



Montana Department of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Jim Lynch, Director
Brian Schweitzer, Governor

County CARBON

April 26, 2005

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LEGISLATIVE ENVIRONMENTAL
POLICY OFFICE

To Whom It May Concern:

Subject: Cooperating Agency Environmental Documentation

As a Cooperating Agency under the provisions of 23 CFR 771.111 the Montana Department of Transportation (MDT) is providing you a copy of this project's environmental documentation.

This environmental documentation complies with the provisions of 23 CFR 771.117(a) and (d) for categorically excluding this proposed project from further National Environmental Policy Act (NEPA) (42 U.S.C. 4321, et seq.) documentation requirements. The attached also complies with the provisions of 75-1-103 and 75-1-201, MCA (see ARM 18.2.237 and 18.2.261, MEPA "Actions that qualify for a Categorical Exclusion" as applicable to the MDT).

If you have any questions concerning the attached environmental documentation please call the MDT Environmental Services Division at (406) 444-7228.

Sincerely,

Jean A. Riley, P.E.
Engineering Bureau Chief
Environmental Services Division

S:\ADMIN\48_GEN_CORRESP\MAILINGS\COOP AGENCY LTR.DOC\2000SAFETYIMP_8KM_NWREDLODGE_CN4720
Attachment

Cartron



Montana Department of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

David A. Galt, Director
Judy Martz, Governor

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APR 21 2005

ENVIRONMENTAL

MASTER FILE COPY

April 14, 2005

Janice W. Brown, Division Administrator
Federal Highway Administration (FHWA)
2880 Skyway Drive
Helena, MT 59602-1230

Subject: STPHS 78-1(7)5
2000-SFTY IMP-8KM NW RED LODGE
Control #4720

This is to request approval of this proposed project as a Categorical Exclusion (CE) under the provisions of 23 CFR 771.117(d), and the Programmatic Agreement as signed by the MONTANA DEPARTMENT OF TRANSPORTATION (MDT) and the FHWA on April 12, 2001. Copies of its Preliminary Field Review Report and Project Location Map are attached. This proposed action also qualifies as a CE under ARM 18.2.261 (Sections **75-1-103** and **75-1-201, M.C.A.**).

The following form provides the documentation required to demonstrate that all of the conditions are satisfied to qualify for a Programmatic Categorical Exclusion Approval (PCE) as initially agreed by the (former) MONTANA DEPARTMENT OF HIGHWAYS (MDOH) and the FHWA on December 6, 1989. (Note: An "X" in the "N/A" column is "Not Applicable" to, while one in the "UNK" column is "Unknown" at the present time for this proposed project.)

NOTE: A response in a box will require additional documentation for a Categorical Exclusion request in accordance with 23 CFR 771.117(d).

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
1. This proposed project would have (a) significant environmental impact(s) as-defined under <u>23 CFR 771.117(a)</u> .	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
2. This proposed project involves (an) unusual circumstance(s) as described under <u>23 CFR 771.117(b)</u> .	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
3. This proposed project involves one (or more) of the following situations where:				
A. Right-of-Way, easements, and/or construction permits are required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
1. The context or degree of the Right-of-Way action would have (a) substantial social, economic, or environmental effect(s).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. There is a high rate of residential growth in this proposed project's area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Services Bureau
Phone: (406) 444-7228
Fax: (406) 444-7245

Engineering Division
TTY: (800) 335-7592
WebPage: www.mdt.mt.gov

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
(3.A. – concluded:)				
3. There is a high rate of commercial growth in this proposed project's area.	—	<u>x</u>	—	—
4. Work would be on and/or within approximately 1.6 kilometers (1± mile) of an Indian Reservation.	—	<u>x</u>		
5. There are parks, recreational, or other properties acquired/improved under <i>Section 6(f)</i> of the <i>1965 National Land & Water Conservation Fund Act (16 U.S.C. 460L, et seq.)</i> on or adjacent to the proposed project's area.	—	<u>x</u>		
The use of such <i>Section 6(f)</i> sites would be documented and compensated with the appropriate agencies. (e.g.: MDFW&P, local entities, etc.).	—	<input type="checkbox"/>	<u>x</u>	
6. Are there any sites either on, or eligible for the National Register of Historic Places with concurrence in determination of eligibility or effect under <i>Section 106</i> of the <i>National Historic Preservation Act (16 U.S.C. 470, et seq.)</i> by the State Historic Preservation Office (SHPO), which would be affected by this proposed project.	—	<u>x</u>		
7. There are parks, recreation sites, school grounds, wildlife refuges, historic sites, historic bridges, or irrigation that might be considered under <i>Section 4(f)</i> of the <i>1966 U.S. DEPARTMENT OF TRANSPORTATION Act (49 U.S.C. 303)</i> on or adjacent to the proposed project's area.	—	<u>x</u>		
a. "Nationwide" Programmatic <i>Section 4(f)</i> Evaluation forms for these sites are attached.	—	<input type="checkbox"/>	<u>x</u>	
b. This proposed project requires a full (i.e.: DRAFT & FINAL) <i>Section 4(f)</i> Evaluation.	<input type="checkbox"/>	<u>x</u>		
B. The activity would involve work in a streambed, wetland, and/or other waterbody(ies) considered as "waters of the United States" or similar (e.g.: "state waters").	—	<u>x</u>		
1. Conditions set forth in <i>Section 10</i> of the <i>Rivers and Harbors Act (33 U.S.C. 403)</i> and/or <i>Section 404</i> under <u>33 CFR Parts 320-330</u> of the <i>Clean Water Act (33 U.S.C. 1251 - 1376)</i> would be met.	—	<input type="checkbox"/>	<u>x</u>	
2. Impacts in wetlands, including but not limited to those referenced under Executive Order (E.O.) #11990, and their proposed mitigation would be coordinated with the Montana Inter-Agency Wetland Group.	—	<input type="checkbox"/>	<u>x</u>	
3. A 124SPA Stream Protection permit would be obtained from the MDFW&P?	—	<u>x</u>		

