



June 14, 2011

Alan Woodmansey, P.E.  
Great Falls and Billings Districts Operations Engineer  
Federal Highway Administration (FHWA)  
585 Shepard Way  
Helena MT 59602



Subject: Statewide Programmatic Categorical Exclusion for Pavement Preservation Projects  
IM 15-5(119)248  
Hardy Cr.-North-NB  
Control Number: 7451000

Dear Alan Woodmansey:

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 (including the location map) and the signed Environmental Checklist. Environmental-related Special Provisions will be included in the contract plans.

If you have questions or concerns, please contact Eric Thunstrom at 444-7648. He will be pleased to assist you.

Sincerely,

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

Attachments: Environmental Checklist, PFR/SOW Report

electronic copies with attachment (Checklist only, unless noted):

- Michael P. Johnson                      Great Falls District Administrator
- Tom Martin, P.E.                        Environmental Services Bureau Chief
- Heidi Bruner, P.E.                      Environmental Services Bureau Engineering Section Supervisor
- Eric Thunstrom                         Environmental Services Bureau Project Development Engineer
- Paul Ferry, P.E.                         Highways Engineer
- Dustin Rouse, P.E.                     Road Design Area Engineer
- Kevin Christensen, P.E.               Construction Engineer
- Suzy Price                                Contract Plans Bureau Chief
- Dawn Stratton                         Fiscal Programming Section
- Montana Legislative Branch Environmental Quality Council (w/ PFR/SOW also)
- File                                        Environmental Services Bureau

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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 15-5(119)248 Control No.: 7451000 Project Name: Hardy Cr.-North-NB

Reference Post: 247.8 To Reference Post: 256.5

Applicant's Name: Montana Department of Transportation Address: PO Box 201001; Helena, MT 59620-1001

Type of Proposed Pavement Preservation Activity:

Type of Proposed Pavement Preservation Activity: Rut mill & fill in driving lane, seal & cover

IMPACTS ON THE PHYSICAL ENVIRONMENT (TO BE COMPLETED BY APPLICANT)

Table with 3 columns: Impact Questions, Yes, No, Comment (Use attachments if necessary). Includes questions 1 through 7 regarding environmental impacts like Wild or Scenic River, endangered species, water quality, wetlands, and air quality.

MASTER FILE COPY

Checklist prepared by:

Dustin Rouse

Applicant

Project Design Engineer

ENVIRONMENTAL ENGINEERING

SECTION SUPERVISOR

5/17/2011

Date

Approved by: [Signature]

Environmental Services

Click here to enter text.

Title

JUN 14 2011

Click here to enter a date.

Date



Montana Department of Transportation

PO Box 201001

Helena, MT 59620-1001

Memorandum

To: Distribution
From: Paul Ferry, P.E. LT for PF
Highways Engineer
Date: May 26, 2011
Subject: IM 15-5(119)248
Hardy Cr.-North-NB
UPN 7451000
Work Type: 180 Resurfacing - Asphalt(Thin Lift <= 0.20 ft)

Attached is the Preliminary Field Review Report/Scope of Work Report which was approved on \_\_\_\_\_. We request that those on the distribution review this report and submit your concurrence within two weeks of the approval date.

Your comments and recommendations are also requested if you do not concur or concur subject to certain conditions. When all personnel on the distribution list have concurred, and the environmental documentation is approved, we will submit this report to the Preconstruction Engineer for approval.

I recommend approval:

Approved \_\_\_\_\_ Date \_\_\_\_\_

Distribution:

- Michael Johnson District Administrator
Kent Barnes, Bridge Engineer
Tom Martin, Environmental Services Bureau Chief
Duane Williams, Traffic and Safety Engineer
Robert Stapley, Right-of-Way Bureau Chief
Paul Ferry, Highways Engineer
Lynn Zanto, Rail, Transit, & Planning Division Administrator
Jake Goettle, Construction Engineering Services Bureau
Matt Strizich, Materials Engineer
Jon Swartz, Maintenance Administrator
Roy Peterson, Traffic and Safety Engineer

CC:

- Dawn Stratton, Fiscal Programming Section
Dustin Rouse, Project Design Manager, GF District
Master file
Damian Krings, Road Design Engineer

e-copies:

- Jim Walther, Engineering, Preconstruction Engineer
Lesly Tribelhorn, Highways Design Engineer
Mark Goodman, Hydraulics Engineer
Kurt Marcoux, District Hydraulics Engineer
Bonnie Gundrum, Env. Resources Section Supervisor
Paul Sturm, District Biologist
Eric Thunstrom, District Project Development Engineer
Bill Rabey, Environmental Services
Ivan Ulberg, District Traffic Project Engineer
Kraig McLeod, Safety Management Engineer
Stephanie Brandenberger, Bridge Area Engr., GF District
Matt Strizich, Materials Engineer
Daniel Hill, Pavement Analysis Engineer
Lee Grosch, District Geotechnical Manager
Bryce Larsen, Supervisor, Photogrammetry & Survey
Marty Beatty, Engineering Information Services
Paul Grant, Public Involvement Officer
Dawn Stratton, Fiscal Programming
Jean Riley, Planner
Jake Goettle, Construction Bureau - VA Engineer
Steve Prinzing, District Preconstruction
Christie McOmer, District Projects Engineer
Stan Kuntz, GF District Materials Lab
Tony Strainer, GF District Maintenance Chief
Walt Scott, R/W Utilities Section Supervisor
David Hoerning, R/W Engineering Manager
Greg Pizzini, Acquisition Manager
Joe Zody, R/W Access Management Section Manager
Paul Johnson, Project Analysis Bureau
Sue Sillick, Research Section Supervisor
Alice Flesch, ADA Coordinator
Mark Keeffe, Bicycle/Pedestrian Coordinator
Becky Duke, Traffic Data Collection Section Supervisor (WIM)
Alyce Fisher, Fiscal Programming
Gary Engman, Great Falls Maintenance
Gerry Brown, Construction Engineering Services



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

**Memorandum**

To: Paul R. Ferry, P.E.  
Highways Engineer

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

Date: May 26, 2011

Subject: IM 15-5(119)248  
Hardy Cr.-North-NB  
UPN 7451000  
Work Type: 180 Resurfacing - Asphalt(Thin Lift  $\leq$  0.20 ft)

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

*Signed by Lesly for Paul on May 27, 2010*

Approved \_\_\_\_\_ Date \_\_\_\_\_  
Paul R 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  
Master file

## Preliminary Field Review/Scope of Work Report

IM 15-5(119)248 Hardy Cr.-North NB  
Project Manager :Dustin Rouse

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### Introduction

A PFR was held on this project April 27, 2011 with the following people in attendance.

Steve Prinzing	MDT-Great Falls District
Scott Bunton	MDT-Road Design
Jim Dunbar	MDT-Road Design
Steve McEvoy	MDT-Surfacing
Gerry Brown	MDT-CESS Lewistown
Dennis Oliver	MDT-Maintenance
Dave Hand	MDT-Maintenance

### Proposed Scope of Work

The proposed scope of work for this project is to mill & fill the driving lanes 0.20' deep, seal & cover the entire roadway. We should also seal & cover the gore areas, ramps and cross roads not being done with Cascade-N&S. The rumble strips on the outside of the roadway are the old pressed in type. The rumble strips on the inside appear newer and are milled in. We will seal & cover the entire roadway, which will likely almost completely fill in the old driving lane rumble strips and cut in new standard rumble strips on this side. New pavement marking will be needed throughout. The signage was from 1996 and will need replacement. It was also noted the delineators are in poor shape, especially the ones on the w-beam guardrail tabs and needs replacement. The County Road Separation Northbound structure @ station 1842+74.6 and the North Cascade Northbound Interchange structure @ station 2095+18.80, were missing sealant between the slabs. Bridge will incorporate this into the plans.

### Purpose and Need

The project has substantial ruts in the driving lane and needs a rut mill & fill to preserve the roadway surface and ride.

