APPENDIX B

Programmatic Section 4(f) Evaluation For Little Boulder River Bridge

and

MDT Bridge Inspection Report

MONTANA DIVISION

"NATIONWIDE" PROGRAMMATIC *SECTION 4(f)* EVALUATION FOR HISTORIC BRIDGES

Project # STP 69-1(9)22, (P.M.S. C# 2019) Date: January 20, 2011

Project Name: Boulder-South

Location: Jefferson County

This proposed project requires use of a historic bridge structure that is on, or eligible for listing on the NATIONAL REGISTER OF HISTORIC PLACES. A description and location map/"Translite" of this proposed bridge replacement project is attached.

NOTE: *Any response in a box will require additional information, and may result in an individual evaluation/statement. Consult the "Nationwide" Section 4(f) Evaluation procedures.*

		YES	NO
1.	Is the bridge a NATIONAL HISTORIC LANDMARK?	[ ]	X
2.	Have agreements been reached through the procedures pursuant to *Section 106* of the *National Historic Preservation Act* with the following:		
	STATE HISTORIC PRESERVATION OFFICE (SHPO)?	X	[ ]
	ADVISORY COUNCIL ON HISTORIC PRESERVATION (ACHP)?	X	[ ]
3.	Any other agency/ies with jurisdiction at this location?	X	
	a) If "YES" will additional approval(s) for this *Section 4(f)* application be required?	[ ]	X
	b) List of agencies with jurisdiction at this location:		
	USA - CORPS OF ENGINEERS (*Section 404* Permit)	X	
	USDA - Forest Service	[ ]	
	USDA - Soil Conservation Service (*FPPA*)	[X]	
	FEMA Regulatory Floodway (Permit)	[X]	
	MDFW&P - Parks Division (Fishing Access Site)	[ ]	
	MDFW&P - Wildlife Division (wetlands)	[X]	
	MDFW&P - Fisheries Division (*MSPA*)	[X]	
	MDSL (navigable rivers under state law)	[ ]	
	MDEQ - Air And Waste Management Bureau		
	MDEQ - Water Quality Bureau	X	
	MDNR&C (irrigation systems)		
	Other:		

ALTERNATIVES & FINDINGS

EACH of the following **ALTERNATIVES** for this proposed project have been evaluated to avoid the use of the historic bridge:

1. "Do Nothing."

2. Rehabilitate the existing bridge without affecting the historic integrity of the structure in accordance with the provisions of *Section 106* in the *NHPA*.

3. Construct the proposed bridge at a location where the existing historic structure's integrity will not be affected as determined by the provisions of the *NHPA*.

The above **ALTERNATIVES** have been applied in accordance with this PROGRAMMATIC *SECTION 4(f)* EVALUATION and are supported by **EACH** of the following **FINDINGS:**

	YES	**NO**
1. The "Do Nothing" **ALTERNATIVE** has been evaluated and has been found to ignore the basic transportation need at this location.	X	[ ]
This **ALTERNATIVE** is neither feasible nor prudent for the following reasons:		
a) Maintenance — this **ALTERNATIVE** does not correct the structurally deficient condition and/or poor geometrics (clearances, approaches, visibility restrictions) found at the existing bridge. Any of these factors can lead to a sudden catastrophic collapse, and/or a potential injury including loss of life. Normal maintenance will not change this situation.	X	[ ]
b) Safety — this **ALTERNATIVE** also does not correct the situation which causes the existing bridge to be considered deficient. Because of these deficiencies, the existing bridge presents serious and unacceptable safety hazards to the travelling public and/or places intolerable restrictions (gross vehicle weight, height, and/or width) on transport.	X	[ ]
A copy of the MDT Bridge Bureau's Inspection Report is attached.	X	[ ]
2. The rehabilitation **ALTERNATIVE** has been evaluated with one or more of the following **FINDINGS**:		
a) The existing bridge's structural deficiency is such that it cannot be rehabilitated to meet minimum acceptable load and traffic requirements without adversely affecting the structure's historic integrity.	X	_____
b) The existing bridge's geometrics (height, width) cannot be changed without adversely affecting the structure's historic integrity.	X	_____

ALTERNATIVES & FINDINGS (#2 - conclusion:)