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
(3.B. – concluded:)				
4. There is a delineated floodplain in the proposed project's area under FEMA's Floodplain Management criteria.	—	<u>x</u>		
The water surface at the 100-year flood limit elevation would exceed floodplain management criteria due to an encroachment by the proposed project.	<input type="checkbox"/>	<u>x</u>	—	
5. Tribal Water Permit would be required.	—	<u>x</u>		
6. Work would be required in, across, and/or adjacent to a river which is a component of, or proposed for inclusion in Montana's Wild and/or Scenic Rivers system as published by the U.S. DEPARTMENT OF AGRICULTURE, or the U.S. DEPARTMENT OF THE INTERIOR.	—	<u>x</u>		
The designated National Wild & Scenic River systems in Montana are:				
a. Middle Fork of the Flathead River (headwaters to South Fork confluence).	—			
b. North Fork of the Flathead River (Canadian Border to Middle Fork confluence).	—			
c. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir).	—			
d. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge).	—			
In accordance with <i>Section 7 of the Wild and Scenic Rivers Act (16 U.S.C. 1271 – 1287)</i> , this work would be coordinated and documented with either the Flathead National Forest (Flathead River), or U.S. Bureau of Land Management (Missouri River).	—	<input type="checkbox"/>	<u>x</u>	
C. This is a "Type I" action as defined under <u>23 CFR 772.5(h)</u> , which typically consists of highway construction on a new location or the physical alteration of an existing route which substantially changes its horizontal or vertical alignments or increases the number of through-traffic lanes.	—	<u>x</u>		
1. If yes, are there potential noise impacts?	—	—	<u>x</u>	
2. A Noise Analysis would be completed.	—	<input type="checkbox"/>	<u>x</u>	
3. There will be compliance with the provisions of both <u>23 CFR 772</u> for FHWA's Noise Impact analyses and MDT's Noise Policy.	<u>x</u>	<input type="checkbox"/>	—	
D. There would be substantial changes in access control involved with this proposed project.	—	<u>x</u>		
If yes, would they result in extensive economic and/or social impacts on the affected locations?	<input type="checkbox"/>	—	<u>x</u>	

YES NO N/A UNK

(3. – continued:)

E. The use of a temporary road, detour, or ramp closure having the following conditions when the action(s) associated with such facilities:

- | | | | |
|--|----------|--------------------------|-----|
| 1. Provisions would be made for access by local traffic, and be posted for-same. | <u>x</u> | <input type="checkbox"/> | ___ |
| 2. Adverse effects to through-traffic dependant businesses would be avoided or minimized. | <u>x</u> | <input type="checkbox"/> | ___ |
| 3. Interference to local events(e.g.: festivals) would be minimized to all possible extent. | <u>x</u> | <input type="checkbox"/> | ___ |
| 4. Substantial controversy associated with this pending action would be avoided. | <u>x</u> | <input type="checkbox"/> | ___ |

F. Hazardous wastes/substances, as defined by the U.S. Environmental Protection Agency (EPA) and/or the MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY (MDEQ), and/or (a) listed "Superfund" (under CERCLA or CECRA) site(s) are currently on and/or adjacent-to this proposed project.

___ x ___

All reasonable measures will be taken to avoid and/or minimize substantial impacts from same.

x ___

G. The Montana Pollutant Discharge Elimination System's conditions (ARM 16.20.1314), including temporary erosion control features for construction will be met.

x ___

H. Permanent desirable vegetation with an approved seeding mixture will be established on exposed areas.

x ___ ___

I. Documentation of an "invasive species" review to comply with both E.O.#13112 and the *County Noxious Weed Control Act (7-22-21, M.C.A.)*, including directions as-specified by the county(ies) wherein its intended work is to be done.

x ___

J. There are "Prime" or "Prime if Irrigated" Farmlands designated by the Natural Resources Conservation Service on or adjacent-to this proposed project's area.

