



Montana Department of Transportation

PO Box 201001
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Memorandum

To: Damian Krings, PE
Highways Engineer
From: Jeremy Terry, PE
Road Design Engineer
Date: March 3, 2021
Subject: STPS 203-1(16)4
North of Stevensville – North
UPN 6138000
Work Type 130 - Reconstruction – with added capacity

We request you approve the Plan-in-Hand Report for this project.

Approved [Signature] Date March 4, 2021
for Damian Krings, PE
Highways Engineer

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.

Distribution (electronic only):

- Bob Vosen, Missoula District Administrator
Carol Strizich, Acting Rail, Transit, & Planning Division Administrator
Stephanie Brandenberger, Bridge Engineer
Jeff Jackson, Geotechnical and Pavement Bureau Chief
Damian Krings, Highways Engineer
Tom Martin, Environmental Services Bureau Chief
Gabe Priebe, Traffic and Safety Engineer
Jon Swartz, Maintenance Division Administrator
Robert Stapley, Right-of-Way Bureau Chief
Shane Pegram, Construction Bureau – VA Engineer

cc:

- Joshua Dold, EPS Project Manager, Missoula District
Jeremy Terry, Road Design Engineer
Ravalli County Commissioners
215 S. 4th Street, Suite A
Hamilton, MT 59840

Highways Master file

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EPS Project Manager: Joshua Dold

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At this time, no plan-in-hand field review was scheduled, but a smaller group may go visit the project site at a later date. The plan-in-hand office review was held December 17, 2020 virtually using zoom meeting with the following personnel in attendance:

Ben Nunnallee, Missoula District Projects Engineer  
Jacquelyn Smith, Missoula District Preconstruction Engineer  
Damian Krings, Highways Engineer  
William Squires, Highways Design Engineer (acting)  
Darrell Williams, Missoula District Construction Operations Engineer  
Matt Straub, Construction Project Manager, Missoula Area  
Bill Maart, Construction Project Manager, Missoula Area  
Ellen Studebaker, Missoula Construction  
Aaron Mason, Missoula District Design Supervisor (acting), Road Design  
Jessica Jenks, Missoula District CE Specialist III, Road Design  
Joshua Dold, Missoula District Road Design Project Manager  
Rebecca Ridenour, Missoula District Project Development Engineer  
Joe Weigand, Missoula District Biologist  
Jon Rainwater, Missoula District Hydraulics Engineer  
Daniel Truesdell, Designer, Traffic and Safety  
Jerald Sabol, Checker, Road Design  
Joe Green, Specification Engineer/Constructability Reviewer  
Darcy Goodson, Reclamation Specialist  
Gregg Wood, Missoula District Utility Agent  
Glenn Jackson, R/W Appraisal Manager  
John Horat, Ravalli County Road Administrator, Road & Bridge Dept.  
Timothy Hufford, Surfacing Design  
Maureen Walsh, Missoula District R/W Supervisor  
Justin Crow, Butte District R/W Designer  
Mike Dodge, Materials Lab  
Roger Schroeder, Signing Design  
Scott Gerken, Missoula District Traffic Project Engineer  
Bret Boundy, Missoula District Geotechnical Manager  
Keith Johnson, CE Specialist, Electrical

### **General Discussion Comments**

A discussion was brought up about the potential for adding a school bus turnaround at approximate station 474+50. There is a large gravel/dirt area in this location that is currently used as an informal turnaround. A few members of the general public have requested a school bus turnaround in this location in the past decade. Right-of-way said we would need an easement in Ravalli County's name so the liability falls on Ravalli County and not MDT. John Horat (Ravalli County Road Administrator) said they do not want to provide winter maintenance for the school bus turnaround. These comments from the general public were likely made prior to the Florence-East roundabout being constructed. Now that the roundabout is in place, the school buses could drive the extra distance and turnaround using the roundabout. Due to site constraints (steep cut slopes adjacent to the roadway), combined with MDT and Ravalli County not wanting to maintain the school bus turnaround, we have decided to not include a proposed school bus turnaround with this project.

At the last District Construction Engineer's (DCE) meeting, the DCE's preferred large mailboxes be installed in rural areas. The District Construction Operation Engineer (DCOE) and the District Preconstruction Engineer (DPE) were in favor of large mailbox usage on this project, and also noted that a landowner is more likely to use a provided large mailbox and not replace it with a custom mailbox. We will include the large mailboxes for all new mailboxes.

