



Montana Department of Transportation

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Memorandum

To: James Combs, PE
Highways Engineer

From: Damian Krings, PE *DMK*
Road Design Engineer

Date: January 2, 2019

Subject: NH 1-7(59)404
Chinook – East
UPN 9540000
Work Type 130 - Reconstruction – with added capacity

Please approve the attached Preliminary Field Review Report.

Approved

James Combs
James Combs
Highways Engineer

Date

1/4/19

We are requesting comments from those on the distribution list. We will assume their concurrence if we receive no comments within two weeks of the approval date.

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Preliminary Field Review Report

NH 1-7(59)404, Chinook – East, UPN 9540000

EPS Project Manager: RJ Snyder

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Introduction

The field review was conducted on 8/15/2018. The following personnel were present.

Keith Johnson	CE Specialist III	Road Design – GF District
Miles Yerger	CE Specialist III	Road Design – GF District
Rob Gregory	Maint. Superintendent	Havre Maintenance
RJ Snyder	Project Design Manager	Road Design – GF District
Steve Prinzing	Preconstruction Engineer	Great Falls District
Christie McOmber	Project Design Manager	Great Falls District
Andy White	Civil Engineering Spec.	Surfacing Design – Helena
Galen Healy	Hydraulic Design Engineer	Hydraulics - Helena
Jeff Patten	Operations Engineer	FHWA
Jim Wingerter	Construction Op. Engineer	Great Falls District
Hannah Joki	Drafter	MSU Design
Brendan Scott	Utility Agent	Great Falls District
Kurt Marcoux	Hydraulics Engineer	Hydraulics – GF District
Lee Grosch	Geotechnical Engineer	Materials – GF District
Dan Maze	Structural Engineer	Bridge – Great Falls District
Scott Walter	Acting Bridge Area Engineer	Bridge – Great Falls District
Matt Ladenburg	Maintenance Chief	Havre Maintenance

Proposed Scope of Work

The proposed project has been nominated to reconstruct the existing roadway to a 40' top width with the potential for a 4-lane or 5-lane passing section and to replace existing bridges and culverts where necessary. Coordination and approval from FHWA will be required for the proposed 4-lane or 5-lane passing sections in lieu of the EIS preferred alternative with alternating passing lanes. The Battle Creek bridge, located near the end of the project, will likely act as a break point for the passing lane section which may affect the originally proposed limits of this project.

This project will be designed in 3D model workspace as agreed during the review.

Needs and Objectives

The proposed project will provide an improved roadway by constructing the **Improved Two-Lane and Passing Lanes Alternative** put forth in the ROD from the *US 2, Havre to Fort Belknap Corridor FEIS*. This alternative will effectively serve the needs of motorists by reducing the probability and severity of crashes while increasing the operational capacity within the proposed limits. This alternative optimizes the balance between the fiscal and environmental impacts and the safety and capacity improvements that will be attained upon the project's completion.

Public Summary

The proposed project will upgrade an aging portion of US 2 and bring it up to the current standards of a Non-Interstate National Highway. The 2-lane roadway will be widened and the possibility of adding a passing lane section will be researched during design. The improvements will enhance roadway safety and improve service to local communities, agriculture, industry, commerce, and tourism within the surrounding area.

Project Location and Limits

- The project is located on US Hwy 2 (N-1) in Blaine County and begins within the city limits of Chinook at RP 404.07 and ends at RP 410.0. The project ends 14.7 miles west of the town of Harlem and does not cross an Indian Reservation.
- The roadway is functionally classified as a Rural Principal Arterial – National Highway (Non-Interstate). The project is approximately 5.93 miles long. The project parallels the BNSF Railroad. The project crosses Lodge Creek at RP 404.59 and Battle Creek at RP 409.91.
- The As-built projects are listed below:

Project I.D.	UPN	Beg RP	End RP	Year	Project Type
NH 1-7(41)398	6954	BOP	EOP	2011	Resurfacing
FAP 23(3)		BOP	405.89	1944	Orig. Const.
SFCN 1-7(29)40	4015	404.71	EOP	2000	Resurfacing
FAP 23(2)		405.89	408.46	1940	Orig. Const.
F 101 (3)		408.46	EOP	1940	Orig. Const.

