



Montana Department of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Michael T. Tooley, Director
Steve Bullock, Governor

RECEIVED

NOV -5 2013

ENVIRONMENTAL

RECEIVED

NOV 01 2013

FHWA
MONTANA DIVISION

October 28, 2013

Kevin L. McLaury
Division Administrator
Federal Highway Administration
585 Shepard Way, Suite 2
Helena, MT 59601-9785

Attention: Jeff Patten

Subject: Categorical Exclusion
HSIP 233-1(3)4
SF 099 E OF PONY
Control Number: 7209000

MASTER FILE COPY

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. A Copy of its Alignment and Grade Review Report (AGRR) dated August 16, 2013 is attached. This proposed action also qualifies as a CE under ARM 18.2.261 (Sections 75-1-103 and 75-1-201, MCA).

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

Table with 4 columns: YES, NO, N/A, UNK. Contains 3 main rows of questions regarding environmental impact, unusual circumstances, and right-of-way/easements, with sub-row A for the third question.

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
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"/>	<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"/>
3. There is a high rate of commercial growth in this proposed project's area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Work would be on and/or within approximately 1.6 kilometers (1± mile) of an Indian Reservation.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. There are parks, recreational, or other properties acquired/improved under <i>Section 6(f)</i> of the <i>1965 National Land &amp; Water Conservation Fund Act</i> (16 USC 460L, <i>et seq.</i> ) on or adjacent to proposed the project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The use of such <i>Section 6(f)</i> sites would be documented and compensated with the appropriate agencies. ( <i>e.g.</i> : MDFWP, local entities, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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</i> (16 USC 470, <i>et seq.</i> ) by the State Historic Preservation Office (SHPO), which would be affected by this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 US DEPARTMENT OF TRANSPORTATION Act</i> (49 USC 303) on or adjacent to the project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. The proposed project would not impact the site(s), so a 4(f) evaluation is not necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. De minimis finding(s) is/are necessary for this project.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. "Nationwide" Programmatic <i>Section 4(f)</i> Evaluation forms for these sites are attached.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. This proposed project requires a full ( <i>i.e.</i> : DRAFT & FINAL) <i>Section 4(f)</i> Evaluation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. The activity would involve work in a streambed, wetland, and/or other waterbody(ies) considered as "waters of the United States" or similar ( <i>e.g.</i> : "state waters").	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
1. Conditions set forth in <i>Section 10</i> of the <i>Rivers and Harbors Act</i> (33 USC 403) and/or <i>Section 404</i> under <u>33 CFR Parts 320-330</u> of the <i>Clean Water Act</i> (33 USC 1251-1376) would be met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 US Army Corps of Engineers and other Resource Agencies (Federal, State and Tribal) as required for permitting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A 124SPA Stream Protection Authorization would be obtained from the MDFWP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. There is a delineated floodplain in the proposed project area under FEMA's Floodplain Management criteria.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Tribal Water Permit would be required.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 US Department of Agriculture, or the US Department of the Interior.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The designated National Wild & Scenic River systems in Montana are:				
a. Middle Fork of the Flathead River (headwaters to South Fork confluence).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. North Fork of the Flathead River (Canadian Border to Middle Fork confluence).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In accordance with <i>Section 7</i> of the <i>Wild and Scenic Rivers Act</i> (16 USC 1271 – 1287), this work would be coordinated and documented with either the Flathead National Forest (Flathead River), or US Bureau of Land Management (Missouri River).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. If yes, are there potential noise impacts?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. A Noise Analysis would be completed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. There would be compliance with the provisions of both <u>23 CFR 772</u> for FHWA's Noise Impact analyses and MDT's Noise Policy.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. There would be substantial changes in access control involved with this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes, would they result in extensive economic and/or social impacts on the affected locations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Adverse effects to through-traffic dependant businesses would be avoided or minimized.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Interference to local events( e.g.: festivals) would be minimized to all possible extent.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Substantial controversy associated with this pending action would be avoided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
F. Hazardous wastes /substances, as defined by the US Environmental Protection Agency (EPA) and/or the Montana Department of Environmental Quality (MDEQ), and/or (a) listed "Superfund" (under <i>CERCLA</i> or <i>CECRA</i> ) site(s) are currently on and/or adjacent to this proposed project.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All reasonable measures would be taken to avoid and/or minimize substantial impacts from same.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. The Montana Pollutant Discharge Elimination System's conditions ( <u>ARM 16.20.1314</u> ), including temporary erosion control features for construction would be met.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
H. Permanent desirable vegetation with an approved seeding mixture would be established on exposed areas.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	<u>YES</u>	<u>NO</u>	<u>N/A</u>	<u>UNK</u>
I. Documentation of an “invasive species” review to comply with both EO #13112 and the <i>County Noxious Weed Control Act</i> (7-22-21, MCA), including directions as specified by the county(ies) wherein its intended work would be done.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
J. There are “Prime” or “Prime if Irrigated” Farmlands designated by the Natural Resources Conservation Service on or adjacent to the proposed project area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If the proposed work would affect Important Farmlands, then an AD-1006 Farmland Conversion Impact Rating form would be completed in accordance with the <i>Farmland Protection Policy Act</i> (7 USC 4201, <i>et seq.</i> ).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
K. Features for the <i>Americans with Disabilities Act</i> (PL 101-336) compliance would be included.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
L. A written Public Involvement Plan, would be completed in accordance with MDT’s Public Involvement Handbook.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. This proposed project complies with the <i>Clean Air Act’s Section 176(c)</i> (42 USC 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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Is this proposed project in a “Class I Air Shed” (Indian Reservations) under <u>40 CFR 52.1382(c)(3)</u> ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Federally listed Threatened or Endangered (T/E) Species:				
A. There are recorded occurrences, and/or critical habitat in this proposed project’s vicinity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Would <u>this</u> proposed project result in a “jeopardy” opinion (under <u>50 CFR 402</u> ) from the Fish & Wildlife Service on any Federally listed T/E Species?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