All public approaches, mailbox turnouts, and pullouts will receive a seal and cover and fog seal, as agreed upon by Ravalli County, the District and Construction. Final sweep and broom will no longer be a pay item in the contract.

The DCOE requested that the mailbox turnouts and pullouts be displayed on the geometric details or create separate mailbox turnout details, due to the large quantity of turnouts on this project (28 mailbox  
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turnouts and 2 pullouts). The DCOE also preferred to see the roadway widths displayed in the geometric details. Geometrics will look into providing the additional information in the geometric details, as needed. All the roadway widths will also be available to construction electronically (either XML or GPK format). If the info is provided in the Geometric Details, then Construction would prefer coordinates be displayed.

Sinusoidal rumble strips (RS) will be used on this project due to the large number of residences that reside in a close proximity to the roadway. The sinusoidal RS details will match project HSIP STWD (690), SF189 D1 CLRS Missoula Area [9672000], as the project will grind centerline rumble strips (CLRS) tying into the end of this project. The rumble strip configurations and locations where CLRS will be installed still need to be verified.

The proposed irrigation pipe that parallels the road from station 242+52 to 254+45 will be moved inside of the proposed R/W and within the highway embankment due to impacts to the adjacent landowner, safety, and drainage concerns. This decision was agreed upon by Road Design, Hydraulics, the District, R/W, and the irrigation district (United States Fish & Wildlife Service (USFWS)). Per discussions with landowners and the irrigation district, the Missoula District Hydraulics Engineer determined that air vents need to be added every 1,000' for irrigation pipes, so the pipe from 242+52 to 254+45 will likely need an air vent.

Per Right-of-Way Bureau, total acquisition has been completed on parcel 54, and parcel 40 that was previously purchased in full under a hardship acquisition will most likely be demolished (existing structures will be removed).

John Horat asked about the status of incorporating a graded platform for a future shared use path (SUP), and the DPE informed him that the SUP is no longer a consideration on this project. Mr. Horat was okay with that conclusion, and he said the county will no longer seek funds for a TA project to construct a SUP.

Per Construction, the current contract time calculation of 190 days should work perfect for the 3-season project that is recommended by Construction. The DCOE also said ideally we would let the project in late fall, and over winter shutdown work on clearing and grubbing and tree clearing. This would avoid the need to create a JOC for tree clearing to complete the work outside the MBTA window. Currently the project letting date is July 25, 2022 with an anticipated notice to proceed (NTP) date of late September 2022. This NTP date will work out nicely if the current project schedule remains.

Per the Highways Design Engineer (HDE), use a maximum grade of 6% on all private and public approaches, whenever possible. This will likely be realized by either extending the length of approach reconstruction, shortening the landing, or a combination of the two.

THE FOLLOWING ITEMS WERE DISCUSSED AND RECOMMENDED FOR CHANGE:

### **Project Plan-in-Hand Review Documents**

All comments and responses in the Road Design, Hydraulics, Signing, Geometric and R/W plan sheets, Road Design Cross Sections, Road Design and Hydraulics special provisions, Road Design and Signing cost estimates and Road Design contract time calculation are available at the pdf linked below on DMS.

[CLICK HERE FOR COMMENTS/RESPONSES FOR PLAN-IN-HAND REVIEW PLAN SHEETS \(COMBINED\)](#)

### **Traffic Control and Sequencing**

Appropriate signing, lane closures, detours, etc. in accordance with the MUTCD, will be used to maintain traffic through construction. One lane of alternating traffic will only be allowed from 8:30am-3:00pm. Outside of these hours, traffic must be restored to two-way traffic. In addition, one lane of alternating traffic will only be allowed for a maximum length of 1.5-2 miles. These staged construction methods will reduce the time required to travel through the project. The contractor could be required to complete a section up through placement of crushed base course before moving on to the next section.

The noise impact special provision will be included, as requested by Construction. Per the DCOE, include traffic actuated temporary signals on public approaches at Ambrose Creek Road and Rathbun Lane, and likely on S-203 at the termination of the construction work zone.

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On the larger pipes that are being installed (96" CSP and RCB's), construction thought it would be a good idea to design and incorporate a "shoo fly" (grading and gravel down the embankment and around the proposed culvert) to maintain two lanes of traffic during construction instead of detouring traffic to an alternate route or reducing traffic to one lane of alternating traffic for an extended duration. Incorporating the grading for the "shoo fly" into the construction limits will require construction permits to be included for these areas. This "shoo fly" design will be possible at a lot of the larger culvert locations, but not all of them. Some culvert locations can likely be constructed in phases where the roadway top width is closer to 50'.

