MDT
Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Michael T. Tooley, Director
Steve Bullock, Governor

May 21, 2014

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

Attention: Gene Kaufman

Subject: Programmatic Categorical Exclusion (PCE) Concurrence Request
I-90 Nemote Creek Culvert
IM 90-1(205)59
CN 8189000

Dear Kevin McLaury:

This submittal requests approval of the above-mentioned proposed project as a Categorical Exclusion under the provisions of 23 CFR 771.117(d) and the Programmatic Agreement as signed by the Montana Department of Transportation (MDT) and the Federal Highway Administration (FHWA) on April 12, 2001. This proposed action also qualifies as a Categorical Exclusion 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 PCE. A copy of the Preliminary Field Review/Scope of Work Report is attached. In the following form, "N/A" indicates not applicable; "UNK" indicates unknown.

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

	YES	NO	N/A	UNK
1. This proposed project would have (a) significant environmental impact(s) as defined under 23 CFR 771.117(a).	☐	☒	☐	☐
2. This proposed project involves (an) unusual circumstance(s) as described under 23 CFR 771.117(b).	☐	☒	☐	☐
3. This proposed project involves one (or more) of the following situations where:				
A. Right-of-Way, easements, and/or construction permits would be required.	☒	☐	☐	☐

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

Rail, Transit and Planning Division
TTY: (800) 335-7592
Web Page: www.mdt.mt.gov

	YES	NO	N/A	UNK
1. The context or degree of the Right-of-Way action would have (a) substantial social, economic, or environmental effect(s).	☐	☒	☐	☐
2. There is a high rate of residential growth in this proposed project's area.	☐	☒	☐	☐
3. There is a high rate of commercial growth in this proposed project's area.	☐	☒	☐	☐
4. Work would be on and/or within approximately 1.6 kilometers (1± mile) of an Indian Reservation.	☐	☒	☐	☐
5. There are parks, recreational, or other properties acquired/improved under *Section 6(f)* of the *1965 National Land & Water Conservation Fund Act* (16 USC 460L, *et seq.*) on or adjacent to proposed the project area.	☐	☒	☐	☐
The use of such *Section 6(f)* sites would be documented and compensated with the appropriate agencies. (*e.g.*: MDFWP, local entities, etc.).	☐	☐	☒	☐
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 *Section 106* of the *National Historic Preservation Act* (16 USC 470, *et seq.*) by the State Historic Preservation Office (SHPO), which would be affected by this proposed project.	☐	☒	☐	☐
7. There are parks, recreation sites, school grounds, wildlife refuges, historic sites, historic bridges, or irrigation that might be considered under *Section 4(f)* of the 1966 *US DEPARTMENT OF TRANSPORTATION Act* (49 USC 303) on or adjacent to the project area.	☐	☒	☐	☐
a. The proposed project would not impact the site(s), so a 4(f) evaluation is not necessary.	☐	☐	☒	☐
b. De minimis finding(s) is/are necessary for this project.	☐	☐	☒	☐
c. "Nationwide" Programmatic *Section 4(f)* Evaluation forms for these sites are attached.	☐	☐	☒	☐
d. This proposed project requires a full (*i.e.*: DRAFT & FINAL) *Section 4(f)* Evaluation.	☐	☐	☒	☐
B. The activity would involve work in a streambed, wetland, and/or other waterbody(ies) considered as "waters of the United States" or similar (*e.g.*, "state waters").	☒	☐	☐	☐