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

In accordance with the provisions of 23 CFR 771.117(a), this pending action would 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.

Barry Brosten, Date: 10/28/13  
Barry Brosten - Butte District Project Development Engineer  
MDT Environmental Services Bureau

Concur Heidy Bruner, Date: 10/29/13  
Heidy Bruner, P.E. Engineering Section Supervisor  
MDT Environmental Services Bureau

Concur Jeffery A. Patten, Date: 11/5/13  
Federal Highway Administration

MDT attempts to provide accommodation for any known disability that may interfere with a person participating in any service, program or activity of the Dept. Alternative accessible formats of this information will be provided upon request. For further information, call 406-444-7228 or TTY (800-335-7592), or call Montana Relay at 711.

Attachment: AGRR

Copy (w/o attach.):

Jeff Ebert	Butte District Administrator
Paul Ferry	Highway Engineer
Kent Barnes	Bridge Engineer
Tom Martin	Chief, Environmental Services Bureau
Robert Stapley	Right-of-Way Bureau Chief
Suzy Price	Contract Plans Bureau Chief
Lisa Hurley	Fiscal Programming Section Supervisor
Tom Erving	Fiscal Programming Section
Chad Welborn	MSU Design Engineer
Barry Brosten	Environmental Services
Environmental Services File	
Montana Legislative Branch Environmental Quality Council (EQC)	



**Memorandum**

To: Roy A. Peterson, PE  
Traffic and Safety Engineer

From: Damian Krings, PE  
Road Design Engineer

Date: August 16, 2013

Subject: HSIP 283-1(3)4  
SF 099 E. of Pony  
UPN 7209000  
Work Type 310-Roadway & Roadside Safety Improvements

Please Approve the Alignment and Grade Review for this project.

Approved Signed by Roy Peterson Date 8-22-2013  
Roy A. Peterson, P.E.  
Traffic & Safety Engineer

We are requesting comments from the below distribution. If no comments are received within two weeks of the release date we will assume concurrence.

