



September 16, 2013

Brian Hasselbach
Federal Highway Administration (FHWA)
585 Shepard Way
Helena MT 59602

Subject: Statewide Programmatic Categorical Exclusion for Pavement Preservation Projects
IM 94-5(37)163
Prairie CO Line-East (EB)
UPN 7941000

Dear Brian Hasselbach:

The MDT Environmental Services Bureau has reviewed the Preliminary Field Review/Scope of Work Report (PFR/SOW) for the subject project. Based on the completed Environmental Checklist for Pavement Preservation Projects (Checklist), we conclude that the Statewide Programmatic Categorical Exclusion for these types of projects would cover this project. For your information, I have attached a copy of the PFR/SOW and the signed Environmental Checklist. Environmental-related Special Provisions are not anticipated at this time.

If you have questions or concerns, please contact Tom Atkins at 444.7202. We will be pleased to assist you.

Sincerely,

Heidi Bruner, P.E.
Environmental Services Bureau Engineering Section Supervisor

Attachments: PFR/SOW Report, Environmental Checklist

Enclosure

e-copies w/checklist encl.:

- Shane Mintz, Glendive District Administrator
- Tom Martin, P.E., Environmental Service Bureau Chief
- Heidi Bruner, P.E., ESB Engineering Section Supervisor
- Paul Ferry, P.E., Highways Engineer
- Kevin Christensen, P.E., Construction Engineer
- Suzy Price, Contract Plans Bureau Chief
- Lisa Hurly, Fiscal Programming
- Tom Erving, Fiscal Programming
- Montana Legislative Branch Environmental Quality Council
- File

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(FOR PROJECTS WITH NO RIGHT-OF-WAY INVOLVEMENT)

Applicant cannot be authorized to proceed with the proposed work until ALL of the conditions of the checklist have been satisfied.

ENVIRONMENTAL CHECKLIST FOR PAVEMENT PRESERVATION PROJECTS
 (CRACK SEALING, SEAL & COVER, THIN OVERLAYS, MILL & FILL, PLANT MIX LEVELING, MILL OGFC, MICRO SURFACING, FOG SEAL)

Project Number: IM 94-5(37)163 **Control No** 7941000 **Project Name:** Prairie CO Line-East (EB)
Reference Post (Station): 163.4 **To Reference Post (Station):** 169.5
Applicant's Name: Montana Department of Transportation **Address:** PO Box 201001; Helena, MT 59620-1001
Type of Proposed Pavement Preservation Activity: Mill/Fill, Seal and Cover, Bridge deck repair, guardrail

IMPACTS ON THE PHYSICAL ENVIRONMENT (TO BE COMPLETED BY APPLICANT)			
Impact Questions	[Y/N] There are Potential Impacts, or Item Requires Documentation, Evaluation, Mitigation Measures, and/or (a) Permit(s).		
	Yes	No	Comment (Use attachments if necessary)
1. Does the proposed action require work in, across, and/or adjacent to a listed or proposed Wild or Scenic River? (See http://www.rivers.gov/wildriverslist.html)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2a. Are there any listed or candidate threatened or endangered species in the vicinity of the proposed activity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Unknown
2b. Will the proposed action adversely affect listed or candidate threatened or endangered species, or adversely modify critical habitat?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Unknown
3. Will the proposed action have potential to affect water quality? If 'Yes', an environment-related permit or authorization may be required. If 'No', go to question 4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3a. If the answer to question 3 is yes, is a Clean Water Act Section 402 permit (i.e., MPDES or NPDES permit) required? (Need for an MPDES or NPDES is generally triggered by a disturbance area equal to or greater than one acre.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A
3b. Is the proposed project within an MS4 Permit Area? (See http://deq.mt.gov/wqinfo/MPDES/StormWater/ms4.mcp). (Billings, Great Falls, and Missoula Urbanized areas, and Butte, Bozeman, and Helena)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4. Does the proposed project have impacts to wetlands, streams, or other water bodies? If 'No', go to question 5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4a. If the answer to question 4 is 'Yes', is a Clean Water Act Section 404 permit authorization required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A
4b. If the answer to question 3 or 4 is 'Yes', is a Stream Protection Act 124SPA consultation required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A
5. Are solid wastes, hazardous materials or petroleum products likely to be encountered? (For example, project occurs in or adjacent to Superfund sites, known spill areas, underground storage tanks, or abandoned mines.) (See http://nris.mt.gov/deq/remsitequery/portal.aspx)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6. Is the proposed activity on and/or within approximately 1 mile of an Indian Reservation? If answer is 'No', go to question 7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
6a. Are any Tribal water permits required?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A
7. Is the proposed project in a "Class I Air Shed" or a nonattainment area? (See http://deq.mt.gov/AirQuality/Planning/AirNonattainment.mcp) (Class I Air Sheds include the Northern Cheyenne, Flathead, and Fort Peck Reservations; Glacier and Yellowstone National Parks; Anaconda-Pintlar, Bob Marshall, Cabinet Mountains, Gates of the Mountains, Medicine Lake, Mission Mountain, Red Rock Lakes, Scapegoat, Selway-Bitterroot, and U.L Bend Wilderness Areas)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Checklist prepared by: Kevin Gilbert *KJG*
 Applicant