### Project Location and Limits

- a. The project is in Cascade County.
- b. The project ends at the northern Cascade Interchange.
- c. The project is on Interstate Route 15.
- d. This project is functionally classified as a Rural Principal Arterial - Interstate.
- e. The project runs on the northbound lanes from reference point 247.8 to 256.5.
- f. The project length is 8.7 miles.
- g. The project crosses route L-7-2483 at R.P. 250.441(Tintinger Int.), P-68 at R.P. 254.957(S. Cascade Int.), and P-68 at R.P. 256.482(N. Cascade Int.).
- h. There are 6 bridges on the project.
- i. The project ends at Cascade.
- j. The project was originally constructed with F 172 B in 1931. It was then reconstructed in 1963 to a 44.0' top with I 15-5(13)239. The southbound lanes were added in 1977 with I 15-5(50)239. It was last overlaid to a 41.6' top in 1993 with IM 15-5(89)248. It was last seal & covered with a 41.6' top in 2006 with IM 15-5(108)248.
- k. The project begins at R.P. 247.8, which is the end of IM 15-4(130)237, which was last overlaid in 2010. The project ends at R.P. 256.5, which is the beginning of IM 15-5(93)256 and was last overlaid in 1997 and last seal & covered in 2007 with IM 15-5(114)257.
- l. The project stationing runs from south to north with reference posts.
- m. MDT Maintenance has requested that three u-turn locations be relocated near this project. The following relocation sites are currently under review:

## Preliminary Field Review/Scope of Work Report

IM 15-5(119)248 Hardy Cr.-North NB  
Project Manager :Dustin Rouse

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- Remove 251.3 and relocate to 251.9 (better plow pattern and sight distance)
- Remove 258.3 and relocate to 257.1 (better plow pattern for both Cascade Interchange cleaning). This is 0.6 miles beyond the project limits, but will be added to this project.
- Remove 260.6 and relocate to 262.45 (better plow pattern). This is 5.95 miles beyond the end of the project limits, but will be added to this project.

Due to two of the relocation sites being outside of the current project limits, the project limits may need to be expanded to incorporate this work into the project.

### Work Zone Safety and Mobility

At this time, Level 2 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 Transportation Management Plan (TMP) consisting mainly of a Traffic Control Plan (TCP). A limited Public Information (PI) component to address lane closures and wide load detours will also be included in the plan package. These issues are discussed in more detail under the Traffic Control and Public Involvement sections.

### Physical Characteristics

- a. The project was originally constructed with F 172 B in 1931. It was then reconstructed in 1963 to a 44.0' top with I 15-5(13)239. The southbound lanes were added in 1977 with I 15-5(50)239. It was last overlaid to a 41.6' top in 1993 with IM 15-5(89)248. It was last seal & covered with a 41.6' top in 2006 with IM 15-5(108)248.
- b. The project has 0.75' Plant Mix Surfacing on top of 0.20' Crushed Top Surfacing, 0.70' Crushed Base Course & 0.75' Select Surfacing.
- c. Project IM 15-5(89)248 overlaid the project with 0.40' plant mix in 1993.
- d. The 2011 Pavement Management System's pavement condition and treatment recommendations were Construction - C AC Minor Rehab Rut Maintenance – and maintenance - M Maintenance Rut Fill and Construction+2yrs – C AC Minor Rehab Rut and Maintenance +2yrs – M Maintenance Rut Fill:

PVMS INDICES	
Ride	80.1(Good)
Rut	43.0(Fair)
Alligator Cracking	100.0(Good)
Miscellaneous Cracking	99.9(Good)

- e. The general terrain of the area is rolling.
- f. The location is rural.
- g. There are 9 crests and 7 sags that all meet stopping sight distance for 70 m.p.h.. There are 7 horizontal curves with the sharpest being 2291' radius.
- h. The maximum grade on the project is 2.99% which is less than the design maximum of 4% for rolling terrain on freeways.
- i. The existing fill slopes are 5:1 in the median and 0'-5'=6:1, 5'-10'=4:1, 10'-15'=3:1, >15'=2:1. The existing cut slopes are 0'-5'=5:1, 5'-10'=4:1, 10'-15'=3:1, >15'=2:1.
- j. There are 6 bridges within the project limits:
  1. I00015249+0501 134.01' structure @ R.P. 249.5 (Tintinger Separation)
  2. L07614000+01601 260.5' structure @R.P. 250.41 (Missouri Overlook)
  3. I00015251+06841 84.0' structure @ R.P. 251.68 (County Road Sep.)
  4. I00015252+07001 99.0' structure @ R.P. 252.71 (Missouri Riv Side Chan.)
  5. I00015254+09421 139.0' structure @ R.P. 254.94 (Int S. Casacade)
  6. I00015256+04831 124.0' structure @ R.P. 256.48 (Int N. Cascade)