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BR 1-7(22)410	2426	410	410	1999	Br. Replacement
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- d. Secondary 325 intersects this N-1 from the north at RP 405.8. The stationing will run congruent to the reference points, running west to east.

Work Zone Safety and Mobility

Due to the high political visibility of this project, Level 1 construction zone impacts are anticipated for this project as defined in the Work Zone Safety and Mobility (WZSM) guidance. Multiple detours are likely, so the plans package will include a Transportation Management Plan (TMP) with a Traffic Control Plan (TCP). The decision to retain a Public Information (PI) consultant during the construction phase of this project will be decided later in the project development. A Public Information (PI) consultant was requested for the design phase of this project on 12/17/2018.

Physical Characteristics

- a. The following table shows the lane widths of the roadway throughout the project limits:

Beg RP	End RP	Top Width (ft)	Travel Lane Width (ft)	Shoulder Width (ft)
BOP	EOP	28	12	2

- b. The following table (taken from Roadlog) displays the surfacing thicknesses:

Beg RP	End RP	PMS Thickness (in.)	CAC Thickness (in.)
BOP	EOP	7.0	20

- c. The following table displays the original As-Built surfacing thicknesses:

Beg RP	End RP	Surfacing	As-Built ID
BOP	405.75	2" Comp. Bit. Road Mix 4" Com. Gr. "A" Top Cr. 12" Com. Base Mat'l	FAP 23 (3)
405-.75	408.33	¾" Stone Chips 2" Comp. Cushion Top Cr. 6" Comp. Base Mat'l 6" Comp. Selected Mat'l	FAP 23 (2)
408.33	EOP	¾" Stone Chips 2" Comp. Cushion Top Cr. 6" Comp. Selected Mat'l	F 101 (3)

- d. The 2017 PvMS Pavement Management System produced the following Performance Indexes within the project limits:

Beg RP	End RP	Ride	Rut	ACI	MCI
BOP	408.33	65.8	58.9	98.3	99.0
408.33	EOP	61.5	57.3	95.9	99.8

- e. The 2017 PvMS Pavement Management System produced the following Treatment Recommendations within the project limits:

Beg RP	End RP	Construction '18	Construction '20	Maint '18	Maint '20
BOP	408.33	Thin Overlay	Thin Overlay	Thin Overlay	Thin Overlay
408.33	EOP	Thin Overlay	Thin Overlay	Thin Overlay	Thin Overlay

- f. The horizontal alignment is mostly tangential. There is one horizontal curve within the project limits. It is located around the EOP (RP 410) and its radius is 4,584 feet. No vertical grade exceeds 1%.
- g. The P.T.W. traverses level and rural terrain that is used primarily for farm and range land and meets a design speed of 70 MPH.
- h. The RT ditches have 3:1 to 6:1 inslopes with V-ditch or flat bottoms. Some of the RT ditches also provide irrigation so standing water and wetlands are present. In most locations with steeper inslopes, there is a flat landing (approximately 10') adjacent to the roadway that provides additional room for recovery. The back slopes of the RT ditches vary between 3:1 and 6:1. The LT ditches double as railroad ditches that have multi-use features like two-track roads and wide, flat-graded bottoms for railroad equipment storage. Inslopes and back slopes vary between 4:1 and 6:1. The LT ditches have more recoverable and traversable slopes than the RT ditches.

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i. The following table provides the location of each structure within the limits of this project:

Structure Description	Location (RP)	Deck Width (ft)	Length (ft)	Year Built	Span Material	Original Project Const.
Red Rock Cr. O'Flow	404.1	35.5	60	1942	Timber Stringer	F 23-3
Lodge Creek	404.6	28	94	1942	Concrete	F 23-3
Drainage	405.3	30	58	1940	Timber Stringer	F 23-3
Irrigation-Stockpass	405.6	28	153	1940	Timber Stringer	F 23-2
Drainage	406.0	32.4	13	1940	Timber Stringer	F 23-2
Drainage	406.8	28	58	1940	Timber Stringer	F 23-2
Drainage	407.0	28	39	1940	Timber Stringer	F 23-2
Drainage	407.9	28.3	39	1940	Timber Stringer	F 23-2
Drainage	408.4	28	58	1941	Timber Stringer	101-3 and 4
Battle Creek	409.9	40.2	137.8	1999	Concrete	BR 1-7(22)410