	YES	NO	N/A	UNK
1. Conditions set forth in *Section 10* of the *Rivers and Harbors Act* (33 USC 403) and/or *Section 404* under 33 CFR Parts 320-330 of the *Clean Water Act* (33 USC 1251-1376) would be met.	☒	☐	☐	☐
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	☐	☐	☒	☐
3. A 124SPA Stream Protection Authorization would be obtained from the MDFWP?	☒	☐	☐	☐
4. There is a delineated floodplain in the proposed project area under FEMA's Floodplain Management criteria.	☐	☒	☐	☐
The water surface at the 100-year flood limit elevation would exceed floodplain management criteria due to an encroachment by the proposed project.	☐	☐	☒	☐
5. Tribal Water Permit would be required.	☐	☐	☒	☐
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.	☐	☒	☐	☐
The designated National Wild & Scenic River systems in Montana are:				
a. Middle Fork of the Flathead River (headwaters to South Fork confluence).	☐	☐	☒	☐
b. North Fork of the Flathead River (Canadian Border to Middle Fork confluence).	☐	☐	☒	☐
c. South Fork of the Flathead River (headwaters to Hungry Horse Reservoir).	☐	☐	☒	☐
d. Missouri River (Fort Benton to Charles M. Russell National Wildlife Refuge).	☐	☐	☒	☐
In accordance with *Section 7* of the *Wild and Scenic Rivers Act* (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).	☐	☐	☒	☐

	YES	NO	N/A	UNK
C. This is a "Type I" action as defined under 23 CFR 772.5(h), 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.	☐	☒	☐	☐
1. If yes, are there potential noise impacts?	☐	☐	☒	☐
2. A Noise Analysis would be completed.	☐	☐	☒	☐
3. There would be compliance with the provisions of both 23 CFR 772 for FHWA's Noise Impact analyses and MDT's Noise Policy.	☒	☐	☐	☐
D. There would be substantial changes in access control involved with this proposed project.	☐	☒	☐	☐
If yes, would they result in extensive economic and/or social impacts on the affected locations?	☐	☐	☒	☐
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.	☒	☐	☐	☐
2. Adverse effects to through-traffic dependant businesses would be avoided or minimized.	☐	☐	☒	☐
3. Interference to local events (*e.g.* festivals) would be minimized to all possible extent.	☐	☐	☒	☐
4. Substantial controversy associated with this pending action would be avoided.	☐	☐	☒	☐
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 *CERCLA* or *CECRA*) site(s) are currently on and/or adjacent to this proposed project.	☐	☒	☐	☐
All reasonable measures would be taken to avoid and/or minimize substantial impacts from same.	☒	☐	☐	☐
G. The Stormwater Discharge conditions (ARM 17.30.1101-1117), including temporary erosion control features for construction would be met.	☐	☐	☒	☐
H. Permanent desirable vegetation with an approved seeding mixture would be established on exposed areas.	☐	☐	☒	☐

	YES	NO	N/A	UNK
I. Documentation of an "invasive species" review to comply with both EO #13112 and the *County Noxious Weed Control Act* (7-22-2152, MCA), including directions as specified by the county(ies) wherein its intended work would be done.	☐	☐	☒	☐
J. There are "Prime" or "Prime if Irrigated" Farmlands designated by the Natural Resources Conservation Service on or adjacent to the proposed project area.	☐	☒	☐	☐
If the proposed work would affect Important Farmlands, then a CPA 106 Farmland Conversion Impact Rating form would be completed in accordance with the *Farmland Protection Policy Act* (7 USC 4201, *et seq.*).	☐	☐	☒	☐
K. Features for the *Americans with Disabilities Act* (PL 101-336) compliance would be included.	☐	☐	☒	☐
L. A written Public Involvement Plan would be completed in accordance with MDT's Public Involvement Handbook.	☒	☐	☐	☐
4. This proposed project complies with the *Clean Air Act*'s *Section 176(c)* (42 USC 7521(a), as amended) under the provisions of 40 CFR 81.327 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.	☒	☐	☐	☐
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 Resources Management Bureau, etc.).	☐	☐	☒	☐
C. Is this proposed project in a "Class I Air Shed" under 40 CFR 52.1382(c)(2-4) and 40 CFR 81.417? (Northern Cheyenne, Flathead, and Fort Peck Indian 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)	☐	☒	☐	☐
5. Federally listed Threatened or Endangered (T/E) Species:				
A. There are recorded occurrences and/or critical habitat in this proposed project's vicinity.	☐	☒	☐	☐

	YES	NO	N/A	UNK
B. Would this proposed project result in a "jeopardy" opinion (under 50 CFR 402) from the Fish & Wildlife Service on any Federally listed T/E Species?	☐	☐	☒	☐

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.