Project Design Engineer
 Title

9/5/2013
 Date

Approved by: *[Signature]*
 Environmental Services

ENVIRONMENTAL ENGINEERING SECTION SUPERVISOR
 Title

9/18/13
 Click here to enter a date.
 Date



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Paul Ferry, P.E.
Highways Engineer

From: Damian Krings, P.E.
Road Design Engineer

Date: September 5, 2013

Subject: **IM 94-5(37)163**
Prairie CO Line-East (EB)
UPN 7941000
Work Type 160-Minor Rehabilitation

Please approve the attached Preliminary Field Review Report/Scope of Work Report.

Approved LESLEY TRIBELHORN Date Sept. 6, 2013
Paul Ferry, P.E.
Highways Engineer

The same report is also being distributed under a separate cover as a Scope of Work Report for comments and approval recommendations.

cc (w/attach.):
Damian Krings, Road Design Engineer
Highways File

Preliminary Field Review/Scope of Work Report

IM 94-5(37)163, Prairie CO Line-East (EB), CN 7941000
Project Manager: Steve Heidner, P.E.

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Introduction

A field review was held August 15, 2013. The following attended:

Shane Mintz, DA-Glendive	Steve McEvoy, Surfacing-Helena
Jim Frank, DPE-Glendive	Larry Sickerson, Environmental-Helena
Steve Heidner, DPDE-Glendive	Scott Walter, Bridge-Helena
Kevin Gilbert, Road Design-Helena	Mike Skillestad, Maintenance-Glendive
Jay Fleming, DCOE-Glendive	*Randy Robertson, Maintenance-Terry
Shane Jarvis, Road Design-Glendive	*Field Only

Proposed Scope of Work

Scope of work includes:

Mill/Fill Driving Lane only 14 ft. width, 0.20 ft. depth, 3/4" Grade S PG 70-28 at 5.1%, (EB only)

Seal and Cover

30-year bridge end design

Leveling: 250 tons/mile (full width)

Cold Millings to be used on the project or offered to Prairie County or the contractor

Rumble Strips

Remove bridge approach slabs

Bridge Work: Remove asphalt from deck, Class A deck repair, deck sealer, replace bridge rail

Evaluate rusted culverts that were either used as is or extended in 1998 between RP 163.8 and RP 165.1

Replace bituminous curb with concrete curb

Purpose and Need

The purpose of this project is to extend the existing pavement life and provide a safer, smoother riding surface.

Project Location and Limits

- Counties: Prairie, T 11 N, R 50 E
- Route and Functional Classification: Interstate 94
- Begin Eastbound: RP 163.4±, as-built eastbound station 758+93.90 on I 94-5(12)160, 1971
- End Eastbound, RP 169.5±, as-built eastbound station 1091+90.50 on I 94-5(12)160, 1971, west end of the Powder River Bridge approach slab
- Length: Eastbound 6.1 miles

Work Zone Safety and Mobility

At this time, Level 3 construction zone impacts are anticipated for this project as defined in the Work Zone Safety and Mobility (WZSM) guidance. The plans package will include a Traffic Control Plan (TCP). These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

Physical Characteristics

a. As-builts:

This section of roadway was reconstructed in 1971 with project I 94-5(12)160.