Traffic Data

RP 404.07 to RP 410

2018 AADT	2,180 – Present
2024 AADT	2,320 – Letting Year
2044 AADT	2,830 – Design Year
DHV	360
T	11.4%
ESAL	117
AGR	1.0%

Crash Analysis

As requested, a safety analysis was completed on a portion of NINHS Route 1 (C000001) from RP 404.07 to RP 410.0 for the 10-year period from 01/01/2008 through 12/31/2017. The analysis evaluates the project from a corridor-wide perspective. The project was evaluated using the safety performance function (SPF's) and Level-of-Service (LOSS) models developed for rural, flat, and rolling 2-lane undivided highways. As these are roadway departure models, non-intersection/non-interchange related crashes are utilized for the analysis. Any identified intersection crash trends are summarized in the subsequent sections.

Montana Highway Patrol records show 52 total crashes along this section of roadway between 01/01/2008 through 12/31/2017. Forty-six of the crashes were determined to be non-junction related crashes. Within this section of roadway, there has been a fatal crash, 4 incapacitating injury crashes, 4 non-incapacitating injury crashes, 3 possible injury crashes, and the rest were property damage only (PDO) crashes.

The following table summarizes the Levels-of-Service (LOSS) for total crashes and fatal/injury crashes as well as any observed crash patterns for areas in which an SPF Model is available.

SPF Model	Rural, Flat, and Rolling 2-Lane Undivided Highways
Total Crashes	*LOSS II
Fatal and Injury Crashes	*LOSS II
Observed Crash Pattern	Sideswipe Opposite Direction Wild Animal No Apparent Contributing Factor

*LOSS II Indicates a low to moderate potential for crash reduction

Crash Clusters

In 2013/2014 the section between RP 404.00 and 405.500 was identified as a crash cluster. No feasible countermeasures were identified to address any specific crash trends.

In 2013/2014 the section between RP 407.400 and 407.900 was identified as a crash cluster. No feasible countermeasures were identified to address any specific crash trends.

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In 2017, the section between 406.667 and 409.060 was identified as a crash cluster. No feasible countermeasures were identified to address any specific crash trends.

Remarks and Recommendations

There have been 3 additional crashes within this section of roadway from 01/01/2018 through 08/31/2018. All the crashes involved collisions with a wild animal. The severity of the additional crashes all resulted in PDO crashes.

There is an identified sideswipe opposite direction crash pattern within the project limits. Four of the across centerline collisions occurred on bridge decks and/or were related to bridge decks within the project limits. The severity of the bridge deck related crashes all resulted in PDO crashes.

The remaining across centerline crashes appear to have been addressed with the installation of centerline rumble strips in November 2016 under *HSIP-G1-6(113)385, UPN 8919000* from RP 385 – 427.9. There have been no across centerline crashes since the centerline rumble strips were installed. The centerline rumble strips as well as the shoulder rumble strips should be perpetuated with this project.

There is an identified wild animal crash pattern within the project limits. Look at the feasibility of installing wild animal crossing signs with this project. The wild animal-vehicles collisions are evenly dispersed within the project limits.

For the intersection of Elloam Road and US 2, the observed crash trend appears to have been addressed with *JCT US 2-North, STPS 325-1(3)0, UPN 4478000*. That project realigned S-325 (Elloam Road) and reconnecting it to US 2 over 1 mile to the east. There has been 1 crash at this new intersection since the project was completed in March 2013. The crash involved a southbound vehicle failing to stop at the intersection and departing the roadway into an irrigation ditch resulting in an incapacitating injury crash. The crash occurred under dry road conditions and at night. To address the intersection road departure crash at the intersection of Elloam Road and US 2, look at the feasibility of adding and enlarged stop sign, relocation of the stop sign, and adding a bi-direction large arrow board (W1-7a) for approaching traffic.