	YES	NO
c) This **ALTERNATIVE** does not correct the serious restrictions on visibility (approach geometrics, structural requirements) which also contributes to an unsafe condition at this location.	___	_____
Is this rehabilitation **ALTERNATIVE** therefore considered to be feasible and/ or prudent based on the preceding evaluations?	[ ]	X

3. The relocation **ALTERNATIVE**, in which the new bridge has been moved to a site that presents no adverse effect upon the existing structure has also been considered under the following **FINDINGS**:

	YES	NO
a) Terrain and/or local geology. The present structure is located at the only feasible and/or prudent site for a bridge on the existing route. Relocating to a new site — either up-, or downstream of the preferred location — will result in extraordinary bridge/approach engineering and associated construction costs.	X	_____
The preferred site is the only prudent location due to the terrain and/or geologic conditions in the general vicinity.	X	_____
Any other location would cause extraordinary disruption to existing traffic patterns.	X	_____
b) Significant social, economic and/or environmental impacts. Locating the proposed bridge in other than the preferred site would result in significant social/economic impacts such as the displacement of families, businesses, or severing of prime/unique farmlands.	X	_____
Significant environmental impacts such as the extraordinary involvement in wetlands, regulated floodplains, or habitat of threatened/endangered species are likely to occur in any location outside the preferred site.	X	_____
c) Engineering and economics. Where difficulty/ies associated with a new location are less extreme than those listed above, the site may still not be feasible and prudent where costs and/or engineering difficulties reach extraordinary magnitudes. Does the **ALTERNATE** location result in significantly increased engineering or construction costs (such as a longer span, longer approaches, etc.)?	X	_____
d) Preservation of existing historic bridge may not be possible due to either or both of the following:		
the existing structure has deteriorated beyond all reasonable possibility of rehabilitation for a transportation or alternative use;	___	_____
no responsible party can be located to maintain and preserve the historic structure.	X	_____

ALTERNATIVES & FINDINGS (#3. - conclusion:)

	YES	NO
Therefore, in accordance with the previously-listed FINDINGS it is neither feasible nor prudent to locate the proposed bridge at a site other than the preferred **ALTERNATE** as described.	X	[ ]

MEASURES TO MINIMIZE HARM

This "Nationwide" Programmatic *Section 4(f)* Statement applies only when the following **Measures to Minimize Harm** have been assured; a check in a box MAY void the Programmatic application — if so, a full *Section 4(f)* Evaluation **will be required**:

		YES	NO
1.	Is the bridge being rehabilitated under this proposed project?		X
	If "YES", is the historic integrity of the structure being preserved to the greatest extent possible; consistent with unavoidable transportation needs, safety, and load requirements?		[ ]
	NOTE: If "NO", refer to item 2., following, to determine Programmatic applicability.		
2.	The bridge is being replaced, or rehabilitated to the point where historic integrity is affected. Are adequate records being made of the existing structure under HISTORIC AMERICAN ENGINEERING RECORD standards, or other suitable means developed through consultation with SHPO and the ACHP?	X	[ ]
3.	If the bridge is being replaced, is the existing structure being made available for alternative use with a responsible party to maintain and preserve same?	X	[ ]
4.	If the bridge is being adversely affected, has agreement been reached through the *Section 106* process of the *National Historic Preservation Act* on these **Measures to Minimize Harm** (which will be incorporated into the proposed project) with the following:		
	SHPO (Date: 12/18/2006)	X	[ ]
	ACHP (Date: 02/01/2007)	X	[ ]
	FHWA (Date: 12/16/2006)	X	[ ]
	A copy of the **Amendment to Programmatic Agreement** signed/approved by these agencies is attached.	X	[ ]

COORDINATION

There has been additional **COORDINATION** with the following agencies regarding this proposed project (other than those listed previously):

City/County government: Jefferson County and City of Boulder
Local historical society: NA
Adjacent property owners:
Others:

Copies of letters from these agencies regarding this proposed project are attached. This proposed project is also documented as an Environmental Assessment under the requirements of the *National Environmental Policy Act* (**42 U.S.C. 4321**, *et seq.*).

