X</u>	—	—
2. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?	—	<u>X</u>	—	—
3. Alterations to the course or flow of floodwaters?	—	—	<u>X</u>	—
4. Change in the amount of surface water in any water body?	—	—	<u>X</u>	—
5. Discharge into surface waters or any alteration of surface water quality including but not limited to temperature, dissolved oxygen, or turbidity?	—	—	<u>X</u>	—
6. Alteration of the direction or rate of flow of groundwaters?	—	—	<u>X</u>	—

Water continued:	H	M	L	N/A
7. Change in the quantity of groundwaters either through direct additions or withdrawals or through interception of an aquifer by cuts or excavations?	—	—	<u>X</u>	—
8. Deterioration in groundwater quality either through direct injection or through the seepage of leachate, phosphates, detergents, waterborne virus or bacteria, or other substances into the groundwaters?	—	—	<u>X</u>	—
9. Reduction in the amount of water otherwise available for public water supplies?	—	—	<u>X</u>	—
10. Encroachment into a 100-year floodplain or regulated floodway?	—	—	<u>X</u>	—

Comments:

During construction, exposed soils may increase surface runoff during storm events. Groundwater will not be affected. The project lies within an existing floodplain and will create new, impervious surface in areas of realignment, although the old road template in these areas will be obliterated. If the stream bank is shifted away from the road in areas of encroachment, the course of the creek will revert to a more natural state. If a pave alternative is selected, the absorption rates and the quality of runoff may be altered. Replacement of the bridges will allow floodwaters and debris to flow unobstructed.

Wetlands: Will the proposal cause:	H	M	L	N/A
1. Removal of hydrophytic vegetation?	—	—	<u>X</u>	—
2. Covering or replacing of hydric soil?	—	—	<u>X</u>	—
3. Alteration of the hydrology?	—	—	<u>X</u>	—
4. A change in function or value?	—	—	<u>X</u>	—

Comments:

Wetlands along the creek may be impacted during bridge reconstruction and realignment of the road away from the creek.

Flora: Will the proposal result in:	H	M	L	N/A
1. Change in the diversity of species or numbers of any species of flora (including trees, shrubs, grass, crops, microflora, and aquatic plants)?	—	—	<u>X</u>	—
2. Introduction of new species of flora into an area or a barrier to the normal replenishment of existing species?	—	—	<u>X</u>	—
3. An effect on any unique, rare or endangered species of flora?	—	—	<u>X</u>	—

Comments:

Vegetation will be removed to realign portions of the road and to replace the bridge structures. Noxious weed introduction is possible via construction equipment. Disturbed areas will be reseeded with native plants that are certified as weed-free. There are no threatened or endangered plant species in the project vicinity.

Fauna: Will the proposal result in:	H	M	L	N/A
1. Changes in the diversity of species or numbers of any species of fauna (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, or microfauna)?	—	<u>X</u>	—	—
2. An effect on any threatened or endangered species of fauna?	—	<u>X</u>	—	—
3. Introduction of new species of fauna into an area or result in a barrier to the migration or movement of fauna?	—	<u>X</u>	—	—

Comments:

There are numerous federally listed species of wildlife in the watershed, including carnivores such as the grizzly bear, gray wolf, and Canada lynx as well as a candidate species, the wolverine. Paving the road may have wildlife impacts by possibly increasing human use, which might lead to additional private development, human intrusion, and increased wildlife mortality along the roadside. Surveys will be conducted to determine presence and level of use by these species.

Noise: Will the proposal cause:	H	M	L	N/A
Increase in existing noise levels?	—	—	<u>X</u>	—

Comments:

There would be a temporary increase in noise during construction.

Land Use: Will the proposal cause:	H	M	L	N/A
1. The alteration of the present or planned land use of an area?	—	—	<u>X</u>	—
2. Reduction in acreage of any agricultural products?	—	—	—	<u>X</u>
3. Reduction in acreage of any prime and unique farm land?	—	—	—	<u>X</u>

Comments:

There is no foreseen alteration to present or planned land use of the area.

Natural Resources: Will the proposal cause:	H	M	L	N/A
1. Increase in the rate of use of any natural resources?	—	—	<u>X</u>	—
2. Reduction of any nonrenewable natural resources?	—	—	<u>X</u>	—

Comments:

Some aggregate, asphalt, and fossil fuels would be used to construct the new roadway.

Energy: Will this proposal cause:	H	M	L	N/A
1. Use of substantial amounts of fuel or energy?	—	—	<u>X</u>	—
2. Savings of substantial amounts of fuel or energy?	—	—	<u>X</u>	—

Comments:

Some fossil fuels would be used to construct the new surface. However, increased quality of the road surface may increase the efficiency of the vehicles using the road.

Aesthetics: Will the proposal cause:	H	M	L	N/A
1. A change in a scenic vista as seen from the road?	—	—	—	<u>X</u>
2. A change in a scenic vista or view for viewers of the road?	—	—	<u>X</u>	—
3. A conflict with the scenic management plans of other agencies?	—	—	—	<u>X</u>
4. New light or glare?	—	—	—	<u>X</u>

Comments:

Rock cuts or fills may be necessary to accommodate curve realignment. The proposed surface will push back the existing level of vegetation and open up the roadside view.

Recreation:	H	M	L	N/A
Will this proposal cause an impact upon the quality or quantity of existing recreational opportunities?	—	<u>X</u>	—	—

Comments:

In the short term, there may be temporary delays of up to 30 minutes during construction. In the long term, the smoother road surface may enhance travel to recreational resources in the area and may promote new or increased levels of recreation.