Major Design Features

- a. **Design Speed.** The design speed for a Rural Principal Arterial – National Highway (Non-Interstate in level terrain is 70 MPH. The posted speed is 70 MPH.
- b. **Horizontal Alignment.** The horizontal alignment will remain functionally similar to what exists today. The proposed centerline will likely be shifted south to offset impacts to the railroad and to increase the buffer space between motorists and equipment during construction.
- c. **Vertical Alignment.** The vertical alignment will remain functionally similar to what exists today.
- d. **Typical Sections and Surfacing.** The proposed typical section will consist of 12-ft travel lanes and 8-ft shoulders for a top width of 40-ft. It should be noted that a recently designed reconstruction project that is nearby, *Lohman E&W – UPN 6281000 – NH 1-7(43)393 (See Other Projects)*, received a Geotechnical recommendation for 0.8' Cement Treated Base in place of a CAC section. It has not been determined if this project will receive a similar recommendation. A passing lane section will be built within the limits of this project or within the limits of project *Zurich East & West – UPN 9539000 – NH 1-7(61)410 (See Other Projects)*. The recommended top width and proposed location of the passing lane section will be determined upon the completion of the traffic study. The traffic study will also examine if and where turn lanes should be included.
- e. **Geotechnical Considerations.** It is anticipated that Geotechnical considerations will weigh heavily in the design this project. Currently it is anticipated that this proposed project will have similar geotechnical characteristics to *Lohman E&W*. The Geology and Soils summary from the 464 Report states, “USDA Soil Survey maps indicate a variety of sandy, silty, clayey, and gravelly soils up to several feet in thickness. AASHTO soils classifications of the corridor include A-1 through A-7 materials. Organic soils will generally occur within the wetland areas.” Highlights from the 464 Report for 6281000 are catalogued below:
 - a. Groundwater was regularly encountered in the borings throughout the corridor.

Depths ranged from 43.5 feet to 2.2 feet below the ground surface.

- b. Preloading of new embankment in spot locations was recommended.
- c. Embankment Foundation Treatment was recommended.
- d. Notice to Proceed date no earlier than mid-June.
- e. Construction sequencing should be carefully considered.
- f. Dewatering during construction, especially at large culverts, is likely.
- g. Special backfill, foundation treatment, and/or positive cambers for culverts was recommended due to the soils.
- h. Stabilization geotextile is to be placed over the top of all prepared subgrade.

f. Hydraulics

Floodplains associated with Lodge Creek, Battle Creek, and the Milk River are located within the project section. Blaine County Flood Insurance Rate Maps show Lodge Creek Zone AE floodplain from the beginning of the project to approximately RP 405.7. Zone A floodplain is shown south of the PTW from approximately RP 405.7 to RP 408.8 and over the PTW from approximately RP 408.8 to the end of the project. Zone AE floodway of Lodge Creek crosses the PTW at the bridge located at RP 404.1 and the Lodge Creek Bridge at RP 404.63. Flood aerial photos from September 26, 1986, show overtopping of US at approximately RP 408.7 as well as significant flooding both side of US2. Detailed floodplain analysis and a floodplain development permit will be required for the project. Specific grade recommendations may be needed to meet floodplain requirements.

The Fort Belknap Irrigation District, Alfalfa Valley Irrigation District, Matheson Ditch Company, and Zurich Irrigation District are located within the project limits. Numerous irrigation facilities and associated drain ditches cross and parallel the PTW within the project section. The Irrigation Overview Report for the US 2 Havre to Fort Belknap EIS dated January 2005 noted the ditch paralleling the south side of US 2 between RP 404.5 and RP 408.0 is a waste/return ditch that conveys irrigation overflow from the southern fields. The report also identifies major Alfalfa Valley irrigation crossings at RP 405.6, 406.0, 406.8, 407.0, and 407.2.

The PTW grade within the project limits is nearly flat and as such roadside ditches will need to be closely evaluated for drainage.

Corrosive soil and water are present within the project limits. Corrosive samples from the *Chinook – Harlem Culverts, UPN 9220000*, project within the project section show samples corrosive to aluminum and to zinc-coated steel and some samples alkali-reactive to concrete. A Location Hydraulic Study Report (LHSR) will be prepared for the project. Extensive survey may be requested for hydraulic analyses.