## Preliminary Field Review/Scope of Work Report

IM 15-5(119)248 Hardy Cr.-North NB  
Project Manager :Dustin Rouse

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### Traffic Data

- a. 2010 AADT = 2100
- b. Letting date 2011 AADT = 2130
- c. Design year 2031 AADT = 2820
- d. DHV = 330
- e. 16.2 percent are trucks
- f. The expected daily 18,000 lb (8165 kg) Equivalent Single Axle Load (ESAL) = 208
- g. The basis of projected traffic growth = 1.4%.

### Crash Analysis

- a. There were 62 reported crashes and 5 truck crashes in this area for the 5 year period from July 1, 2005 through June 30, 2010.
- b. Fifty eight of the crashes were single vehicle crashes. Two of the crashes cited median barrier as the 1<sup>st</sup> harmful event. Four of the crashes cited guardrail face or end as the 1<sup>st</sup> harmful event.
- c. The All Vehicles Crash Rate for the study area was 1.95, compared to 0.94 for statewide average for rural interstates. The All Vehicles Severity Index for the study area was 1.31, compared to 1.88. The All Vehicles Severity Rate was 2.55 for the study area compared to 1.76.
- d. There was one crash cluster identified during the 2005-2010 study period for R.P. 251.4 to 251.9 south of Cascade.
- e. The trends that were noted were deer collisions and single vehicle into median crashes. The site was visited by Safety Management personnel and it was noted that wildlife fencing was not feasible and no other recommendations were noted.

### Major Design Features

- a. **Design Speed.** The design speed for the project is 70 m.p.h. which is consistent with rolling terrain on the National Highway System-Interstate. The posted speed limit is 75 m.p.h..
- b. **Horizontal Alignment.** There are 7 horizontal curves with the sharpest being 2291' radius which meets standards for 70 m.p.h..
- c. **Vertical Alignment.** There are 9 crests and 7 sags that all meet stopping sight distance for 70 m.p.h. . The maximum grade on the project is 2.99% which is less than the design maximum of 4% for rolling terrain on freeways.
- d. **Typical Sections and Surfacing.** The proposed typical section will involve a 0.20' mill & fill of the driving lane and then a seal & cover over the entire roadway and will maintain the existing surface top width of 41.6'. There will also be several full width 0.40' milling section 130' long at each bridge end. The existing fill slopes in the median are 5:1's.
- e. **Geotechnical Considerations.** Cores will be requested at each bridge end section to determine the cause for each cracked section.
- f. **Hydraulics.** No hydraulic problems were identified or will be addressed with this project.
- g. **Bridges.** There are 6 bridges within the project limits. The structure, I00015251+06841 an 84.0' structure @ R.P. 251.68 (County Road Sep.) has the joint sealant missing between the slabs. The structure, I00015256+04831 a 124.0' structure @ R.P. 256.48 (Int N. Cascade) also has the joint sealant missing between the slabs. Bridge will incorporate details, quantities and special provisions to incorporate this work into this project.

## Preliminary Field Review/Scope of Work Report

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Project Manager :Dustin Rouse