There will likely be wide-load restrictions. Wide loads will likely be detoured via signing along an alternate route(s).

The current contract time calculation of 190 days will equate for a 3-season project, which is recommended by Construction. Clearing and grubbing and tree clearing will occur fall/winter of the first season, with construction commencing the following spring.

### **Public Involvement**

The project Level of Impact (LOI) has been determined to be Substantial and level of public involvement C, as defined by MDT's Public Involvement Plan.

To date, the public involvement plan has included the following:

- a) A news release was distributed in November 2007.
- b) The first public meeting was held in March 2009. Some of the major concerns expressed were the limited sight distance from the school bus turnaround at RP 9.256 (Station 474+50 Rt., a crest vertical curve); a desire for design speed consistency for the two curves to be flattened at RP 4.6 and RP 5.1; and the realignment of Ambrose Creek Road and Moiese Lane at RP 5.1 (consider a roundabout). Other comments were offered regarding irrigated field impacts; the desire for a bike/ped path; the approaches to El Capitan (South), Log Cabin Road (South), Eagle Watch, Fawn Lane, Mountain Springs Road, houses close to the highway, and historic structures.
- c) A webpage for the project went online in July 2014. It includes a project overview, links to preliminary plans, summaries of comments received, information on upcoming meetings, project schedule, and contact information for MDT staff. The webpage is updated as dictated by major project developments.
- d) A second public meeting was held in October 2014. We presented the preliminary plans with the 44-ft. top as described above, and revealed we were considering a shared use path. We showed a conceptual design for a roundabout at the Ambrose Creek Road intersection, but explained it was not necessarily our preferred option. After the presentation, MDT staff met one-on-one with adjacent landowners to hear specific concerns and answer questions.

We tabulated the written comments received. Adjacent landowners and others generally favored left turn lanes at major intersections but opposed a continuous two-way-left-turn lane. A roundabout was almost unanimously opposed. Landowners were evenly split on the shared use path, while others heavily favored it.

- e) A third public meeting was held in October 2015. No formal presentation was conducted, but project plans and displays were available to review. MDT staff answered questions and listened to concerns. Written comments were tabulated and posted on the webpage.
- f) MDT District and Engineering staff attended a Ravalli County Commission meeting in March 2016. One of the agenda items was a discussion of the scope of work on Secondary 203. Traffic Engineering staff presented a conceptual design for the sections of two-lane configuration. A Road Design staffer answered a question on why a roundabout was no longer being considered at the Ambrose Creek intersection (funding mostly) and the status of a shared use path (could potentially be included pending available funding).

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A request was submitted to MDT's public involvement officers on 2/5/2021 to request a new term assignment for a PI Firm during the R/W Phase. The PI contract will be included during construction of the project as well.

The public involvement plan for the rest of the project's development will include:

- a) Local government officials and interest groups will be contacted as needed.
- b) An open house meeting will likely occur at the start or towards the beginning of the R/W Phase to give a project update and answer any questions or concerns. This may be a virtual open house depending on the state of the pandemic.
- c) Construction notification and information will be distributed during construction.

### **Environmental Considerations**

Per Environmental, we should add wildlife exclusionary wing fencing at all upsized animal crossing structures, but if there is resistance from landowners at specific locations, we can omit the fencing. The wildlife crossing at station 319+73 is one of the more important crossings to place exclusionary fencing.

Based on comments from the Missoula District Project Development Engineer, we will re-evaluate the proposed pipes that are longer than 150' and attempt to shorten these pipes to less than 150' (if feasible) following the Montana Stream Mitigation Procedure linked below to reduce environmental impacts.

<https://usace.contentdm.oclc.org/utls/getfile/collection/p16021coll11/id/2675>

### **Experimental Features and Proprietary Products**

The contractor will have the option to incorporate existing pavement in the new plant mix and the crushed aggregate course, in accordance with applicable standard specifications and special provisions.

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

At this time, Level 2 construction zone impacts are anticipated for this project as defined in the Work Zone Safety and Mobility (WZSM) guidance. The plans package will include a Transportation Management Plan (TMP) consisting mainly of a Traffic Control Plan (TCP).

### **Design Exceptions**

Design exceptions to the design criteria for a 60-mph design speed have been approved.