___ x ___

If the proposed work would affect Important Farmlands, then an AD-1006 Farmland Conversion Impact Rating form would be completed in accordance with the *Farmland Protection Policy Act (7 U.S.C. 4201, et seq.)*.

___ x

K. Features for the *Americans with Disabilities Act (P.L. 101-336)* compliance would be included.

___ x

- | | <u>YES</u> | <u>NO</u> | <u>N/A</u> | <u>UNK</u> |
|--|--------------------------|--------------------------|------------|------------|
| (3. – concluded:) | | | | |
| L. A written Public Involvement Plan has been completed in accordance with MDT's Public Involvement Handbook. | <u>x</u> | <input type="checkbox"/> | | |
| 4. This proposed project complies with the <i>Clean Air Act's Section 176(c)</i> (42 U.S.C. 7521(a) , as amended) under the provisions of <u>40 CFR 81.327</u> as it's either in a Montana air quality: | | | | |
| A. "Unclassifiable"/attainment area. This proposed project is <u>not</u> covered under the EPA's September 15, 1997 Final Rule on air quality conformity. | <u>x</u> | ___ | | |
| and/or | | | | |
| B. "Nonattainment" area. However, this type of proposed project is either exempted from the conformity determination requirements (under EPA's September 15, 1997 Final Rule), or a conformity determination would be documented in coordination with the responsible agencies (Metropolitan Planning Organizations, MDEQ's Air Quality Division, etc.). | ___ | <input type="checkbox"/> | | <u>x</u> |
| C. Is this proposed project in a "Class I Air Shed" (Indian Reservations) under <u>40 CFR 52.1382(c)(3)</u> ? | ___ | <u>x</u> | | |
| 5. Federally listed Threatened or Endangered (T/E) Species: | | | | |
| A. There are recorded occurrences, and/or critical habitat in this proposed project's vicinity. | ___ | <u>x</u> | | |
| B. Would this proposed project result in a " <u>jeopardy</u> " opinion (under <u>50 CFR 402</u>) from the Fish & Wildlife Service on any Federally listed T/E Species? | <input type="checkbox"/> | <u>x</u> | | ___ |

The proposed project will not induce significant land use changes, nor promote unplanned growth. There are no significant effects on access to adjacent property, nor to present traffic patterns.

This proposed project does not create disproportionately high and/or adverse impacts on the health or environment of minority and/or low-income populations (E.O.#12898). It also complies with the provisions of *Title VI* of the *Civil Rights Act* of 1964 (**42 U.S.C. 2000d**) under the FHWA's regulations (23 CFR 200).

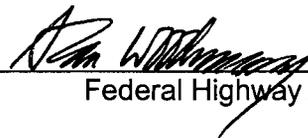
Janice W. Brown
Page 6
April 14, 2005

STPHS 78-1(7)5
2000-SFTY IMP-8KM NW RED LODGE
C#4720

In accordance with the provisions of 23 CFR 771.117(a), this pending action will not cause any significant individual, secondary, or cumulative environmental impacts. Therefore, the FHWA's concurrence is requested that this proposed project is properly classified as a Categorical Exclusion.



Thomas L. Hansen, P.E.
Engineering Section Supervisor
MDT Environmental Services Bureau

Concur , Date: 19 APR 2005
Federal Highway Administration

"ALTERNATIVE ACCESSIBLE FORMATS OF THIS DOCUMENT WILL BE PROVIDED ON REQUEST."

JAR:TLH:asj:  [S:\PROJECTS\BILLINGS\4720\A722\FORMLET.DOC]

Attachments

copies: Bruce H. Barrett, Administrator - MDT Billings District (No 5)
Paul R. Ferry, P.E. - MDT Highways Engineer
John H. Horton, Jr. - MDT Right-of-Way Bureau Chief
D. Suzy Althof, Supervisor - MDT Contract Plans Section
David W. Jensen, Supervisor - MDT Fiscal Programming Section
Jean A. Riley, P.E. - MDT Environmental Services Bureau Chief

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Montana Department of Transportation
Helena, Montana 59620-1001

Distributed on: 25-May-04

Memorandum

To: Paul Ferry, P.E.
Highways Engineer

From: *D. [Signature]*
Road Design Engineer

Date: May 16, 2004

Subject: STPHS 78-1(7)5
2000 -SFTY IMP-8 km NW Red Lodge
Control No. 4720
Work Type 140 - Reconstruction without added capacity

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COMMENTS?	Y*	N	Initials/Date
Biological Resources		X	P.S. 5/28
Cultural Resources	✓		Jan 5/27*
Hazardous Waste		✓	(S) 5/20
Erosion Control		✓	4/2

Check OPX2 "Overrides"!
Return ("attached PFR Report) to ASJ when
"Initials/Date" column completed/by June 2nd

*Send any comments about the attached to: **DMK**

DMK * Sent to Damian
5/27/04
(CR needed)

We request that you approve the Preliminary Field Review for the subject project.

