

Technical Memorandum

To: Linda Loomis, Administrator
Lower Minnesota River Watershed District

From: Kaci Fisher, Environmental Specialist
Katy Thompson, PE, CFM

Date: July 7, 2021

Re: SP 7001-128 TH 13 Project Review (LMRWD No. 2021-025)

The Minnesota Department of Transportation (MnDOT) has applied for an individual project permit from the Lower Minnesota River Watershed District (LMRWD) to improve Trunk Highway 13 (TH 13) and Dakota Avenue between Louisiana Avenue to just west of Quentin Avenue in the City of Savage (City), as shown in Figure 1. MnDOT's engineer, Bolton & Menk, has provided site plans for the SP 7001-128 TH 13 project (Project) along with the permit application. MnDOT is also required by the federal government to provide an Environmental Assessment (EA) that evaluates the benefits and impacts of the proposed TH 13 project. The EA was published for public comment on June 8, 2021, with a public hearing held on June 28, 2021. In addition, MnDOT provided information on the Wetland Conservation Act (WCA) wetland replacement application. Young Environmental staff has reviewed the WCA replacement application and agreed with the rationale for replacement and do not have any comments to provide specific to the replacement plan.

The proposed Project includes grading, new and reconstructed bituminous pavement, lighting, bridges, and stormwater management. The Project would disturb approximately 46 acres and create 4.2 acres of new impervious surfaces. The Project is not located within the Steep Slopes Overlay District, but it is adjacent to the High Value Resource Area (HVRA) Overlay District and is within the 100-year floodplain of the Minnesota and Credit Rivers. MnDOT proposes to commence construction on April 1, 2022.

The Project is located within MnDOT right-of-way and is subject to LMRWD permitting review, regardless of the City's municipal LGU permit status. Young Environmental has reviewed the permit application and EA; the Project summary and review comments are below.

Summary

<u>Project Name:</u>	SP 7001-128 TH 13
<u>Purpose:</u>	Road and highway improvements
<u>Project Size:</u>	46 acres disturbed; 16.3 acres existing impervious; net increase of 4.2 acres new impervious
<u>Location:</u>	Savage, Minnesota
<u>LMRWD Rules:</u>	Rule B – Erosion and Sediment Control Rule C – Floodplain and Drainage Alteration Rule D – Stormwater Management
<u>Recommended Board Action:</u>	No action required at this time; staff will continue to work with MnDOT

Discussion

The LRMWD received the following documents for review:

- LMRWD online permit application, received June 11, 2021
- *LMNRWD Permit Memorandum* by Bolton & Menk, dated June 11, 2021, received June 11, 2021
- Construction plan sheets by SRF, dated May 27, 2021, received June 11, 2021
- *Materials Design Recommendation* by Braun Intertec and Bolton & Menk, dated May 21, 2021, received June 11, 2021
- Drainage Overview Map by Bolton & Menk, dated June 11, 2021, received June 11, 2021
- *Floodplain Assessment*, dated May 2021, received June 11, 2021
- *TH 13 Corridor Evaluation and Dakota Improvement Design Memo* by Bolton & Menk, dated May 18, 2021, received June 11, 2021
- MIDS calculator report, received June 11, 2021

The application was deemed complete on June 15, 2021.

Rule B – Erosion and Sediment Control

The LMRWD regulates land-disturbing activities that affect one acre or more under Rule B. The proposed Project would disturb approximately 46 acres within the LMRWD boundary. The provided Drainage Overview Map shows a portion of the Project adjacent and potentially encroaching upon the HVRA; please provide the area proposed to be disturbed and volume proposed to be excavated within the HVRA boundary.