Susan Kilcrease, Date: 5/21/14
Susan Kilcrease - Missoula District Project Development Engineer
MDT Environmental Services Bureau

Concur for Susan Kilcrease, Date: 5/21/14
Heidy Bruner, P.E. - Engineering Section Supervisor
MDT Environmental Services Bureau

Concur [signature], Date: 5/27/14
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: Preliminary Field Review/Scope of Work Report (12/28/2013)

Copy (w/o attach.):

Ed Toavs	Missoula District Administrator
Paul Ferry, P.E.	Highways Engineer
Tom S. Martin, P.E.	Environmental Services Bureau Chief
Heidy Bruner, P.E.	Environmental Services Bureau
Suzy Price	Contract Plans Bureau Chief
Lisa Hurley	Fiscal Programming Section Supervisor
Tom Erving	Fiscal Programming Section
Robert Stapley	Right-of-Way Bureau Chief
Susan Kilcrease	Environmental Services Bureau
File	Environmental Services Bureau

Montana Legislative Branch Environmental Quality Council (EQC)

HSB:smk: S:\PROJECTS\MISSOULA\8189000\8189000ENCED001.DOC

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

Memorandum

To: Distribution

From: Paul Ferry, P.E. PF
Highways Engineer

Date: 12/27/2013

Subject: IM 90-1(205)59
I-90 Nemote Creek Culvert
8189000
Work Type: 312 – Structure Safety

Attached is the Preliminary Field Review Report/Scope of Work Report which was approved on 12/28/13. 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:

Ed Toavs, District Administrator, Missoula Dist.
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 Administrat
Jake Goettle, Construction Engineering Services Bureau
Matt Strizich, Materials Engineer

cc:

William M. Squires, Area Engineer, Road Design
Dawn Stratton, Fiscal Programming Section
Damian Krings, Road Design Engineer

e-copies:

Jim Walther, Engineering, Preconstruction Engineer
Lesly Tribelhorn, Highways Design Engineer
Mark Goodman, Hydraulics Engineer
KC Yahvah, District Hydraulics Engineer, Missoula Dist.
Bill Semmens, Env. Resources Section Supervisor
Pat Basting, District Biologist, Missoula District
Susan Kilcrease, District Project Development Engineer
Danielle Bolan, Traffic Operations Engineer
Ivan Ulberg, Traffic Design Engineer
Kraig McLeod, Safety Engineer
Chris Hardan, Bridge Area Engineer, Missoula District
Michael Grover, Engineering Cost Analyst
Marty Beatty, Engineering Information Services
Sue Sillick, Research Section Supervisor
Jake Goettle, Construction Bureau – VA Engineer
Shane Stack, Missoula District Preconstruction
Ben Nunnallee, Missoula District Projects Engineer
Mike Dodge, District Materials Lab
Jack May, Missoula District Maintenance Chief
Suzan Foley, District Right of Way Design/Plans Supervisor
Phillip Inman, Utilities Engineering Manager
David Hoerning, R/W Engineering Manager
Greg Pizzini, Acquisition Manager
Matt Strizich, Materials Engineer
Daniel Hill, Pavement Analysis Engineer
Jeff Jackson, Geotechnical Engineer
Bret Boundy, Missoula District Geotechnical Manager
Paul Grant, Public Involvement Officer
Jean Riley, Planner

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

Memorandum

To: Paul Ferry, P.E.
Highways Engineer

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

Date: 12/27/2013

Subject: IM 90-1(205)59
I-90 Nemote Creek Culvert
8189000
Work Type: 312 – Structure Safety

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

Approved Paul Ferry Date 12/28/13
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

Introduction

An on-site field review was conducted on October 22, 2013, with the following people in attendance:

William Squires, PE, Missoula Area Engineer, Road Design – Helena
K.C. Yahvah, PE, District Hydraulics Engineer, Missoula Dist. – Helena
Jennifer Nelson, Design Supervisor, Missoula District – Helena
Shane Stack, PE Missoula District Preconstruction
Ben Nunnallee, PE Missoula District Projects Engineer

Proposed Scope of Work

The proposed project has been nominated to address observed sagging in the top panels of the steel plate arch culvert that conveys Nemote Creek under I-90. The issue was first reported in 2006 and was formally reviewed again in May 2013.