Approved *Paul Ferry* Date 5-18-04
Paul Ferry, P.E.
Highways Engineer

We are requesting comments from the following individuals, who have also received a copy of the Report. We will assume their concurrences if no comments are received by June 4th.

Distribution: (all with attachments)

- John Horton - Right of Way
- Kent Barnes - Bridge
- Sandy Strachl - Transportation Planning
- Bureau Chief - Materials
- Duane Williams - Traffic and Safety
- John Blacker - Maintenance
- Jean Riley - Environmental
- Bruce Barrett - Billings District
- Mark Wissinger - Construction
- Alan Woodmansey - FHWA
- Dave Jensen - Fiscal Programming
- Mark Goodman - Hydraulics
- Danielle Bolan - Traffic
- Bryce Larsen - Photogrammetry
- Walt Scott - Utilities
- Pierre Jomini - Safety
- Rich Jackson - Geotechnical
- Jim Walther - Preconstruction
- Damian Krings - Road Design
- Ivan Ulberg - Right of Way
- Carol Strizich - Transportation Planning
- Sue Sillick - Pave. Analysis & Research
- Ben Juvan - EISS
- Tom Martin - Consultant Design

Preliminary Field Review Report

Introduction

A preliminary field review for the subject project was held on March 20th, 2002. The following personnel participated in this review:

Gary Neville	DESS	Billings
Damian Krings	AE-Road Design	Helena
Don Vanica	Right Of Way	Billings
Les Pallett	Maintenance	Billings
Kyle Demars	Maintenance	Billings
Dave Leitheiser	Hydraulics	Helena
Dick Lewis	Design Supervisor	Helena
Jim Tompkins	Surfacing Design	Helena
Shannon Schultz	Planning	Helena
Wayne Noem	Safety	Helena

This project has the same proposed scope of work (reconstruction), and is adjacent to the Red Lodge – Northwest (STPP 78-1(8)0, CN 4890) project. At the time of the PFR, we planned to complete the design for both of these projects together, at least through establishment of alignment and grades. Since that time, design personnel turnover and workload have resulted in our decision to give several projects out for design by consultants. We planned to give both this hazard elimination project and the adjacent Red Lodge – Northwest project to one consultant for design together as we had originally planned to do in-house. However, Red Lodge – Northwest will have greater public involvement, likely a higher level environmental document, much more extensive design, and will be more difficult to fund than this project. Therefore, **we will complete the design for this project internally, on an aggressive reconstruction schedule.** A second field review will be scheduled for current design personnel to review the project.

Proposed Scope of Work

This project was nominated to address an accident cluster location (P-78, RP 5.2 to 5.6) identified in 1999. The crash trend at this location is single vehicles leaving the roadway on a sharp horizontal curve, and reconstructing the curve to a larger radius with flatter slopes is recommended to address the problem. In addition to flattening the curve and side slopes, we will attempt to design the project to current geometric criteria, including providing stopping sight and route segment plan width. Ideally, we'd like to reconstruct the area of the curve such that the Red Lodge – Northwest project, and a future reconstruction of the route north of this project, can tie to it without requiring extensive reconstruction of this section. The poor geometrics of the route however, would require lengthening the project (and increasing costs) considerably to do this. We will limit the length of this project to meet benefit/cost requirements and correct the identified hazard condition; and potentially upgrade the area further with future large-scale reconstruction projects.

Project Location and Limits

The project is located between RP 5.2 and 5.6 of P-78, in portions of Sections 5,6, and 8 of Township 7 South, Range 20 East, in Carbon County. In order to fit a flatter curve into the existing route, the limits of the project will be approximately from as-built station 288+00 to 308+00, a total length of about 610 meters (2000 feet). Survey has been started in metric and the

design will be completed using metric units, with soft converted stationing increasing from south to north.

Physical Characteristics

The existing roadway was constructed in 1952 with Federal Aid Secondary Project S-289(2). There are no documented major improvements to the roadway or surfacing since original construction. The route is currently classified as a Minor Arterial and is a non-NHS Primary. The roadway generally has very poor geometrics and the following surfacing/roadside sections:

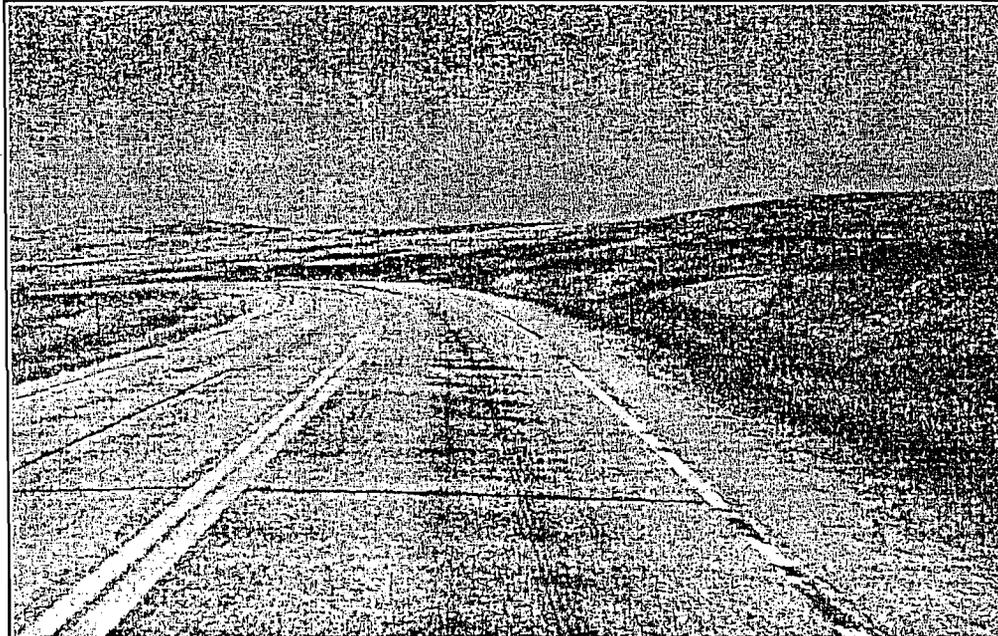
- 7.62 meter (24 feet) finished top width consisting of two 3.66 meter driving lanes
- 2 inches (51 mm) compacted road mix bituminous surfacing
- 10 inches (254 mm) compacted gravel base and top courses
- Fill slopes are 4:1 for fill heights \leq five feet (measured from the top of the gravel surfacing); 1½:1 for fill heights $>$ five feet. Two feet of widening was provided for the 1½:1 slopes up to ten feet tall, three feet of widening was provided for fill heights over ten feet.
- Cut sections have 12 feet of 4:1 inslope (includes 4 feet of surfacing inslope); 10:1 ditch slopes with varied widths based on drainage and borrow needs, and variable backslopes.

There are several farm field approaches within the project limits, two of which are located on the horizontal curve (one on each side of the road). Adjacent land is undeveloped and primarily used for grazing.

The existing horizontal alignment for the route is poor. The horizontal curve to be reconstructed has a deflection angle of 48°56' LT, a radius of 174.65 meters (573'), and built with little or no superelevation. The minimum radius for the 90 km/hr design speed according to MDT's Geometric Design Criteria is 305 meters (1,000 feet), and requires 8% superelevation.



View of curve from the northwest direction (back on stationing)



View of curve from the southeast direction (ahead on stationing)

Review of the accident details shows that 12 of the 13 crashes involved vehicles traveling north/west, from Red Lodge towards Absarokee. The existing alignment of this project is typical of the horizontal alignment in this direction from Red Lodge. There are five other curves in this stretch that have smaller radii than the minimum required for this route's functional classification and design speed:

- RP 0.75±, curve with a 133°08' deflection angle RT and a 249.51 m radius. The posted speed limit changes from 45 mph (to the south) to 55 mph in the middle of this curve. There are advance warning signs on each end of this curve, but no advisory speed limit signs or chevrons.
- RP 2±, curve with a 74° 0' deflection angle LT and a 244.37 m radius. The posted speed limit is 55 mph through the area of this curve. There are advance warning signs on each end of this curve with 45 mph advisory speed limit signs, and chevrons are in place along the outside of this curve. Fill slopes of this curve have been flattened under an earlier safety project.
- RP 3±, curve with a 71° 50' deflection angle RT and a 174.65 m radius. The posted speed limit is 65 mph through the area of this curve. There are advance warning signs on each end of this curve with 40 mph advisory speed limit signs, and chevrons are in place along the outside of this curve.
- RP 3.45±, curve with an 88° 59' deflection angle LT and a 174.65 m radius. The posted speed limit is 65 mph through the area of this curve. There are advance warning signs on each end of this curve with 40 mph advisory speed limit signs, and chevrons are in place along the outside of this curve.

- RP 4.5±, curve with a 74° 48' deflection angle RT and a 174.65 m radius. The posted speed limit is 65 mph through the area of this curve. There are advance warning signs on each end of this curve with 35 mph advisory speed limit signs, and chevrons are in place along the outside of this curve.

The project curve, at RP 5.5±, is no sharper than the last three curves listed above (same radius, 10° of curvature), has a smaller deflection angle than all, and better sight distance than some. **We recommend that advisory speed limit signs and chevrons be installed at this location, until this safety project can be constructed.** It is possible that driver expectancy of northbound traffic is being violated by the inconsistent signing of curves with the same degree of curvature on this route.