MnDOT has provided an erosion and sediment control plan and a Stormwater Pollution

Prevention Plan. Several items will be needed before a permit can be issued under Rule B, including the following:

- 1) Copy of the NPDES permit
- 2) Contact information for the contractor(s)

Rule C – Floodplain and Drainage Alteration

As discussed, the Project is in the Minnesota River and Credit River floodplains and is shown on the FEMA Flood Insurance Rate Map (FIRM) Panels 27139C0063E and 27139C0044E, effective February 12, 2021. Per the EA, the Project proposes 36.32 acres of impact within the floodplain and 0.93 acres in the floodway. Existing and proposed condition HEC-RAS hydraulic models were completed for the Minnesota River to determine the impacts of the Project on the flood elevations. The Project does not modify the road profile within the Credit River floodplain. Therefore, no floodplain models were developed for impacts to Credit River.

Bolton & Menk provided a no-rise certification that states, “These construction activities will not impact the floodway width or increase the 100-year elevation (will not raise by more than 0.005 feet) on the Minnesota and Credit Rivers at any published . . . [and] unpublished cross-sections in the vicinity of the proposed project.” LMRWD Rule C prohibits the placement of fill in the floodplain unless it can be demonstrated “that the proposed fill will not cause a rise in the 100-year flood elevation.”

Young Environmental has had previous conversations with the Minnesota Department of Natural Resources (DNR) regarding the definition of no-rise and the fair assessment of hydraulic model rounding errors. The DNR has stated that the impact to a floodway from a project can only be considered a no-rise when the difference, rounded to the hundredth place, is 0.00 feet. As reported, the 0.005 feet of rise would equate to a rise of 0.01 feet and does not satisfy the requirements of Rule C.

Rule D – Stormwater Management

The Project proposes 4.2 acres of new impervious surface. The Project appears to be within the HVRA boundary near TH 13 Frontage Road east of the Louisiana Basin, as shown in Figure 1. Please provide the amount of new and reconstructed impervious surface as well as the amount of disturbance within the HVRA as development within the HVRA is subject to higher stormwater standards.

MnDOT is proposing to use two existing wet sedimentation basins, Louisiana Basin and Yosemite Basins, and one existing filtration basin, Dakota Basin, all located within the MnDOT right-of-way, to meet the LMRWD’s stormwater management requirements. Much of the Project is within a confirmed karst area and is subject to shallow bedrock. Because of the Project’s proximity to Savage Fen, the proposed design was developed to minimize bedrock excavation to avoid inadvertently draining the underlying aquifer that sustains the fen. To avoid bedrock excavation, MnDOT proposes a shallow storm

sewer that will prevent the system from capturing the entirety of the project site. To compensate for the areas that cannot be captured in the storm sewer and treated in a stormwater basin, the Project proposes to intercept approximately 15 acres of untreated and mostly impervious off-site drainage area and route to the Louisiana Basin.

Section 4.4.1 of Rule D requires that applicants demonstrate no increase in proposed runoff rates when compared to existing conditions. The *LMNRWD Permit Memorandum* provides the existing and proposed runoff rates (Table 1). The overall rates are reduced per Rule D requirements.

Table 1. TH 13 Existing and Proposed Runoff Rate Summary (Bolton & Menk)

MODEL RESULTS (CFS)									
EVENT	OUTFALL #1		OUTFALL #2		OUTFALL #3		SUM OF OUTFALLS		REDUCTION
	EX.	PR.	EX.	PR.	EX.	PR.	EX.	PR.	
2-YR (2.83")	205.24	89.97	27.27	26.15	37.93	46.04	270.44	162.16	108.28
10-YR (4.21")	297.25	201.08	40.87	39.74	46.89	63.86	385.01	304.68	80.33
100-YR (7.42")	480.98	404.69	48.82	47.98	49.26	67.64	579.06	520.31	58.75

Section 4.4.2 of Rule D requires stormwater runoff volume reduction on-site to be equivalent to one inch of runoff from the impervious surfaces outside the HVRA. For linear projects within the HVRA, Section 4.4.2 requires the larger of 0.55 inches of runoff from the new and reconstructed impervious surfaces or 1.1 inches of runoff from the net increase of impervious surfaces. MnDOT must provide the total area disturbed within the HVRA and quantify the amount of new, reconstructed, and net increase in impervious areas to determine the applicable stormwater requirements for TH 13.