- g. **Bridges.** In the aforementioned table listing the bridges within this project, the first 9 structures will be replaced. Detours will be likely be needed for the construction of all of them. No specific bike/ped facilities, e.g. sidewalks, will be installed. Any existing utilities will likely be impacted and will need relocation prior to the construction of the new bridges.
- h. **Traffic.** Traffic Operations and Analysis will complete a traffic study that encompasses the limits of this project and the *Zurich East & West* project. The study will provide a recommendation for the location of the passing lanes. This passing lane section could be built exclusively within the limits of this project or *Zurich East & West* or within the limits of both projects. If the passing lane section splits the 2 projects, the limits of both projects will be changed so only one project will encompass the entirety of the passing lane section. The traffic study will also analyze and recommend if any turn lanes will be installed. Signing and pavement markings will be upgraded. Geometrics will be involved regarding the design of any public approaches within the proposed limits.
- i. **Pedestrian/Bicycle/ADA.** There are no existing bicycle or pedestrian facilities. By virtue of constructing 8' shoulders, the facility will become more accommodating to cyclists. Specific pedestrian facilities are not intended due to the rural surroundings.
- j. **Miscellaneous Features.** Currently, no major miscellaneous features have been identified. Mailbox turnouts will be necessary. No school bus turnouts currently exist within the project limits, however their inclusion with this project will be researched. The entire project is proposed to be fenced. Additional guardrail, except at the bridges, is not presently intended.
- k. **Context Sensitive Design Issues.** This project will impact wetlands; thus wetland mitigation will be necessary. Bridges will be designed to allow wildlife passage wherever possible and wildlife fencing will be installed where possible.
- l. **Permanent Erosion and Sediment Control (PESC) Features.** Permanent erosion control

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features will be implemented with this project. Vegetation may prove difficult to establish and erosion control measures, e.g. lining ditches, riprap at outlets, will be likely. No reoccurring erosion issues were identified.

Other Projects

There are 5 nearby projects that may affect each other. Their scopes are summarized below:

- **UPN 9539000 – Zurich East & West – NH 1-7(61)410**
 - This project proposes to reconstruct US-2 to a 40' top from RP 410.0 to 417.0 with the potential for one passing section. This project begins at the EOP of the subject project. It appears these two projects will be constructed separately; however, the limits of this project and the subject project may need to be shifted if the Traffic Study recommends installing passing lanes between the limits of both projects. The passing lane will likely be built on one side or the other of the Battle Creek bridge as the bridge is not scheduled to be replaced.
- **UPN 6281000 – Lohman East & West – NH 1-7(43)393**
 - The proposed work proposes to completely reconstruct the existing roadway, including grading, gravel, plant mix surfacing, seal & cover, pavement markings, signing, culverts, and bridge replacement. The project will incorporate passing lanes, turning lanes, wider shoulders, and flatter roadway side slopes. The project will be designed using a 70-mph design speed. The limits of this project are from RP 393.9 to 403.5. The project is tentatively scheduled to be let in September of 2019.
- **UPN 9540001 – Chinook East - Tar Removal – NH 1-7(62)405**
 - Contaminated tar removal from LT ditch between RP 404.5 and 405. Spot contamination removal in locations along RT ditch and surrounding areas as well. The contract to begin work on this project was signed on 10/01/2018.
- **UPN 9220000 – Chinook-Harlem Culverts**
 - This project was nominated to address corroded cross culverts on US 2 (N-1) between RP 404 and RP 428. Culverts will be repaired, lined, or replaced. This project addresses an immediate need for the failing culverts before future proposed reconstruction projects can be built. The culverts that will be affected within the limits of this project listed below:
 - Dual 24" CSP – Irrigation – RP404.1 – To Be Lined
 - 24" – Drainage – RP 406.57 – To Be Replaced
- **UPN 9221000 – East of Zurich - Harlem – NH 1-7(55)417**
 - The proposed work calls to completely reconstruct the existing roadway, including grading, gravel, plant mix surfacing, seal & cover, pavement markings, signing, and culverts. The project will incorporate passing lanes, turning lanes, wider shoulders, and flatter roadway side slopes. The project will be designed using a 70-mph design speed. The limits of the project are between 417.0 and 424.0. This project begins at the EOP of *Zurich East & West*.

Location Hydraulics Study Report

No Location Hydraulics Study Report is available at this time

Design Exceptions

Design exceptions to steepen slopes from 6:1 to 4:1 maybe requested to minimize prime wetland impacts if there is no effect to the stability of slopes. Additional wetland avoidance and minimization measures will be pursued. An updated wetland delineation is expected.

Right-of-Way

The following table displays the Right-of-Way widths and their respective locations.

Station	Reference Pt.	LT (feet)	RT (feet)
28+15.2 (BOP)	404.6	75	60
34+30	404.7	75	50*
40+11.6	404.8	75	60
66+86.5	405.3	75	60
106+66.5	406.1	75	100
133+33	406.6	75	80

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240+58	408.6	75	100
306+00	409.8	75	90
312+39	410.0 (EOP)	75	60

*Appears frontage was constricted by North American Oil Refining. They do not appear to currently own the property.