SUMMARY & APPROVAL - The proposed action meets all criteria regarding the required **ALTERNATIVES**, **FINDINGS**, and **Measures to Minimize Harm** which will be incorporated into this proposed project. This proposed project therefore complies with the July 5, 1983 Programmatic *Section 4(f)* Evaluation by the U.S. DEPARTMENT OF TRANSPORTATION's Federal Highway Administration. This document is submitted pursuant to **49 U.S.C. 303** and in accordance with the provisions of **16 U.S.C. 470f**.

Heidy Bruner

Date: 1/20/11

Heidy Bruner, P.E.
Engineering Section Supervisor
Environmental Services

Approved: Jeffrey A Patten

Date: 1/20/11

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 Department. Alternative accessible formats of this information will be provided upon request. For further information, call 406.444.7228 or TTY (800.335.7592) or Montana Relay at 711.

HB:BCB

Attachments

cc: Jeff Ebert, P.E. - Butte District Administrator
Paul Ferry, P.E. - Highway Engineer
Kent Barnes, P.E. - Bridge Engineer
Robert Stapley, Right-of-Way Bureau Chief
David W. Jensen, Supervisor - Fiscal Programming Section
File - Environmental Services

Montana Department of Transportation

INITIAL ASSESSMENT FORM FOR STRUCTURE :

Form: bms001d
Printing Date : Wednesday, July 28 2010

P00069034+02501

Location : 3M SE BOULDER Structure Name: none

General Location Data

District Code, Number, Location : **02 Dist 2 BUTTE**
Division Code, Location : **21 BUTTE**
County Code, Location : **043 JEFFERSON**
City Code, Location : **00000 RURAL AREA**
Kind fo Hwy Code, Description : **3 3 State Hwy**
Signed Route Number : **00069**
Str Owner Code, Description : **1 State Highway Agency**
Maintained by Code, Description : **1 State Highway Agency**
Intersecting Feature : **LITTLE BOULDER RIVER**
Kilometer Post, Mile Post : **55.12 km 34.25**
Structure on the State Highway System : [X] Latitude : **46°11'59"**
Structure on the National Highway System : [ ] Longitude : **112°05'18"**
Str Meet or Exceed NBIS Bridge Length : [X]

Construction Data

Construction Project Number : **9A(1)**
Construction Station Number : **178+80.00**
Construction Drawing Number : **2135**
Construction Year : **1940**
Reconstruction Year :

Traffic Data

Current ADT : **1,720** ADT Count Year : **2009** Percent Trucks : **2 %**

Structure Loading, Rating and Posting Data

Loading Data :

Design Loading :		**2 M 13.5 (H 15)**
Inventory Load, Design :	**32.7 mton**	**2 AS Allowable Stress**
Operating Load, Design :	**44.9 mton**	**2 AS Allowable Stress**
Posting :		**5 At/Above Legal Loads**

Rating Data :

	Operating	Inventory	Posting
Truck 1 Type 3 :	**41.01**	**29.81**	
Truck 2 Type 3-S3 :	**64.77**	**47.08**	
Truck 3 Type 3-3 :	**79.68**	**57.92**	

Structure, Roadway and Clearance Data

Structure Deck, Roadway and Span Data :

Structure Length : **17.98 m**
Deck Area : **142.00 m sq**
Deck Roadway Width : **7.41 m**
Approach Roadway Width : **7.32 m**
Median Code, Description : **0 No median**

Structure Vertical and Horizontal Clearance Data :

Vertical Clearance Over the Structure : **99.99 m**
Reference Feature for Vertical Clearance : **N Feature not hwy or RR**
Vertical Clearance Under the Structure : **0.00 m**
Reference Feature for Lateral Underclearance : **N Feature not hwy or RR**
Minimum Lateral Under Clearance Right : **0.00 m**
Minimum Lateral Under Clearance Left : **0.00 m**

Span Data

Main Span

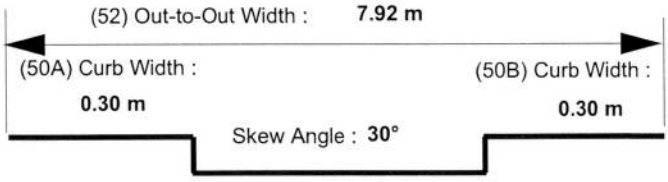
Number Spans : **3**
Material Type Code, Description : **7 Wood or Timber**
Span Design Code, Description : **2 Stringer/Multi-beam or Girder**