**Distribution:**

Jeff Ebert, District Administrator  
Kent Barnes, Bridge Engineer  
Paul Ferry, Highways Engineer  
Roy Peterson, Traffic and Safety Engineer  
Robert Stapley, Right-of-Way Bureau Chief

Tom Martin, Environmental Services Bureau Chief  
Lynn Zanto, Rail, Transit, & Planning Division Administrator  
Jake Goettle, Construction Engineering Services Bureau  
Matt Strizich, Materials Engineer

**cc:**

Dawn Stratton, Fiscal Programming Section  
Chad Welborn, Project Design Manager  
Damian Krings, Road Design Engineer

**e-copies:**

Jim Walther, Engineering, Preconstruction Engineer  
Lesly Tribelhorn, Highways Design Engineer  
Mark Goodman, Hydraulics Engineer  
Walt Ludlow, District Hydraulics Engineer  
Bill Semmens, Env. Resources Section Supervisor  
Deb Wambach, District Biologist  
Barry Brosten, District Project Development Engineer  
Danielle Bolan, Traffic Engineer  
Ivan Ulberg, Traffic Design Engineer  
Lee Alt, District Traffic Engineer  
Kraig McLeod, Safety Engineer  
Nathan Haddick, Bridge Area Engineer  
Michael Grover, Engineering Cost Analyst  
Matt Strizich, Materials Engineer  
Daniel Hill, Pavement Analysis Engineer  
Pat McCann, District Geotechnical Manager  
Bryce Larsen, Supervisor, Photogrammetry & Survey  
Marty Beatty, Engineering Information Services  
Paul Grant, Public Involvement Officer  
Jean Riley, Planner

Jake Goettle, Construction Bureau – VA Engineer  
Dustin Rouse, District Preconstruction  
Joe Walsh, District Projects Engineer  
Mike Walsh, District Materials Supervisor  
Steven Giard, R/W Utilities Section  
Phillip Inman, Utilities Engineering Manager  
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  
Wayne Noem, Secondary Roads Engineer  
Ray Stocks, Bozeman Division Maintenance Chief  
Larry Brooke, Harrison Maintenance Section  
Alyce Fisher, Fiscal Programming  
Geno Liva, District Construction

## Alignment and Grade Report

### **Introduction**

The AGR review for the subject project was held on Friday, May 17, 2013 with the following personnel in attendance:

Joe Walsh	Butte District Preconstruction	MDT – Butte
Lee Alt	Butte District Preconstruction	MDT – Butte
Geno Liva	Butte District Construction	MDT - Butte
Damian Krings	Road Design Section	MDT - Helena
Deb Wambach	Environmental Services Bureau	MDT - Helena
Walter Ludlow	Hydraulics Section	MDT – Helena
Dave Cunningham	Geotechnical Section	MDT - Helena
Larry Brooke	Harrison Maintenance Section	MDT – Harrison
Jim Nallick	MSU Design	MDT - Bozeman
Rod Payne	MSU Design	MDT – Bozeman
Chad Welborn	MSU Design	MDT – Bozeman
Scott Taylor	MSU Design	MDT - Bozeman
Mark Traxler	Atkins	Helena

### **Scope of Work**

This project was originally nominated through the Highway Safety Improvement Program to reconstruct the curve along a section of Secondary 283 in Madison County. At the preliminary field review, the committee recommended investigating plant mix widening, slope flattening and improving the existing superelevation by milling and overlaying to address a pattern of single vehicle run off the road crashes.

During preliminary plan preparation, it was determined that extensive work would be required to mill, overlay, and slope flatten. The existing superelevation was much flatter than originally anticipated and is less than 3% along the outside traveled lane. This outside lane would need to be reconstructed in order to meet the required 8% superelevation along the existing alignment. An increased overlay thickness would also be necessary on the inside lane due to the superelevation correction. Because of the extensive work required to mill and overlay, it was determined that the option of reconstructing the curve per the project's original nomination was preferred. This reconstruction option will include shifting the horizontal alignment north approximately 12 feet along the curve, adding spiral curves, correcting the superelevation, and using 4:1 fill slopes. This option will provide a safer design and also help to minimize wetland impacts along the south side of the roadway.