It should be noted that this project is adjacent to the BOP of *Zurich East & West* which generally has narrower R/W widths than this project. As the location for the passing lanes has not been established, if the passing section was constructed with this project, less R/W acquisition would be needed. The cost estimate for R/W activities in PPMS is \$250,000. Given what is known, this estimate is accurate.

Access Control

There is no existing access control for this roadway. No access control changes are anticipated.

Utilities/Railroads

Overhead power (transmission and distribution), underground telephone, and underground gas exist within the project limits. Impacts will be identified upon the completion of SUE I survey. Underground fiber optic cable was located with the city limits of Chinook, which is close to the BOP for this project. Municipal utilities, e.g. water, sanitary sewer, may exist near the BOP as well.

The BNSF railway parallels north (LT) of the roadway throughout the project. It appears the centerlines of the roadway and railroad are 125' apart for most length of the project. Near the end of the project – RP 408.3 (Sta. 224+17) – the alignment of the railroad begins to taper away from the roadway for what appears to be have been for stockyard that is currently abandoned. While minimizing encroachment onto railroad R/W will be factored into the new design, railroad R/W involvement is anticipated. Drainages may need to be coordinated with the railroad. There are 3 public railroad crossings and 1 crossing that appears to be abandoned. They are listed below:

- RP 404.6 – Lodge Creek Road (appears abandoned)
- RP 405.8 – Secondary 325 (Elloam Road.)
- RP 407.4 – Bagen Road
- RP 409.4 – North Fork Road

Design guidance to keep the edge-of-traveled-way 150 feet from the nearest rail at these locations will be administered wherever possible, however exceptions will be likely.

The current cost estimate of \$350,000 for Incidental Construction (IC) is accurate. No modification is necessary at this time.

Maintenance Items

No maintenance specific issues were discussed. Currently, it appears no maintenance will be necessary prior to construction.

Intelligent Transportation Systems (ITS) Features

No ITS features are anticipated at this time, however the project is early in design and ITS features could be included later.

Experimental Features

No experimental features are anticipated at this time; however, the project is early in design and experimental features could be included later.

Survey

An aerial survey was performed in 2017. It has been flown and upon the distribution of this document, the survey will be mapped for design. Pickup survey(s) are likely and will be requested from potentially affected areas, e.g. hydraulics, utilities, etc., when the map file has been scrutinized for completeness.

Public Involvement

Level C is the appropriate level of public involvement and a PI consultant was requested on 12/17/2018. While the design of this project will be approached with keeping two-way, two-lane traffic moving throughout construction to mitigate some Significant Impacts, history has shown that US 2 reconstruction projects tend to attract local public interest. A substantial PI component was initiated with the FEIS and

the first recommended project (*Havre – East – UPN 4951*) has already been constructed. Therefore, PI involvement is anticipated to not be as in-depth as a standalone reconstruction project. Some or all of the following may be included during the design phase.

1. Letter of Intent and News Release explaining the project and including a department point of contact. Contact with a newspaper or papers serving the area to develop a story and graphics that explain and illustrate the proposal. Radio and TV contacts.
2. Personal contacts with adjacent landowners at the time of right of entry and preliminary right of way report.
3. Personal contacts with local officials, interest groups and other organizations.
4. Construction notification and information during construction.

As the PI consultant will steer the PI process, supplemental public contact may occur beyond what is listed.

Environmental Considerations

The anticipated level of environmental documentation will be a re-evaluation of the US, Havre to Fort Belknap Corridor Final Environmental Impact Statement (FEIS)/Record of Decision (ROD). The FEIS was approved FHWA on 09/30/2004 and the ROD was approved by FHWA on 11/22/2004.

Based on the analysis in the FEIS, the Improved 2-Lane Alternative is the Environmentally Preferred Alternative, as it serves the needs of the roadway with the least environmental impact.

- Air Quality

No permanent mitigation is required for the chosen alternative.

- Noise

No noise receptors have predicted noise levels in the design year that substantially exceed (13 dBA increase) the noise levels in the present year of the project. For the Improved Two-Lane with Passing Lanes Alternative, the increase in predicted noise levels at all receptors along the corridor would range from 1 to 10 dBA.