Archaeological/Historical:	H	M	L	N/A
Will this proposal result in an alteration of an important archaeological or historical site, structure, object, or building?	<u>X</u>	—	—	—

Comments:

Cultural resource surveys have been completed.

Hazardous Waste: Will the proposal:	H	M	L	N/A
1. Affect a known hazardous waste site on the EPA's National Priority List (NPL) or a statewide inventory?	—	—	<u>X</u>	—
2. Affect a site with the potential for hazardous waste [e.g., sanitary landfills, gasoline stations, industrial sites]?	—	<u>X</u>	—	—
3. Affect human health by creating a health hazard or a potentially unhealthy situation?	—	—	<u>X</u>	—
4. Increase the likelihood of an explosion or release of hazardous substances [including but not limited to oil, pesticides, chemicals or radiation] in the event of an accident?	—	—	<u>X</u>	—

Comments:

The creek is impacted heavily when water is drawn for Helena's municipal use. Because of past and current mining practices and the importance of the water to the citizens of Helena, the EPA has begun cleanup of mine wastes in the surrounding area. Two sections of the roadbed may need to be removed prior to the proposed project.

Socio-Economic: Will this proposal:	H	M	L	N/A
1. Alter the location, distribution density, or growth rate of the human population of an area?	—	<u>X</u>	—	—
2. Affect racial, ethnic, religious, minority, elderly, or low income groups?	—	—	—	<u>X</u>
3. Affect existing housing [including but not limited to rural or urban residences and business or commercial buildings]?	—	—	<u>X</u>	—
4. Create a demand for additional housing?	—	—	<u>X</u>	—
5. Affect local employment, taxes, property values, etc.?	—	—	<u>X</u>	—

Comments:

This project may increase local employment in the short term. The project is consistent with Executive Order 12898 regarding environmental justice in minority and low-income groups.

Public Services:	H	M	L	N/A
Will this proposal have an effect upon or result in a need for new or altered services in any of the following areas?				
1. Fire protection?	—	<u>X</u>	—	—
2. Police protection?	—	<u>X</u>	—	—
3. Schools?	—	—	—	<u>X</u>
4. Maintenance of public facilities including roads?	—	<u>X</u>	—	—
5. Airports?	—	—	—	<u>X</u>
6. Religious institutions or facilities?	—	—	—	<u>X</u>
7. Health services?	—	—	—	<u>X</u>
8. Mail delivery?	—	—	<u>X</u>	—
9. Parks and recreational facilities?	—	—	<u>X</u>	—
10. Other services?	—	—	—	<u>X</u>

Comments:

Should a paving option be selected, the project would reduce the level of maintenance currently required on this road by the County. Road improvements would facilitate access for emergency services and the traveling public to recreational destinations within the watershed.

Transportation/Circulation: Will this proposal cause:		H	M	L	N/A
1.	An increase in motor vehicle movement?	—	—	<u>X</u>	—
2.	An increase in movement of bicycles, pedestrians, or equestrians?	—	—	<u>X</u>	—
3.	Increased traffic hazards to cyclists, pedestrians, or equestrians?	—	—	<u>X</u>	—
4.	Existing parking facilities to be affected or create a demand for new parking?	—	—	<u>X</u>	—
5.	Changes in access?	—	—	<u>X</u>	—
6.	An impact upon existing transportation systems?	—	—	<u>X</u>	—
7.	An impact upon waterborne, rail, or air traffic?	—	—	—	<u>X</u>
8.	Impacts associated with construction activities (e.g., detours, temporary delays)?	—	—	<u>X</u>	—

Comments:

The paving alternatives would result in a smoother, more consistent driving surface and prolong the life of the road, reduce maintenance costs to the County, and increase safety. Paving the road may encourage the paving of surrounding roads, some of which are now seasonally closed. An improved road surface may encourage recreational visits. More human traffic may increase the need for additional parking at trailheads for hiking and snowmobiling.

Utilities:		H	M	L	N/A
Will this proposal cause a need for new systems or alterations of the following utilities:					
1.	Power or natural gas?	—	—	<u>X</u>	—
2.	Communications systems?	—	—	<u>X</u>	—

Utilities continued:		H	M	L	N/A
3.	Water?	—	<u>X</u>	—	—
4.	Sanitary systems or septic tanks?	—	—	<u>X</u>	—
5.	Storm water drainage?	—	—	<u>X</u>	—
6.	Irrigation system?	—	—	—	<u>X</u>
7.	Solid waste disposal?	—	—	<u>X</u>	—
8.	Pipelines?	—	—	<u>X</u>	—
9.	Cable TV?	—	—	<u>X</u>	—

Comments:

At this point, it is unknown what utilities may be affected by the project as an alternative has not been picked and detailed surveying has not occurred. Provisions will have to be made to ensure service of these utilities to their customers. The flow and quality of storm water may change to a more natural state if the water is routed into vegetative buffers before entering the creek and/or other measures are incorporated into the road design. If development were to increase as a result of this project, the demand on and for utilities may increase.

VII. COORDINATION & CONSULTATION

Representatives from the MDT, USFS, and WFLHD have been designated as members of the Social, Environmental, and Economic (SEE) Team for this project. The representative for MDT will represent the County's interests. A field review was held on September 27, 2000 at the project site and a follow-up office meeting convened in Helena the next day. Representatives from the WFLHD, FS, and Lewis and Clark County attended the office meeting. A public meeting was held on August 29, 2002 and February 26, 2004 as an opportunity for interested parties to share their concerns and ideas. Additional public meetings will be held in the future.