The approved Design Exception Report can be viewed on DMS at the below link:

[North of Stevensville-North Design Exception Report](#)

### **Construction Cost Estimate**

	Estimated cost	Inflation (INF) (from PPMS)	TOTAL costs w/INF + IDC (from PPMS)
<b>TOTAL CN</b>	<b>\$10,964,000</b>	<b>\$616,806</b>	<b>\$12,853,536</b>
<b>CE (10%)</b>	<b>\$1,096,400</b>	<b>\$61,680</b>	<b>\$1,285,352</b>
<i>Project TOTAL from all of the funding types above:</i>			
<b>Project TOTAL CN+CE</b>	<b>\$12,060,400</b>	<b>\$678,486</b>	<b>\$14,138,888</b>

The estimate above includes \$771,700 for traffic control (including traffic actuated temporary signals), 8% allowance for contingency, and 11% for mobilization.

Note: Inflation is calculated in PPMS to the letting date. If there is no letting date, the project is assumed to be inside the current TCP and is given a maximum of 5 years until letting. IDC is calculated at 10.99% for FY 2021.

### **Project and Risk Management**

Helena Road Design – Missoula Crew will be responsible for developing the plans. Joshua Dold is the EPS Project Manager.

According to PPMS, the project is not considered a Project of Division Interest (PoDI) by FHWA.

The major risk for an increase in project construction cost is the potential need to add retaining structures to reduce right-of-way impacts enough to close contentious parcels. We presume the increased construction cost would be partially offset by reduced right-of-way costs if such a situation arises. Ongoing communications with affected landowners should reduce the potential for these costly design features.

The major risk to delay the project schedule is the right-of-way acquisition duration. EPS currently shows 233 days (about one year) for Activity 824. We expect some negotiations will be difficult, based on communications we have received from several landowners. Per the direction of the DPE, Right-of-Way staff have already begun acquiring the parcels that are full acquisition, and are identifying the problem parcels early on, to get a head start on R/W acquisition, which will tremendously aid the health of the project schedule.

Our decision to get design exceptions for those elements that most impact the road's "footprint" (shoulder width and slopes) should mitigate the number of protracted right-of-way negotiations. We expect most landowners will be more willing to sell a narrow strip of property as opposed to a wider one.

Design staff has met with several landowners individually onsite over the last few years to hear concerns and provide information on potential impacts to their respective properties. We will continue to do so as requested during the design process. These actions should expedite parcel-closing once right-of-way acquisition begins.

Once the right-of-way plans are completed, design staff will meet with right-of-way acquisition staff to explain the design so that when agents talk to landowners, they will be better equipped to answer questions and explain why "we need this much right-of-way". In all discussions with landowners, we will avoid using engineering jargon and simplify the content to avoid confusing the people.

**Ready and Letting Dates:**

The project Ready Date is February 1, 2022, and the tentative letting date is July 15, 2022 as shown in EPS. The project currently has 125 days of float. We believe the right-of-way acquisition process could take longer than currently scheduled. Currently, activity 824 (conduct and complete negotiations) has a planned finish date of June 24, 2022 which would require a R/W exception for the project to remain funded in 2022. With the R/W uncertainty, this project will likely get moved into FFY 2023 in the Secondary Program. The Secondary Roads Engineer has been informed of this development.

The schedule now shows all activities except Act 846 – Relocate Utilities being completed by activity 964 – PS&E Review. A special provision for "Coordinated Utility Relocation" would likely be required depending on when the project will be let.

The current PE End Date is 04/30/2023. A review of the remaining EPS schedule, critical path activities, and target letting date indicates that a modification to the PE End Date may be needed if the tentative letting date is moved out beyond July of 2022.

It is not anticipated the project will require an addition to the programmed PE budget of \$1,723,826. The PE is currently 88% expended (\$191,646 remaining). A PE modification to increase the programmed PE budget was approved on 2/5/2021.

A R/W modification is in the process of being submitted to increase the programmed R/W budget (\$300,000 programmed versus \$603,525 expended to-date). The current R/W estimate in PPMS is \$1,100,000, but will likely need to be increased once we have a better idea on the R/W acquisition costs.

A federal aid program for incidental construction (IC) has not been requested yet. The current IC estimate in PPMS is \$1,900,000.

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### e-copies:

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Patricia Burke, Safety Engineer  
Chad Richards, Engineering Cost Analyst  
John Pirre, Engineering Information Services  
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