### **Project Location and Limits**

This project is located on Secondary 283 from RP 3.5 to 4.4 in Madison County approximately 2 miles east of Pony. Secondary 283 is classified as a rural collector road. The attached Project Site Map depicts the location of the proposed improvements.

### **Work Zone Safety and Mobility**

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 Transportation Management Plan (TMP) consisting mainly of a Traffic Control Plan (TCP). A Transportation Operations (TO) component or a Public Information (PI) component will not be included.

## Alignment and Grade Report

### **Physical Characteristics**

This section of roadway was constructed in 1946 under project number S-29(1) consisting of two 12-foot travel lanes and no shoulders. The surfacing consisted of 6 inches compacted gravel. In 1986 under project number RS 283-1(1)0, the roadway was paved with 3 inches of asphalt surfacing over 1.8 inches of additional crushed top surface leveling. The asphalt surfacing consists of two 11-foot travel lanes. Three feet of embankment widening from edge of oil on each side of the roadway breaking to a 4:1 fill slope to a V-ditch located approximately 21 feet beyond the edge of pavement was also added with RS 283-1(1)0. The project site is located in a rural area with level terrain. From RP 3.5 to RP 4.4 the existing roadway contains a horizontal curve with a radius of 1432.5 feet and was built with a 2-3% superelevation. The maximum vertical gradient within this project is 2.77%.

### **Horizontal Alignment**

The curve near RP 3.9 has an existing 1432.5 foot radius which is greater than the minimum radius of 1200 feet required (with an 8% superelevation) for a 60 mph design speed. To improve safety and reduce wetland impacts, a 2000 foot radius with spiral curves will be used to shift the alignment north approximately 12 feet along the curve. Wetland impacts will be further minimized with the use of 4:1 fill slopes. The longer 2000 foot radius curve will also allow a 7% superelevation. It is anticipated that additional right-of-way will be required due to the alignment shift and 4:1 fill slopes.

### **Vertical Alignment**

No significant modifications to the existing vertical alignment are proposed with this project. A small vertical alignment shift up of 0.3' is anticipated to ensure adequate cover over a new 96" CSP culvert at Beckwith Creek near station 118+28.

### **Surfacing and Typical Section**

The existing roadway consists of asphalt surfacing with a top width of 22 feet which includes two 11-foot travel lanes and no shoulders. The overall geometry of the curve near RP 3.9 does not meet a 60 mph design speed due to an existing superelevation of 2-3%, which is less than the required 8%. There are also no spiral transitions in and out of the curve.

Proposed modifications include reconstructing the roadway with 12 foot travel lanes and 2 foot shoulders, 4:1 surfacing inslopes and fill slopes, and providing a 7% superelevation. To allow for a future mill and fill overlay, the AGR committee recommended a plant mix surfacing thickness of 0.3 feet and a crushed aggregate course thickness of 0.65 feet. It is anticipated that geotextile may be required and will be evaluated by the Geotechnical Section.

### **Grading**

The type of grading for this project will be embankment-in-place. Due to shifting the alignment north and slope flattening with 4:1 fill slopes, the embankment quantity will exceed excavation. Achieving balanced earthwork for this project is not practical. The alignment and grade review committee agreed that subexcavation and special borrow will not be needed; however, geotextile may be required and will be evaluated by the Geotechnical Section.

## Alignment and Grade Report

### **Hydraulics**

A stream and wetlands are present on both sides of the road within the existing right-of-way. Beckwith Creek is currently conveyed under the road near station 118+28 through two 48" steel culverts installed in 1986 which appear to be in good condition. A 96" CSP culvert is proposed to replace the two existing steel culverts. The option of skewing this proposed culvert will also be considered to improve the connection with the existing channel. The alignment and grade review committee recommended installing concrete edge protection on both the inlet and outlets ends of the proposed culvert.

Approximately 130 feet of existing stream southwest of the mainline culvert near station 118+28 will be impacted by the proposed 4:1 fill slopes and is unavoidable due to its location where the curve meets the tangent section. A channel relocation for this stream will be evaluated.