The following are recent improvements:

IM 94-5(27)163, RP 162.5 to RP 170, Overlay 1998

Preliminary Field Review/Scope of Work Report

IM 94-5(37)163, Prairie CO Line-East (EB), CN 7941000

Project Manager: Steve Heidner, P.E.

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b. Pavement width and number of lanes:

The pavement width is approximately 38 ft. converted from metric which includes 2-12 ft. driving lanes and a 4 ft. median shoulder and a 10 ft. outside shoulder.

c. Surfacing:

The existing surfacing is approximately 6 inches on a 22 inch base according to the MDT Roadlog. This depth matches the 1998 as-builts.

*PvMS Index Numbers & Recommended Treatments for 2013 and 2015:

Section	Ride	Rut	ACI	MCI	Construction	Maintenance
RP 163.40 to RP 169.45R Year 2015	75.7	56.2	96.4	96.8	AC Crack/S&C Minor Rehab-Rut	AC Crack/S&C Maint. Rut Fill

d. Thickness of existing overlays:

The latest overlay in 1998 was 0.35 ft. mill/fill in both driving lanes with hot recycled plant mix covered by 0.15 ft. plant mix overlay full width. Seal and cover and rumble strips were also included in this last overlay.

e. Terrain:

The existing terrain is rural rolling pasture and farmland.

f. Existing horizontal and vertical alignments:

The horizontal and vertical alignments will not be affected by this overlay project.

g. Existing Structures:

Sep County Road (EB) – 11M SW Terry NBI I00094165+01051
MP 165.10

Built in 1971 under contract I94-5(12)160 (Drawing 9631)

SR = 93.8 (Functionally Obsolete)

Length: 78 ft. Width: 41ft.-6in (face of curb to face of curb)

There are also 2-20 ft. concrete approach slabs.

Camp Creek – 11M SW Terry NBI I00094165+02691
MP 165.28

Built in 1971 under contract I94-5(12)160

SR = 65.0 (Not Deficient) Length: N/A Width: N/A

Culvert

Int. Powder River (EB) – 7M SW Terry NBI I00094169+01011
MP 169.08

Built in 1971 under contract I94-5(12)160 (Drawing 9633)

SR = 93.8 (Functionally Obsolete)

Length: 78 ft. Width: 41ft.-6in (face of curb to face of curb)

There are also 2-10 ft. concrete approach slabs.

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Traffic Data

RP 163.4 to RP 169.5 (EB only)	
2012 AADT	2,400 – Present
2016 AADT	2,740 – Letting Year
2036 AADT	5,300 – Design Year
DHV	1230
D	EB-51%
T	30.7%
EAL	1313
AGR	3.4%

Crash Analysis

The following is from Safety Management's memo dated September 7, 2012.

The analysis is for Interstate 94 from RP 163.4 to RP 169.5 (eastbound lanes only) for the 10 ½-year period January 1, 2002 through June 30, 2012.

ENGINEERING STUDY EVALUATION DATE:	August 27, 2012
DESCRIPTION: Prairie CO Line-East (EB)	
ROUTE & RP: I-94 RP 163.4 to RP 169.5	
DATA TIME FRAME: 01-01-2002 TO 06-30-2012	
STATEWIDE AVERAGE RURAL INTERSTATE ROUTES (2007-2011)	STUDY AREA (2002-2011)
ALL VEHICLES CRASH RATE:	0.90 ¹⁾ 0.89 ¹⁾
ALL VEHICLES SEVERITY INDEX:	1.83 ²⁾ 1.18 ²⁾
ALL VEHICLES SEVERITY RATE:	1.64 ³⁾ 1.05 ³⁾
TRUCK CRASH RATE:	0.54 ⁴⁾ 0.72 ⁴⁾
TRUCK SEVERITY INDEX:	1.81 ⁴⁾ 1.00 ⁴⁾
TRUCK SEVERITY RATE:	0.98 ⁴⁾ 0.72 ⁴⁾
TRUCK CRASHES:	8
TOTAL RECORDED CRASHES:	35

1) Crash rates are defined as the number of crashes per million vehicle miles.

2) Severity index is defined as the ratio of the sum of fatal and incapacitating injury crashes times 8 plus the number of other injury crashes times 3 plus the number of property damage crashes to the total number of crashes.

3) Severity rate is defined as the crash rate multiplied by the severity index.