- Historic Bridges

There is 1 impacted historic bridge within the proposed project limits – 24BL981/1050 (Lodge Creek Bridge). It will be replaced with this project. The FEIS proposes to use the MDT Adopt-a-Bridge program to try to identify a new owner.

- Cultural Site

The Great Northern Railway (24BL1574) is eligible for the National Register of Historic Places. The railroad runs parallel to US 2 and minimizing impacts to it will be pursued during design.

- Water Quality

It is expected that effects on ground water resources would be negligible and impacts to individual wells will be addressed during design.

- Biological Resources

A Biological Resources Report was completed during the development of the EIS. Environmental Services will verify that the original Biological Resources Report remains valid.

The opportunity to reduce wild animal crashes by facilitating wildlife movement at major bridge locations or large culverts should be investigated.

(ROD pg.9) – “MDT will continue consultation with Montana Fish Wildlife and Parks (MFWP) on issues including riparian habitat enhancement and wetland development and river modification at bridge crossings.”

- Floodplains

There are several delineated floodplain encroachments located along the proposed highway. The FEIS notes that, “The overall encroachment into the floodplain would be minimal compared to the size of the floodplains.” Structures will be designed to ensure that the increase in water surface elevation from the base flood elevation is less than 0.5 ft. Flood plains permits will be obtained for encroachments in the delineated 100-year Milk River floodplain.

- Wetlands

- Jurisdictional Wetlands

Wetland	RP	Area (ac)	Impact (ac)	Category
Px (Lodge Creek)	404.5	6.2	0.2	III
W	406.0	3.3	0.8	III
X (Battle Creek)	410.0	5.0	0.4	III

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- Non-Jurisdictional Wetland Areas, Ditches, and Canals

Wetland	RP	Area (ac)	Impact (ac)	Category
NJU	405.7	0.2	0.1	IV
NJX	406.3	0.6	0.6	IV
NJBBB	407.2	0.5	0.4	IV

- Hazardous Materials

Two potentially abandoned underground storage tanks (USTs) exist on the south side of US 2 and soil/ground contamination is associated with the abandoned Diamond Asphalt Refinery on the east side of Lodge Creek.

- Permits

Close adherence to guidelines put forth by Environmental Services for the abatement of erosion and water, air, and noise pollution will be called for in the project plans. It is anticipated that SPA 124 and 404 permits will be required for the project.

Energy Savings/Eco-Friendly Considerations

No Energy Savings/Eco-Friendly considerations were considered at the field review. Due to the early stages of design for this project, eco-friendly considerations are still viable.

Traffic Control

ROD pg. 12 "Construction will be phased to maintain two lanes of traffic uninterrupted side road access to the greatest extent practicable." As the design of the new horizontal and vertical alignment is expected to closely resemble the current alignment, attempts will be made during design to allow two-way traffic to remain on PTW during construction to the greatest extent possible. Local access will be maintained to the maximum extent possible. The MUTCD will be utilized to guide the application of all traffic control plans. Motorists should expect slight delays during construction. No road closures will be allowed. Wide loads, pedestrian traffic, mail delivery, business access, and bus pickup will be accommodated through the project limits during construction. It should be noted that night work is allowed during the construction of *Lohman E&W*. Allowing night work for this project will be discussed during the TMP.

Preliminary Construction Cost Estimate

As the limits for this project may change due to the unknown location of the passing lane section, listing a range for the Total Costs (w/INF + IDC) is most appropriate at this stage of design. The project is anticipated to cost between \$18,000,000 to \$25,000,000 which includes approximately \$1,700,000 for traffic control (including detours) with 20% contingency and 10% for mobilization. The IDC is calculated at 10.49% for FYY 2019.

Preliminary Engineering

Currently, \$1,900,000 is programmed for PE expenditure. Given what is known, no modification is necessary at this time.

Project and Risk Management

RJ Snyder will be the Project Design Manager with Great Falls District Road Design – Helena crew will be responsible for the plans. This project is considered a Project of Division Interest (PoDI) by FHWA.

Ready Date

The ready date will be determined through the override process. The project is outside of the Tentative Construction Plan. There does not appear to be any design activities that will require an exceptional amount of time. The current PE end date is 12/31/2026. A review of the remaining EPS schedule, critical path activities, and target letting date indicates that a modification to the PE End Date is not needed.