Due to shallow bedrock and karst features, infiltration practices are not permitted near active karst features per Section 4.4.2 (c) of Rule D. The MnDOT basins will be lined to prevent infiltration, and equivalent filtration technologies do not appear to be provided, as only a portion of the required volume reduction (15,246 cubic feet, assuming no impacts to the HVRA) will be filtered within Dakota Basin (11,674 cubic feet per the provided MIDS Calculator Report). Furthermore, the proposed stormwater management includes a small detention basin to treat stormwater runoff from nearby commercial development and reduce sediment loading to the Minnesota River.

Section 4.4.3 of Rule D requires projects that create more than one acre of impervious surface to provide evidence that no-net increase in total phosphorus (TP) or total suspended solids (TSS) in the receiving waters would result from the project. Within the HVRA, projects that create new impervious areas greater than 10,000 square feet must show a reduction in TP and TSS of 60 and 80 percent, respectively. The *LMNRWD Permit Memorandum* provides water quality calculations using the MIDS Calculator for the three existing MnDOT ponds. The MIDS Calculator results show a 20 percent removal efficiency in TP and 35 percent removal efficiency for TSS under proposed

conditions but have not provided the existing loading to determine whether there is a no-net increase in TP and TSS for the Project. Please provide the existing and proposed TP and TSS amounts to demonstrate the project meets the LMRWD water quality requirements.

Per the *LMNRWD Permit Memorandum*, the stormwater basins will be jointly managed by MnDOT and the City. A maintenance plan is being developed that will comply with all MS4 and LMRWD requirements. MnDOT must provide a copy of this maintenance plan for LMRWD review before a permit can be issued.

Additional Information

The EA 30-day public comment period began on June 8, 2021, and will end on July 8, 2021; a public hearing was held on June 28, 2021. Approximately 20 people were present online and about seven people were present in person at the Environmental Learning Center in Savage. A 40-minute presentation on the project overview was given with additional time allowed for questions and answers as well as for formal comments.

There were several questions relating to Dakota Avenue, as Dakota Avenue, which has funding available now, will be constructed first. Because Dakota Avenue was chosen to be the first construction project, it is not included in the Corridor Footprint as shown in the EA, which shows the preferred route for TH 13 with Dakota Avenue construction completed.

Another attendee asked about the existing railroads. MnDOT is coordinating with both Union Pacific and Canadian Pacific, the railroad track owner and lessee. There will be some grade impacts to railroad property but no impacts to the track itself. Lastly, there were questions on detours during construction; more information will be available in the fall. Then two formal comments were given, which are summarized below:

- 1) Someone with a background in disability advocacy should review the plans to ensure the design is accessible for disabled persons.
- 2) A service road is needed on both the north and south sides of TH 13. Traffic needs to be reduced in the nearby residential areas and kept as close as possible to the highway.

Recommendations

No action is required at this time. This memo will be provided to MnDOT as part of the EA public comment period as well as to the MnDOT permit point of contact as the LMRWD's comments on the individual permit application. LMRWD staff will continue to work with MnDOT to gather more information to further review the Project and address the following issues:

- 1) The area of impact within the HVRA should be reported, as discussed above. The HVRA GIS data are available to download from the LMRWD website here:

<http://lowermnriverwd.org/rules/individual-permit>

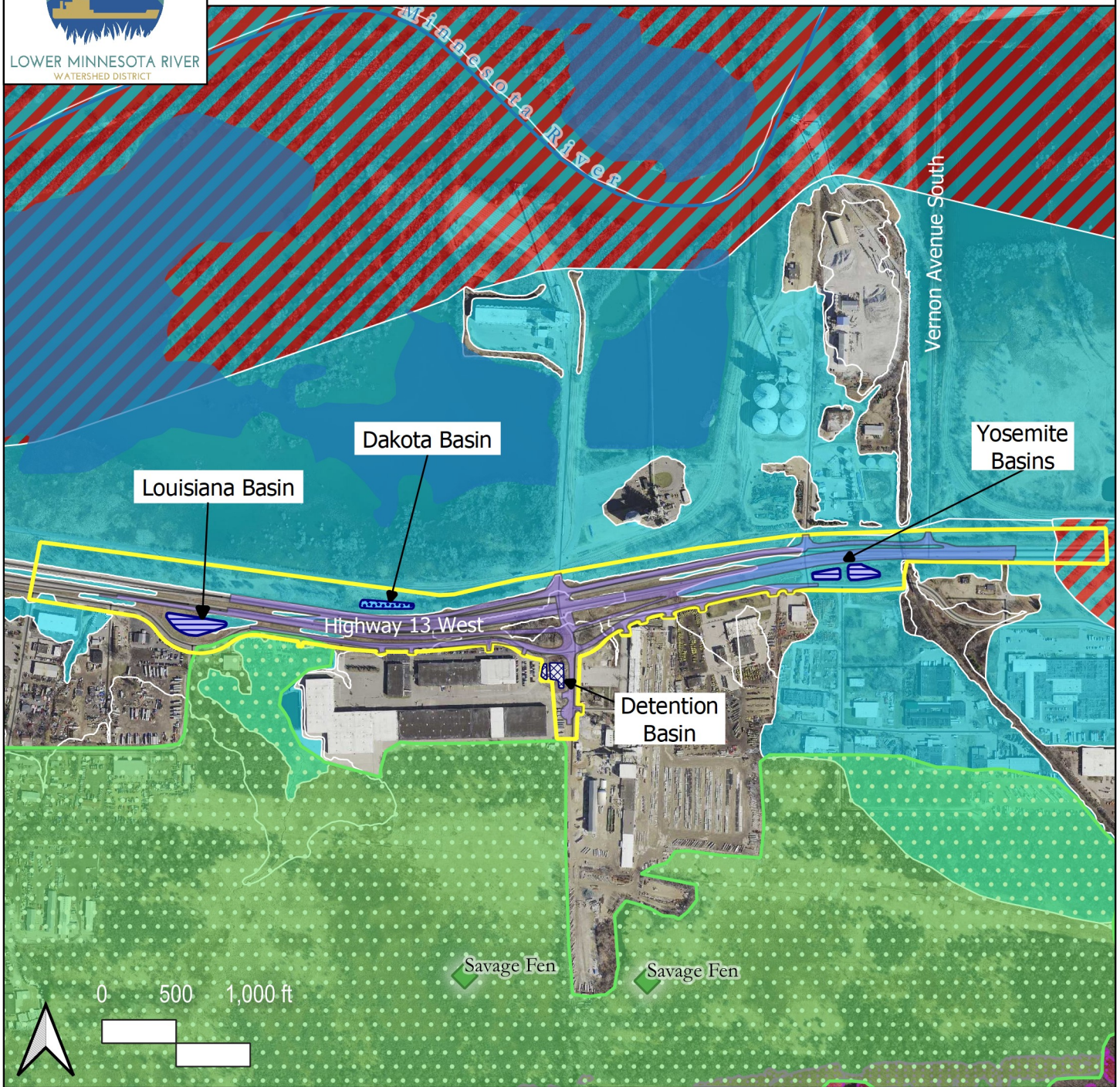
- 2) As presented, the TH 13 project does not meet the requirements of LMRWD Rule C. The no-rise should be reviewed to the hundredth decimal place, consistent with DNR and FEMA requirements (i.e., 0.00 feet).
- 3) Provide clarification that, at a minimum, the project will not result in a net increase in TP and TSS loading.
- 4) Provide a copy of the stormwater maintenance plan.

Attachments














- Figure 1 – Trunk Highway 13 Project Location Map



Figure 1: Trunk Highway 13 Project Location



LEGEND

-  Project Location
-  TH 13
-  Detention Area
-  Filtration Basin
-  Wet Sedimentation Basin
-  Road
-  Public Waterways
-  Public Waters
-  High Value Resource Area
-  Steep Slopes Overlay District
-  100-yr Floodplain
-  Floodway
-  Calcareous Fens

LMRWD Watershed Location Map