The existing vertical alignment is equally poor through this project location and throughout P-78 in general. All the grades through the proposed project limits are negative (decreasing in elevation in the direction of increased stationing), and vary from -3.86% to -10.81%. Three grades (-5.96%, -10.81%, and -8.38%) exceed the maximum 4% grade for Rural Minor Arterials in rolling terrain. There are three vertical curves completely within the proposed project limits (two sag and one crest), and another crest vertical curve on either end of the project, just outside or partially outside the proposed limits. Of the curves on the project, only one (sag) provides desirable stopping sight distance (SSD); the other two do not meet minimum SSD criteria. The crest curve at the north end of the project provides minimum SSD, but the crest curve immediately south of the project does not.

Traffic Data

The traffic data for the project are as follows:

2002 ADT = 1520
2004 ADT = 1630
2024 ADT = 3240
DHV = 520
T = 2.7%
EAL = 21
AGR = 3.5%

Accident Data

Thirteen accidents were reported for the time period from October 1, 1991 through September 30, 2001 including one accident that resulted in an incapacitating injury and one accident resulting in a fatality. There were nine non-incapacitating injuries. The accident rate was 7.01 and the severity rate was 21.03 compared to statewide rural primary averages of 1.59 and 3.90 respectively. There were no truck accidents.

HES Cluster or Projects:

This section of State Primary 78 was identified as an accident cluster location in 1999 and this project was programmed to address the crash trend. Ten of the thirteen recorded crashes have occurred since 1998.

Remarks:

The crash trend at this location is single vehicles leaving the roadway on the sharp curve. Reconstruction of the curve to a larger radius and slope flattening in this project will reduce the number and severity of crashes.

Major Design Features

Design Speed- the design speed for this project is 90 km/hr based on its functional classification as a Rural Minor Arterial in rolling terrain. The posted speed limit for the roadway is 65 mph (105 km/hr).

Horizontal Alignment- The horizontal alignment will be new, and will be designed to meet or exceed the desirable geometric criteria for the route classification and design speed. There is another horizontal curve (RT) ahead of the subject curve (As-built PI Sta. 311+76), leaving approximately 300 meters (980 feet) of tangent roadway between the two curves. The proximity of this second curve will limit the amount of “flattening” that can be done with respect to the subject curve without extending the project 300 meters or so. We anticipate that the project curve reconstruction can be accomplished using existing tangents and a curve with a radius of 500 meters. This curve will require 7% superelevation, and should provide enough tangent distance to transition to normal crown prior to the right curve beyond the project limits. Spiral transitions will be included since this radius is less than the 1165-meter minimum required for using a circular curve.

Vertical Alignment- There is no way to provide a vertical alignment meeting the geometric criteria for the functional classification and design speed. A constant grade connecting the proposed beginning and end of the project would result in a grade of about 7.2%, well above the 4% maximum. We will, however, design the vertical alignment so that current stopping sight distance criteria is provided. To accomplish this, we will eliminate the two short sag curves on the project, and reconstruct the crest curves at the middle and either end of the project. The crest-sag-crest-sag-crest shown on as-built plans will be replaced with a crest-crest-crest configuration. The actual design alignments (horizontal and vertical) will be designed to best fit project survey, and may not exactly match as-built plans. A design exception will be required for the use of grades exceeding 4% on this project.

Typical Sections- The design surfacing section will be 90 mm of plant mix, on top of 380 mm of crushed aggregate course. This surfacing section is based on the anticipated loading and the AASHTO Low-Volume Design Method. This section provides 50% more gravel, and 80% more plant mix than the existing surfacing that has performed well for over 50 years. The PVMS 2004 Treatment recommendation for this portion of P-78 is to do nothing. This section will be sealed and covered to preserve the new pavement and provide skid resistance.

The finished top width will be 8.4 meters (matching route segment plan) consisting of two 3.6 meter wide driving lanes and two 0.6 meter wide shoulders. Surfacing inslopes will be 6:1±, and standard cut and fill slopes will be provided. Ditch sections will consist of a 3 meter wide, 6:1 inslope and a 3 meter wide, 20:1 ditch slope.

Grading- It is anticipated that both cut and fill sections will be required throughout the project. Grading will be measured and paid as Embankment-In-Place unless the grading quantity exceeds 20 000 cubic meters, or excavation exceeds embankment. Existing topsoil will be salvaged and replaced on the new roadway prism. The existing roadway outside of project's construction limits will be obliterated, reshaped and reseeded. Off site material may be required to complete this project.

Geotechnical Considerations- Cut and fill slopes will be relatively flat based on shallow cut and fill heights. There are no geotechnical issues identified for this project.

Hydraulics- the terrain generally drains from east to west across the road, and ahead on line in roadside ditches. There is an existing 610mm (24") CMP crossing the road at as-built Sta. 297+55. No major drainages cross the roadway within the project. The project is not located in a delineated floodplain. Roadside drainage will be perpetuated as necessary with new cross drains and approach pipes. The condition of the existing, 52 year old, cross drain will be evaluated to determine new culvert materials/coatings necessary for a 75 year design life. There are no irrigation facilities within the limits of this project, and no other hydraulic design (beyond material recommendation) is anticipated for this project,

Bridges- there are no existing bridges within the project limits.