### **Bridges**

No bridge involvement is necessary for this project.

### **Traffic**

Existing curve warning signs are located in advance of the curve at RP 3.9 in both the westbound and eastbound direction. Existing chevron signs are also located along the outside of this curve. Perpetuation of these curve warning and chevron signs will be evaluated by the Traffic and Safety Bureau.

The possibility of eliminating, consolidating, or relocating 3 existing farm field approaches along the north side of the roadway near stations 113+40, 116+70, and 119+40 will be investigated. If these farm field approaches need to be perpetuated, the use of a steeper approach slope may be considered based on usage and impacts to the field. The side slopes will be flattened on the existing approaches along the south side of the roadway near stations 112+95 and 119+10; and along the north side of the roadway near station 110+90 to eliminate a slope in the clear zone that could launch an errant vehicle.

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

No ITS features will be modified with this project.

### **Miscellaneous**

No other miscellaneous features have been identified.

### **Design Exceptions**

No design exceptions have been identified for this project.

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

It is anticipated that additional right-of-way will be required due to the alignment shift and slope flattening with 4:1 fill slopes.

### **Utilities/Railroads**

There is one copper phone line on the south side of the roadway, and two copper phone lines and a fiber optic line on the north side of the roadway. Overhead power lines also exist within the project area. It is anticipated that the overhead power will need to be relocated due to the new alignment. No railroads will be impacted by this project.

## Alignment and Grade Report

### Environmental Considerations

Beckwith Creek, a perennial tributary to North Willow Creek, is conveyed under the roadway through two 48" steel culverts near station 118+28 that will be replaced with a single 96" steel culvert. This proposed 96" culvert will be evaluated using HEC-26 for aquatic organism passage. Irrigation and the confluence of North Willow and South Willow Creeks with their tributaries also contribute to the roadside hydrology in the project area. Wetlands and active streams and ditches are present on both sides of the roadway within the right-of-way and will be impacted with this project. The alignment and grade review committee proposed shifting the horizontal alignment north approximately 12 feet along the curve and using 4:1 fill slopes to help minimize wetland impacts. The anticipated impacted wetland area for this project is approximately 0.358 acres based on preliminary construction limits.

CWA 404 and SPA 124 permitting is anticipated. A categorical exclusion is anticipated for this project.

### Experimental Features

No experimental features have been identified for this project.

### Traffic Control

Lane closures and/or shifting of traffic may be necessary for completion of the curve reconstruction. All signing and flagging operations will be in accordance with the Manual on Uniform Traffic Control Devices.

A Transportation Management Plan (TMP) consisting of a Traffic Control Plan (TCP) is appropriate for this project.

### Public Involvement

Level A public involvement was completed for this project. A news release explaining the project including a Department point of contact was provided in January 2012.

### Cost Estimate

The current cost estimate for this project is as follows:

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
Road Work	\$360,000		
Traffic Control	\$40,000		
<b>Subtotal</b>	<b>\$400,000</b>		
Mobilization (10%)	\$40,000		
<b>Subtotal</b>	<b>\$440,000</b>		
Contingencies (10%)	\$44,000		
<b>Total CN</b>	<b><u>\$484,000</u></b>	<b><u>\$34,004</u></b>	<b><u>\$565,246</u></b>
<b>CE (10.00%)</b>	<b><u>\$48,400</u></b>	<b><u>\$3,400</u></b>	<b><u>\$56,525</u></b>
<b>TOTAL CN+CE</b>	<b><u>\$532,400</u></b>	<b><u>\$37,404</u></b>	<b><u>\$621,771</u></b>

Note: IDC is calculated at 9.12% as of FY 2014.

# Alignment and Grade Report

HSIP 283-1(3)4; SF 099 E. of Pony  
Project Manager: Chad Welborn

## Ready Date

The current ready date for this project in OPX2 is July, 2014.

## Project Site Map

HSIP 283-1(3)4  
SF 099 E OF PONY  
UPN 7209000  
RP 3.5 TO RP 4.4