Deck

Deck Structure Type : **8 Wood or Timber**
Deck Surfacing Type : **6 Bituminous**
Deck Protection Type : **0 None**
Deck Membrain Type : **0 None**

Approach Span

Number of Spans : **0**
Material Type Code, Description :
Span Design Code, Description :



Structure Vertical and Horizontal Clearance Data Inventory Route :

Over / Under Direction Name	Inventory Route	South, West or Bi-directional Travel			North or East Travel		
		Direction	Vertical	Horizontal	Direction	Vertical	Horizontal
Route On Structure	P00069	Both	99.99 m	7.41 m	N/A		

INITIAL ASSESSMENT FORM FOR STRUCTURE :

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Inspection Data

Sufficiency Rating : **62**
Health Index : **99.08**
Structure Status :**Not Deficient**

Inspection Due Date : 02 February 2011
(91) Inspection Fequency (months) : **24**

NBI Inspection Data

(90) Date of Last Inspection :	02 February 2009	Last Inspected By :	Wayne Halvorsen - 2052
(90) Inspection Date :		Inspected By :	

(58) Deck Rating :	6	(68) Deck Geometry :	4	(36C) Approach Rail Rating :	N	(62) Culvert Rating :	N
(59) Superstructure Rating :	7	(67) Structure Rating :	7	(36A) Bridge Rail Rating :	0	(61) Channel Rating :	7
(60) Substructure Rating :	7	(69) Under Clearance :	N	(36B) Transition Rating :	N	(71) Waterway Adequacy :	8
(72) App Rdwy Align :	7	(41) Posting Status :	A	(36D) End Rail Rating :	0	(113) Scour Critical :	5

Unrepaired Spalls :	0 m sq	Deck Surfacing Depth :	6.00 in

Inspection Hours

Crew Hours for inspection :	2	Snooper Required :	N
Helper Hours :	-1	Snooper Hours for inspection :	-1
Special Crew Hours :	-1	Flagger Hours :	-1
Special Equipment Hours :	-1		

Inspection Work Candidates

Candidate ID	Date Requested	Status	Priority	Effected Structure Unit	Scope of Work	Action	Covered Condition States

Element Inspection Data

********** Span : **Main-0 - -1** **********

Element Description

Smart Flag	Scale Factor	Env	Quantity	Units	Insp Each	Pct Stat 1	Pct Stat 2	Pct Stat 3	Pct Stat 4	Pct Stat 5
Element 32 - Timber Deck/AC Ovly										
	1	2	142	sq.m.	X	0	100	0	0	
						%	%	%	%	%

Previous Inspection Notes :

02/02/2009 - pot holes forming. (17.98 X 7.92 = 142.402)	DXJZ
01/08/2007 - same	JZJW
12/10/2004 - cracked and rutted	DZKZ
06/21/2002 - cracked and rutted	UVBZ
05/30/2000 - None	UFJN
03/13/1998 - None	TBAT
01/01/1996 - None	YDNF
02/01/1994 - None	REFI

Inspection Notes:

Smart Flag	Scale Factor	Env	Quantity	Units	Insp Each	Pct Stat 1	Pct Stat 2	Pct Stat 3	Pct Stat 4	Pct Stat 5
Element 111 - Timber Open Girder										
	1	2	243	m.		100	0	0	0	
						%	%	%	%	%

Previous Inspection Notes :

02/02/2009 - None	DXJZ
01/08/2007 - minor checking	JZJW
12/10/2004 - some splitting and checking	DZKZ
06/21/2002 - None	UVBZ
05/30/2000 - None	UFJN
03/13/1998 - None	TBAT
01/01/1996 - None	YDNF
02/01/1994 - None	REFI

Inspection Notes:

Smart Flag	Scale Factor	Env	Quantity	Units	Insp Each	Pct Stat 1	Pct Stat 2	Pct Stat 3	Pct Stat 4	Pct Stat 5
Element 206 - Timber Column										
	1	3	10	ea.		100	0	0	0	
						%	%	%	%	%

Previous Inspection Notes :