Traffic- Pavement markings, signs, and delineators will be upgraded with this project. The Traffic and Safety Bureau is requested to provide recommendations (size, spacing, etc.) with respect to the installation of interim chevrons and advisory speed limit signs, recommended elsewhere in this report. District maintenance personnel will install these signs.

Pedestrian/Bicyclist Considerations-Due to the rural environment and limited scope of work for this project, no pedestrian/bicyclist features or enhancements will be included.

Miscellaneous Features- New fencing will be placed along the new highway right of way.

Design Exceptions

A design exception will be requested for use of roadway gradients greater than 4%, as noted in the vertical alignment section of this report. No other exceptions to MDT geometric design criteria are anticipated.

Right of Way

Right of Way acquisition will be required for this project. As-built plans indicate that the PTW is inside a 39.62 meter wide (130') corridor throughout the proposed project limits. New right of way will be located based on standard design practices; the adjacent properties are not developed and acquisition should not be difficult. The Right of Way Bureau will determine and request the necessary section corner ties and right of way retracement for this project.

Utilities/Railroad

There will be no railroad involvement with this project. There is an overhead power line along the west side of the road and an underground phone line along the east side. The power line

moves away from the road in the area of the curve and will not likely be impacted by this construction. The telephone line, in the east ditch, doesn't appear to be in conflict with the curve reconstruction, however reclamation of the PTW will impact it (pedestals), and it will likely be relocated to the new public right of way.

Environmental Considerations

A programmatic categorical exclusion will be prepared for this project following a review of cultural and biological resources and the preparation of the public involvement plan. There are no apparent wetlands or hazardous materials on the project, and this construction is not likely to adversely affect threatened or endangered species. This project should have no 4(f), 6(f), SPA 124, nor COE 404 involvement. Temporary erosion control will be accomplished utilizing Best Management Practices.

Temporary Traffic Control

It is anticipated that flattening the curve will result in a substantial offset to the existing alignment for most of the project length. Traffic can be maintained on the PTW for a majority of the grading work at least. Staged construction under traffic will be necessary for tying the new curve into the PTW during surfacing construction. Traffic will be maintained throughout the project construction locations with appropriate signing and flagging in accordance with the Manual of Uniform Traffic Control Devices.

Survey

A survey request was previously submitted for this project, and some survey has been completed. This project will be designed on the state plane coordinate system with control established by GPS. The level datum will be NAVD 1988. The project has been flown and aerial photos taken. The Photogrammetry Unit will complete the planimetric/digital terrain mapping. Department forces will locate underground utilities. The Right of Way Bureau will determine and request the necessary section corner ties and right of way retracement for this project.

Public Involvement

A level B public involvement plan will be developed for the project. This plan will include:

- A news release to the appropriate newspapers, radio stations and television stations explaining the project and including a department point of contact.
- Personal contacts with local government officials and interest groups.
- Personal contacts with adjacent landowners explaining the final design.
- An informational meeting, if the community expresses interest.
- Construction notification and information during construction.

Other Projects

As mentioned previously in this report, an adjacent reconstruction project (Red Lodge – North) is planned for the 5.2 mile long section of P-78 south and east of this project. MDT will complete the control and engineering survey for this project; a consultant will complete all other survey and design. This project is currently in the TCP for construction beyond FY 2008.

Preliminary Cost Estimate

The estimated cost for this project is:

CN = \$599,300

CE = \$ 60,000

Total \$659,300

Project Management

Headquarters Road Design Section will design this project, and Damian Krings will be the Design Project Manager.

Ready Date

A project ready date will be determined for this project after overrides have been completed in OPX2.