4) Statewide average truck accident rate, truck severity index, and truck severity rate are for the years 2007 through 2011.

I. VARIATIONS FROM AVERAGE OCCURRENCE:

- 57.1% of the crashes occurred during dark not-lit light conditions vs. 37.6% statewide average for rural interstate.
- 85.7% of the crashes occurred during dry road conditions vs. 53.0% statewide average for rural interstate.

II. CRASH CLUSTERS OR SAFETY PROJECTS:

In 2000, the section between reference point 141.150 and reference point 185.5 was identified as a crash cluster. As a result, under project STPHS 94-4(66)14, UPN 4712000, wild animal exclusionary fencing was installed in 2007. The limits for the animal exclusionary fencing were modified to RP 152.1 to RP 169.8.

III. REMARKS & RECOMMENDATIONS:

Preliminary Field Review/Scope of Work Report

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The main crash trend was single vehicle crashes (33 crashes). Of the single vehicle crashes, 6 resulted in the vehicle overturning, 21 were wild-animal vehicle collisions and the remaining 8 crashes involved collisions with roadside features.

Please note that since the completion of the wild animal exclusionary fencing there has been a 97% reduction in wild animal-vehicle collisions. There were only 18 total crashes from RP 163.4 to RP 169.5 since the completion of the wild animal exclusionary fencing, 2 of which involved a collision with a wild animal.

There were also three median crashes throughout the study area, two of which resulted in the vehicle overturning. The remaining crash went across the median and struck a fence. The severity index and severity rate are below the statewide averages for rural interstate routes; while the crash rate is equal to the statewide average for rural interstate routes.

The first six-month period from January 1, 2012 through June 30, 2012 was also queried one crash has occurred during this time.

Major Design Features

- a. **Design Speed.**
The design speed for this interstate in rolling terrain is 60 mph. The posted speed is 75 mph for passenger vehicles and 65 mph for trucks.
- b. **Horizontal Alignment.**
This project will not affect the horizontal alignment.
- c. **Vertical Alignment.**
This project will not affect the vertical alignment.
- d. **Typical Sections and Surfacing.**
Mill/Fill driving lane of EB 0.20 ft. depth, 14 feet wide, with Grade S 3/4". Use PG 70-28 and asphalt cement content of 5.1%. Seal and cover full width.
- e. **Geotechnical Considerations.**
No geotechnical considerations were identified at the preliminary field review.
- f. **Hydraulics.**
Maintenance is concerned about culverts between RP 163.8 and RP 165.1. According to the as-built project plans IM 94-5(27)163, 1998, there are 11 culverts within this RP range. Nine of the culverts are 24", one is 36", and one is 12 ft. These culverts were either used in place or extended. Maintenance has observed rust in some of the culverts. The Glendive District Lab will run the culvert camera through these culverts and then a determination will be made on what to do if anything depending on the condition of these culverts. If culvert work is deemed necessary and is added to this project, then a scope of work addendum will be provided that describes the culvert work and the environmental documentation will be reevaluated at that time.

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g. **Bridges.**

Sep County Road (EB) – 11M SW Terry
MP 165.10

NBI I00094165+01051

Remove asphalt, class A deck repair, deck sealer, remove approach slabs, replace bridge rail to barrier and upgrade bridge approach sections

Int. Powder River (EB) – 7M SW Terry
MP 169.08

NBI I000094169+01011

Class A deck repair, deck sealer, remove approach slabs, replace bridge rail to barrier and upgrade bridge approach sections

h. **Traffic.**

The Traffic Section will determine if the existing signing meets reflectivity requirements and if the delineation needs to be upgraded or not. The Traffic Section will also provide pavement marking quantities.

i. **Pedestrian/Bicycle/ADA.**

There is no designated pedestrian or bicycle paths on this route.

j. **Miscellaneous Features.**

Guardrail:

There is both w-beam at the interchanges and Wyoming box beam on this project. The existing guardrail has optional terminal sections. The bridge rail will be upgraded to a concrete barrier rail at the current standard height. The bridge approach sections will need to be replaced and will be replaced with box beam to alleviate any snow drifting issues. The end sections will be new box beam terminal sections. There is also one short existing run of guardrail that will be upgraded to box beam to alleviate snow drifting and replace substandard concrete posts.