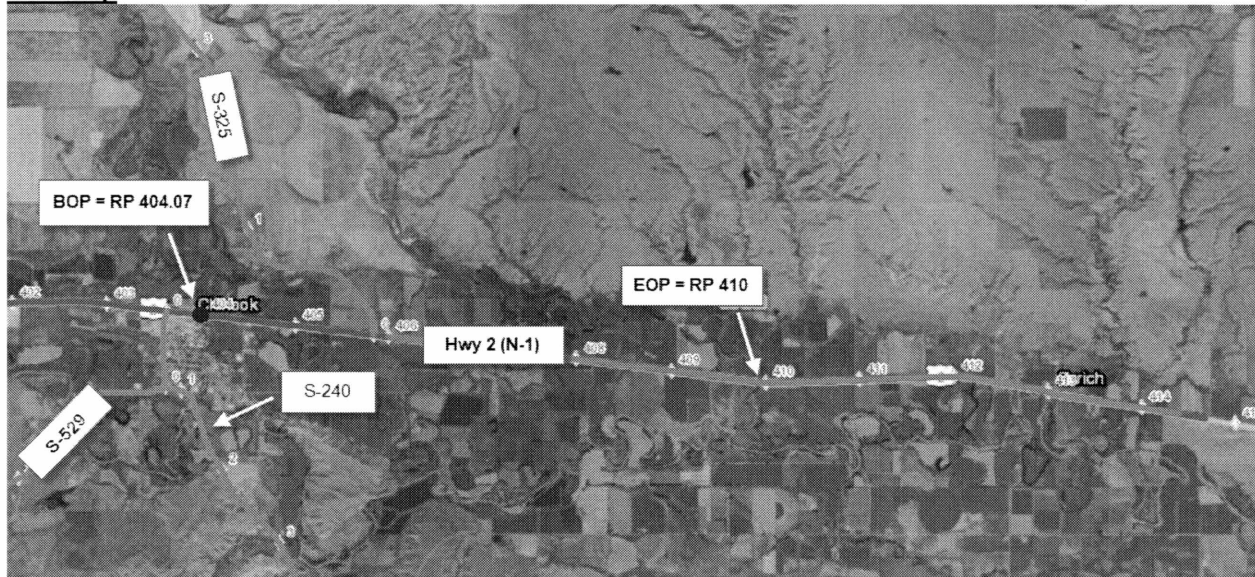
Preliminary Field Review Report

NH 1-7(59)404, Chinook – East, UPN 9540000

Project Manager: RJ Snyder

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Site Map



e-copies:

Dustin Rouse, Preconstruction Engineer
Vacant, Highways Design Engineer
Dave Hedstrom, Hydraulics Engineer
Vacant, Supervisor, Photogrammetry & Survey
Danielle Bolan, Traffic Operations Engineer
Ivan Ulberg, Traffic Design Engineer
Patricia Burke, Safety Engineer
Chad Richards, Engineering Cost Analyst
John Pirre, Engineering Information Services
Jan Nessel, Public Involvement Officer
Sue Sillick, Research Section Supervisor
Lisa Hurley, Fiscal Programming Section
Kurtis Miros, Engineering Division
Jeff Nehring, Engineering Division
Darin Reynolds, Construction Bureau – VA Engineer
Sheila Ludlow, Bicycle/Pedestrian Coordinator
Tom Martin, Environmental Services Bureau Chief
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Christie McOmber, Projects Engineer
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Jean Riley, Planner
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Damian Krings, Road Design Engineer
Becky Duke, Traffic Data Collection Section Super. (WIM)
Doug McBroom, Maint. Division Operations Mgr (RWIS)
Vacant, Reclamation Specialist
Bill Semmens, Enviro Resources Section Supervisor
Jon Axline, Historian
Harry Barnett; Matt Ladenburg, Maintenance Chief
Linda Cline, Right of Way Design Supervisor
Jim Wingerter, Construction Ops Engineer
Jere Stoner, Bridge Area Engineer
Lee Grosch, Geotechnical Manager
Eric Thunstrom, Project Development Engineer
Jeff McLaughlin, District 3 MCS Captain
Vacant, Surfacing Design
Brendan Scott, District Utility Agent
Randy Boysen, Constructability Reviewer