8 km NW RED LODGE

CN 4720

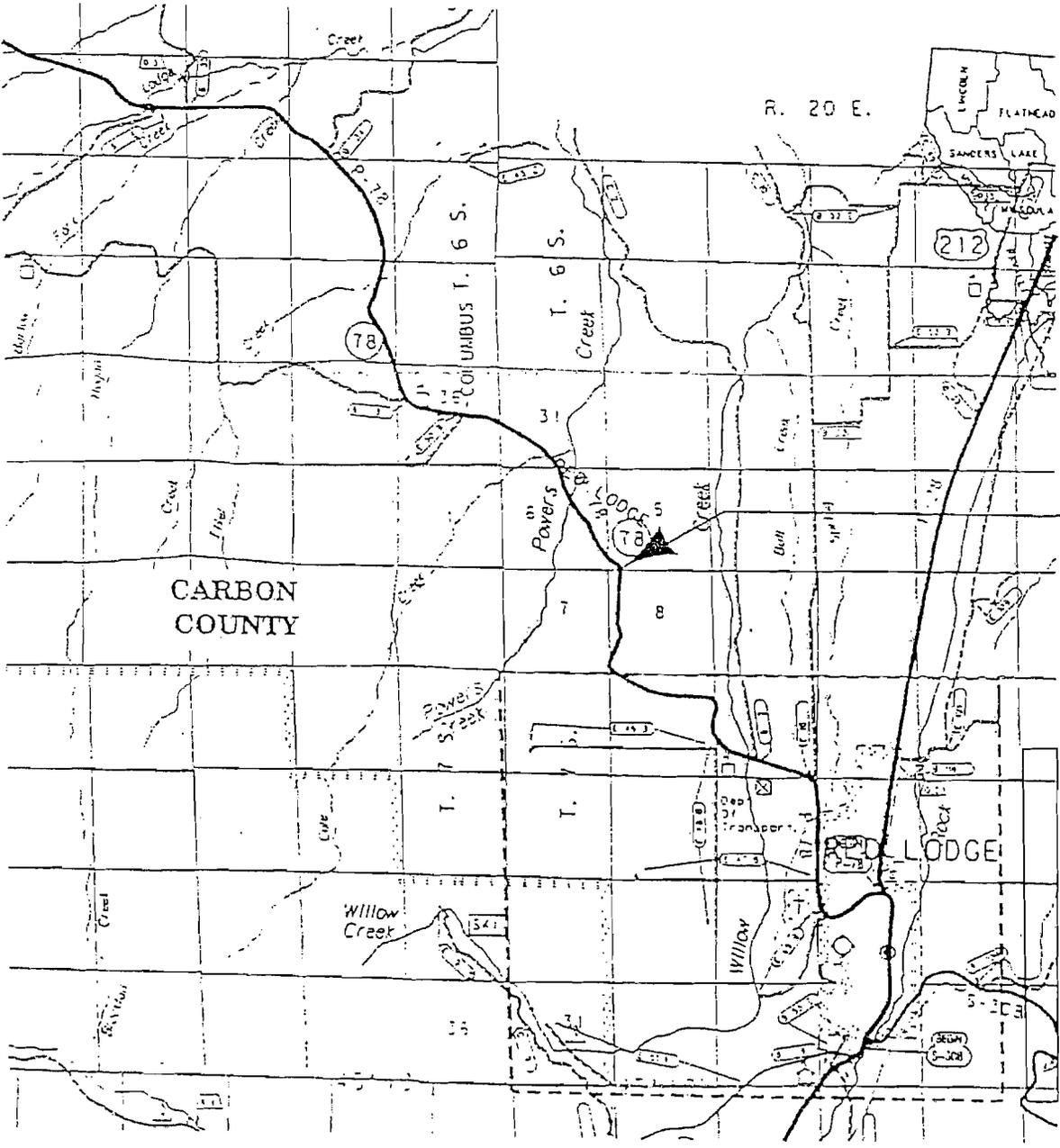
R. 19 E.

STPHS 78-1(7)5

T. 6 S.

T. 7 S.

R. 20 E.



THIS PROJECT
RP 5.2 - 5.6



RECEIVED Montana Department of Transportation

David A. Galt, Director
Judy Martz, Governor

AUG 16 2004

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

2004080202

ENVIRONMENTAL

MASTER FILE COPY

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AUG 16 2004
BY: _____

July 30, 2004

Mark Baumler, Ph.D.
State Historic Preservation Office
1410 8th Avenue
P O Box 201202
Helena, MT 59620-1202

Subject: STPHS 78-1(7)5
(2000- SFTY IMP-8 km NW of Red Lodge)
Control No. 4720

Josef
MDT
2000-SFTY IMP-
8 km NW of
Red Lodge

Dear Mark:

Enclosed is the cultural resource report and CRABS for the above project in Carbin County northwest of Red Lodge. No archaeological or historic sites were identified in the project area. We request your concurrence.

If you have any questions, please contact me at 444-6258.

Jon Axline
Jon Axline, Historian
Environmental Services

**CONCUR
MONTANA SHPO**

DATE 13 Aug 04 SIGNED

Jon Axline

Enclosures

cc: Bruce Barrett, Billings District Administrator
Paul Ferry, Highway Engineer
Bonnie Steg, Resources Section

file: MDT/2004

CARBON COUNTY NEWS

Red Lodge MT 59068

Thursday

DEC 16 2004

Superior Clipping Service

Glendive MT 406-377-6612

STPHS 78-1(7)5

2000-SFTY IMP-8KM NW RED LODGE

(PPMS-OPX2 C#4720)

Highway 78 curve reconstruction planned

The Montana Department of Transportation is planning a small project to reconstruct a curve on Montana Route 78, northwest of Red Lodge. The project will begin near milepost 5.2 and proceed north to mile post 5.6. The proposed project

location was nominated as a safety project to correct an identified accident cluster.

The project will include flattening the curve and improving sight distance, resurfacing and slight widening of the road to meet current design stan-

dards.

The purpose of the project is to reduce the number and severity of crashes at this location.

New right of way will be required.

The department currently anticipates work to

begin in the 2007 construction season, depending upon completion of design and availability of funds.

For more information on this project please phone (406) 252-4138 or (888) 863-8465. For TTY (800) 335-7592.