Purpose and Need

Bulging and sagging of the culvert's panels was first noted in 2006, and recommended for remedial action in May 2013. This project's purpose is to improve the structural capacity of the pipe to reduce the chance of a culvert failure that would impact the I-90 roadway.

Project Location and Limits

The project is located at the crossing of Nemote Creek by I-90, at RP 59.0 ±, approximately two miles west/north of the Tarkio Loop Road interchange, and 1.3 miles east/south of the Quartz Flats rest westbound rest area. Although I-90 is designated as an east-west facility, it is generally north-south in the project area. Directions in this report are relative to cardinal direction, not roadway direction, unless otherwise noted. Flow of Nemote Creek is east to west.

Work Zone Safety and Mobility

At this time, Level 1 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). No impacts to I-90 traffic are anticipated.

Physical Characteristics

Interstate 90 in the project area was originally constructed in 1967 under project I-IG-90-1(4)60 U1 as a four-lane divided rural section, with 12 foot wide lanes, 10 foot wide outside shoulder and four foot wide inside shoulders, surfaced with 0.35' of plant mix on the traveled lanes and 0.175' of plant mix on the shoulders. These plans show construction of 242 linear feet of 144 inch 8 gauge SPPC with two feet of aggregate backfill material and 22.7 feet of cover at station 46+87.90. Guardrail adjacent to the outside shoulder of the westbound roadway shields the steep fill slope.

The I-90 roadway fill slope intercepts the culvert approximately 9' from its end. Parallel to and east of I-90 is a two-lane facility labeled as Old Highway 12/Mullan Road East. The concrete bridge structure that carries this facility over Nemote Creek was noted to have areas of crumbling concrete, cracking, staining, and spalling. The proximity of this structure to the I-90 fill slope and its location over the upstream end of the culvert would significantly complicate culvert replacement.

The areas of bulging and sagging were noted on the portion of the culvert under and adjacent to the westbound lanes. As viewed from the upstream (east) end of the culvert, one of the areas of deformation is located on the left side top, approximately 12 feet inside the culvert, and extends approximately 17' downstream. Maximum deflection in this area of deformation was roughly

estimated to be six inches. Another area of deformation was noted in the upper right portion of the culvert, approximately 11 feet inside, and extending approximately 26 feet downstream. Both areas of deformation were estimated during the field review to be roughly centered on the right-of-way fence line. Based on visual inspection and available data, these deformations do not appear to have changed between the 2006 and 2013 reviews. Areas of corrosion were noted in the bottom of the pipe where the water is likely present for most of the year.

Traffic Data

Traffic data was not requested for this culvert rehabilitation project. 2012 traffic data by sections for the pertinent segment of I-90 shows an AADT of 6,390, with 1,598 commercial vehicles.

Crash Analysis

Crash data is not applicable to and was not requested for this culvert rehabilitation project.

Major Design Features

a. **Design Speed.** The posted speed for this segment of I-90 is 75 mph for cars and light trucks and 65 mph for large trucks.
b. **Horizontal Alignment**. I-90 is tangent in the project area.
c. **Vertical Alignment**. The vertical alignment of I-90 is +2.970% in the project area; the roadway generally slopes to the west in the project vicinity.
d. **Typical Sections and Surfacing**. N/A
e. **Geotechnical Considerations**. If the proposed treatment (lining) is used, no geotechnical involvement is anticipated.
f. **Hydraulics**. We propose the use of structural reinforcing polyurethane liner material which can be sprayed onto the culvert surface. Existing hydraulic characteristics of this culvert will be generally maintained. No flooding or overtopping issues have been reported at this culvert.
g. **Bridges.** N/A.
h. **Traffic.** N/A.
i. **Pedestrian/Bicycle/ADA**. N/A.
j. **Miscellaneous Features**. N/A.
k. **Context Sensitive Design Issues**. N/A.