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- h. **Traffic.** Due to the nature of this project as a pavement preservation project, traffic revisions will not be addressed with the project. The last signs on the project appear to be 1996 and will be updated with this project.
- i. **Pedestrian/Bicycle/ADA.** No improvements are planned for these features. The outside shoulder width is adequate for bicycle use throughout the project except for restrictions at narrow bridges. The old larger rumble strips will be virtually filled in this time with the seal & cover and new smaller standard rumble strips will be cut in.
- j. **Miscellaneous Features.** Maintenance stated there may be some Texas Twists guardrail end sections on some cross roads that may need upgrading. On the field visit none were verified though, all seen were either ET's or MELT's on the mainline. A survey to verify guardrail end section types, locations and heights will be requested to verify need for upgrading end sections.
- k. **Context Sensitive Design Issues.** MDT Maintenance is interested in moving three median u-turns to enhance MDT Maintenance plowing efforts and minimize travel time and fuel. The following relocation sites are currently under review:
  - a. Remove 251.3 and relocate to 251.9 (better plow pattern and sight distance)
  - b. Remove 258.3 and relocate to 257.1 (better plow pattern for both Cascade Interchange cleaning). This is 0.6 miles beyond the project limits, but will be added to this project.
  - c. Remove 260.6 and relocate to 262.45 (better plow pattern). This is 5.95 miles beyond the end of the project limits, but will be added to this project.

### **Other Projects**

Cascade N&S, (STPP 68-1(2)0), was let March 11, 2011 and will be finishing up about the time this project is let.

### **Design Exceptions**

Due to the nature of the project no Design Exceptions will be needed with this project.

### **Right-of-Way**

Due to the nature of the project no right-of-way will be needed or modified with this project.

### **Cold-In-Place Recycle**

Due to the rutting in the driving lane only and the good condition of the rest of the roadway, mill & fill of the driving lane and seal & cover of the entire roadway was the selected option for the project.

### **Access Control**

This is a limited access control project. No modifications are proposed, although the contractor may need to apply for limited access in the vicinity of their hot plant, but that is unknown at this time.

### **Utilities/Railroads**

The railroad's closest proximity to the project is at the beginning and is several hundred feet east of the highway. This line will not be impacted by this project. No utilities should be impacted with this project unless a guardrail end section on a cross road needs updating. If some end sections are identified in these areas, a utility locate will be requested at that time.

## **Preliminary Field Review/Scope of Work Report**

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Project Manager :Dustin Rouse

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### **Intelligent Transportation Systems (ITS) Features**

No ITS features are identified in this project area.

### **Survey**

Guardrail end section type and heights will be requested on the project. In the event Texas Twists or BCT's are found, a utility one-call in the vicinity of the guardrail end section should be requested and locations picked up by State Forces.

Cores are requested at each bridge end to identify the depth of stripping in these areas that will be milled out and replaced.

### **Public Involvement**

Due to the limited scope of the project, a level "A" public involvement plan is appropriate. A news release will be distributed explaining the project and including a department point of contact.

### **Environmental Considerations**

It is anticipated that the project meets the criteria for the Statewide Programmatic Categorical Exclusion. An environmental checklist is being supplied with this Preliminary Field Review/Scope of Work Report.

Nesting bald eagles may be present along the project. New staging, storage, and gravel plant operations will not be permitted within one mile of any active nest from February 1-July 15. Work involving explosives or activities that produce extremely loud noise, such as blasting, use of jackhammers or gravel crushing equipment will not be allowed within ½ mile of any active nest from February 1-July 15. Specific recommendations and nest locations will be provided by the District Biologist.

The Environmental Checklist has been provided to Environmental Services Bureau with a copy of this report.

### **Energy Savings/Eco-Friendly Considerations**

The millings will be offered to MDT Maintenance first, in accordance with the MDT millings policy.

### **Experimental Features**

No experimental features have been proposed at this time.

### **Traffic Control**

No crossovers will be needed for this project. Construction should be able to be accomplished with lane closure and shifting tapers, which will be in accordance with the MUTCD. A limited Public Information (PI) component to address lane closures and wide load detours will also be included in the plan package.

A Transportation Management Plan (TMP) consisting of a Traffic Control Plan (TCP). The two Cascade Interchange ramps should not be closed at the same time to ensure local access.

### **Project Management**

The Helena Road Design crew will develop the plans in US Customary units. Dustin Rouse is the Project Design Engineer. This project is not under full FHWA oversight.