Salvage:

The existing bridge rail will be salvaged to Maintenance.

Rumble Strips:

New rumble strips will be installed.

Fencing:

Fencing appeared to be in good condition and will not be included in this project.

Interchanges:

Work will only be done on the mainline. The chip seal on the ramps was in good condition on this low volume, local ranch access interchange; therefore, the ramps will not be included in this project.

Cold Milling:

The millings on this project will offered to Prairie County then to the contractor. Maintenance does not want them.

Digouts:

The bridge approach slabs will be removed on both structures and the 30 year bridge end design will be included per the standard detail.

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k. **Context Sensitive Design Issues.**

No context sensitive design issues were raised at the preliminary field review.

Other Projects

Project NHPB-STPB STWD (208), BR Deck Terry-Fallon Area, CN 8127000 is in the vicinity of this project. The bridge deck repair project begins at the Powder River Bridge which is just off of the end of this project. No ready date has been set at this time.

Location Hydraulics Study Report

A Location Hydraulic Study Report will not be needed for this project.

Design Exceptions

No design exceptions are needed for this project.

Right-of-Way

No right of way acquisition or construction permits will be needed for this project.

Access Control

No changes to the current access control level are anticipated with this project.

Utilities/Railroads

No utility conflicts are anticipated with this project.

Cold-In-Place Recycle (for mill & overlay projects only)

CIR is not a viable option for this project as this project provides for leveling full width and a mill/fill just in the driving lane to address rutting.

Maintenance Items

From RP 164.7 to RP 165 there is a drainage issue in the median. MDT Maintenance will address this issue and it will not be included in this project. Maintenance has concerns about the condition of nine-24" and one-36" existing culverts. These pipes will be evaluated and if something can be done with this project, the culvert work will be added.

Intelligent Transportation Systems (ITS) Features

No ITS features will be included in this project.

Survey

No survey needs were identified at the preliminary field review.

Public Involvement

It is anticipated that the following level of public involvement will be sufficient at this time:

Level A

News release explaining the project and including a department point of contact.

Environmental Considerations

A programmatic categorical exclusion environmental checklist is appropriate for this project as the scope is currently defined. If culvert work needs to be added, then the culvert work will be described in a scope of work addendum and the environmental documentation will be reevaluated at that time.

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If situations are observed during construction that may potentially impact water quality, including wetland areas, utilize Best Management Practices (BMP) and/or temporary erosion control measures as necessary to protect the resource. Refer to Section 208 of the MDT Detailed Drawings (2005 English edition) for erosion and sediment control Best Management Practices. The installation of temporary erosion control measures will be paid as "Miscellaneous Work." No water quality permits are anticipated at this time.

Environmental will provide any necessary environmental related special provisions.

Energy Savings/Eco-Friendly Considerations

No energy savings/eco-friendly considerations were discussed for this pavement preservation project.

Experimental Features

No experimental features were discussed at the field review for this pavement preservation project.

Traffic Control

A traffic control plan will be developed as the design of the project progresses. Traffic will be maintained during construction activities throughout the project. Appropriate traffic control devices and signing will be used throughout the project in accordance with the *Manual of Uniform Traffic Control Devices*.

Project Management

Steve Heidner of the Glendive District Office will be the project manager. This project is not under full FHWA oversight.

Preliminary Cost Estimate

The following is taken from the nomination estimate on PPMS. The estimate will be updated at plan review stage when quantities are available.

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	\$840,000		
New Structure			
Remove Structure			
Detour			
Traffic Control	\$101,000		
Subtotal	\$941,000		
Mobilization (10%)	\$95,000		
Subtotal	\$1,036,000		
Contingencies (10%)	\$104,000		
Total CN	<u>\$ 1,140,000</u>	<u>\$ 128,000</u>	<u>\$ 1,408,000</u>
CE (10%)	<u>\$ 110,000</u>	<u>\$12,000</u>	<u>\$ 136,000</u>
TOTAL CN+CE	<u>\$1,250,000</u>	<u>\$ 40,000</u>	<u>\$ 1,544,000</u>

Note: Inflation is calculated in PPMS to the letting date. If there is no letting date, the project is assumed to be inside the current TCP and is given a maximum of 5 years until letting. IDC is calculated at 9.12% for FY 2014.