Other Projects

No other projects are anticipated to impact project delivery or require coordination.

Location Hydraulics Study Report

A location hydraulics study report will not be prepared for this project. See hydraulics discussion above.

Design Exceptions

No design exceptions are anticipated.

Right-of-Way

No right-of-way acquisition is anticipated.

Access Control

I-90 is a limited access facility; no access changes are proposed.

Utilities/Railroads

Evidence of overhead and underground utilities in the vicinity of the culvert were noted during the field review. If the culvert is rehabilitated through lining, no utility impacts are anticipated. No railroad facilities are in the project limits; therefore, no involvement is anticipated.

Maintenance Items

N/A.

Intelligent Transportation Systems (ITS) Features

N/A.

Survey

No survey is anticipated.

Public Involvement

A limited PI component will be included in the project outlining strategies for public notification. Given the anticipated minimal disruption to the public, a news release is appropriate for public involvement. A news release explaining the project and including a department point of contact will be prepared and distributed.

Environmental Considerations

Adequate protection measures for Nemote Creek will be included in the project specifications. No significant environmental impacts or issues have been identified. We reviewed the project and determined it meets the criteria for the Programmatic Agreement as a Categorical Exclusion under the provisions of 23 CFR 771.117(d) as signed by MDT February 18, 2005, and concurred in by the FHWA on March 4, 2005.

Formal SOW approval will be completed subsequent to the completion of the project environmental documentation.

Energy Savings/Eco-Friendly Considerations

N/A.

Experimental Features

Due to site constraints and apparent minimal change in the areas of deformation over the past seven years, we propose to use a spray-on polyurethane liner product (SprayRoq® Spraywall®) that provides structural enhancement and corrosion resistance. This product allows return to active service within an hour of application. The experimental work plan was submitted to FHWA on December 23, 2013 as experimental project number MT-13-14.

Traffic Control

No disruption to I-90 traffic is anticipated. Minor disruption to traffic on the adjacent facility (Old Highway 12/Mullan Road East) is possible.

A Transportation Management Plan (TMP) consisting of a Traffic Control Plan (TCP) is appropriate for this project. It is anticipated that the TCP will utilize standard drawings and specifications.

Project Management

Project management responsibilities will be handled by Jennifer Nelson of the Missoula crew in Helena Road Design. This is not a project of Division interest for FHWA.

Preliminary Cost Estimate

A detailed, site-specific cost estimate will be developed in coordination with the authorized applicator and the vendor company. A rough estimate of cost for installation of the product to provide structural capacity is between $14 and $40 per square foot; this would correlate to approximately $130,000-$365,000 for treatment of the entire culvert. This is within the range of costs for culvert rehabilitation projects of similar size using conventional methods. It is anticipated that, due to product properties (specifically, quick cure time and lack of requirement for large construction equipment), costs for project incidentals such as traffic control, stream diversion, and mobilization will be less than if a conventional method was utilized.