02/02/2009 - None	DXJZ
01/08/2007 - minor checking. Inspector - please include the columns at the piers in this quantity.	JZJW
12/10/2004 - some minor splitting	DZKZ
06/21/2002 - None	UVBZ
05/30/2000 - None	UFJN
03/13/1998 - None	TBAT
01/01/1996 - None	YDNF
02/01/1994 - None	REFI

Inspection Notes:

INITIAL ASSESSMENT FORM FOR STRUCTURE :

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Continue

********** Span : **Main-0 - -1 (cont.)** **********

Element Description

Smart Flag	Scale Factor	Env	Quantity	Units	Insp Each	Pct Stat 1	Pct Stat 2	Pct Stat 3	Pct Stat 4	Pct Stat 5
Element 211 - Other Mtl Pier Wall										
	1	2	16	m.		100	0	0	0	
						%	%	%	%	%

Previous Inspection Notes :

02/02/2009 - None DXJZ

01/08/2007 - The review team added 16 m of element 211, Other Material Pier Wall with 100?n condition state 1. JZJW

Inspection Notes:

Smart Flag	Scale Factor	Env	Quantity	Units	Insp Each	Pct Stat 1	Pct Stat 2	Pct Stat 3	Pct Stat 4	Pct Stat 5
Element 216 - Timber Abutment										
	1	3	30	m.		100	0	0	0	
						%	%	%	%	%

Previous Inspection Notes :

02/02/2009 - None DXJZ

01/08/2007 - None JZJW

12/10/2004 - None DZKZ

06/21/2002 - None UVBZ

05/30/2000 - None UFJN

03/13/1998 - None TBAT

01/01/1996 - None YDNF

02/01/1994 - None REFI

Inspection Notes:

Smart Flag	Scale Factor	Env	Quantity	Units	Insp Each	Pct Stat 1	Pct Stat 2	Pct Stat 3	Pct Stat 4	Pct Stat 5
Element 235 - Timber Cap										
	1	3	39	m.		100	0	0	0	
						%	%	%	%	%

Previous Inspection Notes :

02/02/2009 - None DXJZ

01/08/2007 - minor checking JZJW

12/10/2004 - minor checking DZKZ

06/21/2002 - None UVBZ

05/30/2000 - None UFJN

03/13/1998 - None TBAT

01/01/1996 - None YDNF

02/01/1994 - None REFI

Inspection Notes:

INITIAL ASSESSMENT FORM FOR STRUCTURE :

P00069034+02501

Continue

********** Span : **Main-0 - -1 (cont.)** **********

Element Description										
Smart Flag	Scale Factor	Env	Quantity	Units	Insp Each	Pct Stat 1	Pct Stat 2	Pct Stat 3	Pct Stat 4	Pct Stat 5
Element 332 - Timb Bridge Railing										
	1	2	36	m.		90	10	0		
						%	%	%	%	%

Previous Inspection Notes :

02/02/2009 - None. (17.98 X 2 = 35.96)	DXJZ
01/08/2007 - 2 posts split, some split areas in rail.	JZJW
12/10/2004 - none this inspection	DZKZ
06/21/2002 - None	UVBZ
05/30/2000 - None	UFJN
03/13/1998 - None	TBAT
01/01/1996 - None	YDNF
02/01/1994 - None	REFI

Inspection Notes:

General Inspection Notes

02/02/2009 - None	DXJZ
01/08/2007 - None	JZJW
12/10/2004 - None	DZKZ
06/21/2002 - None	UVBZ
05/30/2000 - None	UFJN
03/13/1998 - None	TBAT
01/01/1996 - Sufficiency Rating Calculation Accepted by ops$u5963 at 3/10/97 14:39:00 Sufficiency Rating Calculation Accepted by OPS$U9004 at 2/19/97 14:37:13	YDNF
02/01/1994 -	REFI
07/01/1992 - Updated with tape 1994	NB94
03/01/1990 - Updated with tape 1992	NB92
02/01/1988 - Updated with tape 1989	NB89
03/01/1986 - Updated with tape 1987	NB87
02/01/1984 - Updated with tape 1985	NB85
11/01/1982 - Updated with tape 1984	NB84
10/01/1980 - Updated with tape 1982	NB82
08/01/1977 - Updated with tape 1980	NB80