## Preliminary Field Review/Scope of Work Report

IM 15-5(119)248 Hardy Cr.-North NB  
Project Manager :Dustin Rouse

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### Preliminary Cost Estimate

	Estimated cost	TOTAL costs + IDC
Road Work	810,000	
New Structure		
Remove Structure		
Detour		
Traffic Control	78,000	
<b>Subtotal</b>	<b>888,000</b>	
Mobilization (10%)	88,800	
<b>Subtotal</b>	<b>976,800</b>	
Contingencies (20%)	195,360	
<b>Total CN</b>	<b><u>\$1,172,200</u></b>	<b><u>\$1,328,700</u></b>
<b>CE (10%)</b>	<b><u>\$117,200</u></b>	<b><u>\$132,900</u></b>
<b>TOTAL CN+CE</b>	<b><u>\$1,289,400</u></b>	<b><u>\$1,461,600</u></b>

No inflation factor is used in the cost estimate as this pavement preservation project is scheduled for letting within one year.

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 13.35% as of FY 2011.

### Ready Date

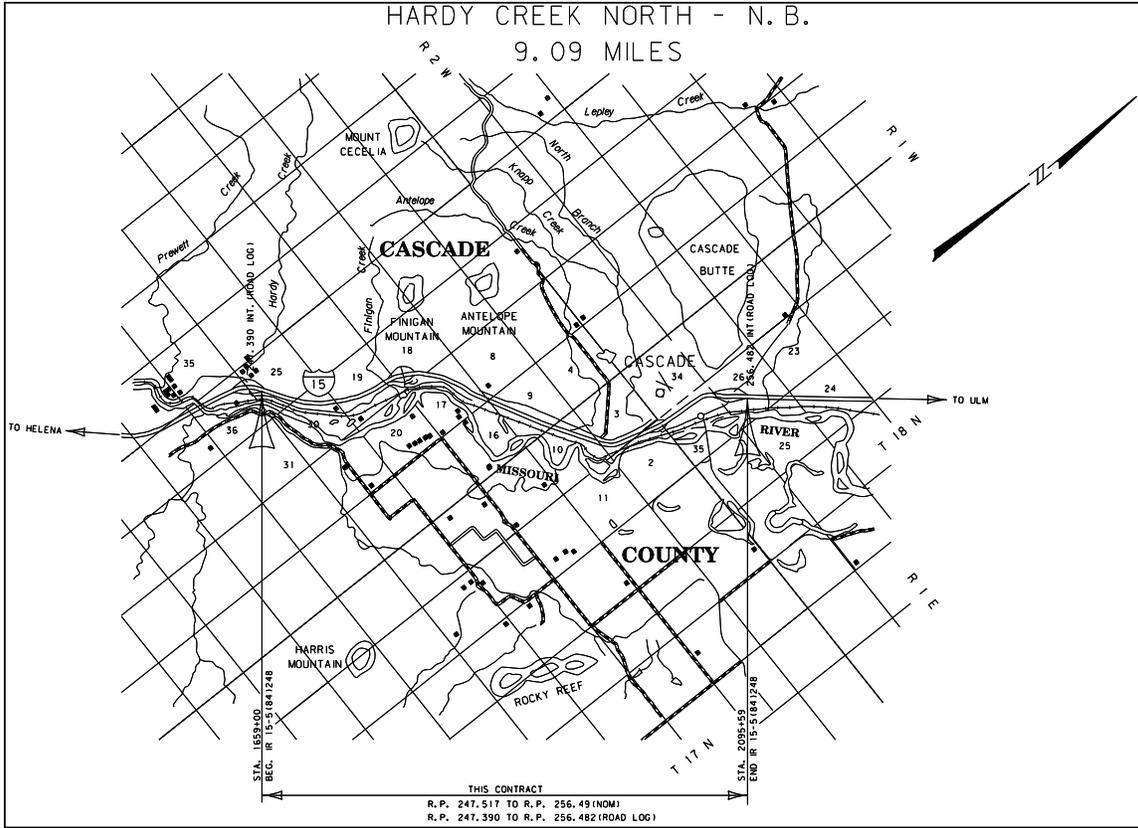
The Ready Date for this project is September 1, 2011. The Letting Date has not been established; however, the Tentative Construction Program (TCP) has the target letting date being March 19, 2012.

### Site Map

The project site map is attached.

# Preliminary Field Review/Scope of Work Report

IM 15-5(119)248 Hardy Cr.-North NB  
Project Manager :Dustin Rouse



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