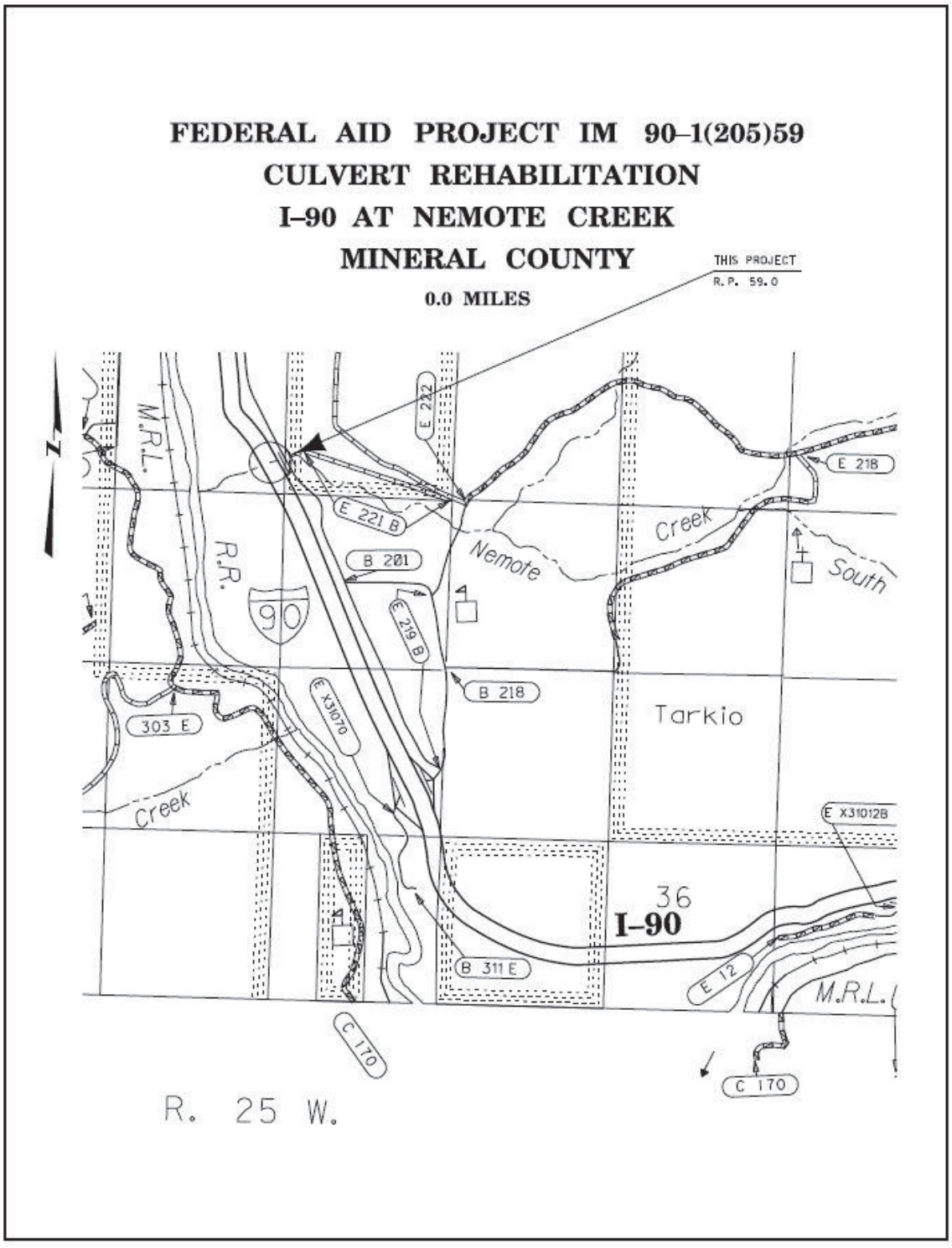
Ready Date

This project has not had overrides approved yet. Once it does, a ready date will be assigned in OPX2. The experimental work plan submitted to FHWA indicates construction during the current Fiscal Year.

Site Map and Photographs

The project site map and photographs are attached.

Site Map


FEDERAL AID PROJECT IM 90–1(205)59
CULVERT REHABILITATION
I–90 AT NEMOTE CREEK
MINERAL COUNTY
0.0 MILES
THIS PROJECT
R.P. 59.0
N
M.R.L.
R.R.
90
E 222
E 221 B
B 201
E 219 B
B 218
E X31070
303 E
Creek
Nemote
Creek
South
E 218
Tarkio
E X31012B
36
I–90
B 311 E
E 12
M.R.L.
C 170
C 170
R. 25 W.

Site Photographs

May 2006 photograph of primary deformation.

Upstream end of culvert, under bridge for Old Highway 12/Mullan Drive East.

May 2013 view of primary deformation looking downstream (west).

May 2013 view of primary deformation looking upstream (east).

Corrosion at/below normal water line.

Looking south along 'westbound' I-90 lanes. Culvert is south of house on the left side of the photograph.

View of upstream culvert end and vicinity.

Upstream culvert end and slope up to I-90 westbound lanes.