Ecological & Water Resources
Region 4 (South Region)
21371 Highway 15 South
New Ulm, MN 56073

July 15, 2025

Board of Managers
Buffalo Creek Watershed District
PO Box 55
Glencoe, MN 55336

Re: Preliminary Engineer's Report for Improvement of Renville County Judicial Ditch No.15 Lateral V, Branch C (JD15LatVBrC)

Dear Managers,

We appreciate the opportunity to evaluate the preliminary engineer's report (PER) for the proposed Renville County Judicial Ditch No.15 Lateral V, Branch C (JD15LatVBrC) improvement project. This Advisory Report, prepared on behalf of the Commissioner of the Minnesota Department of Natural Resources (DNR), aims to provide expert insights and recommendations in accordance with the guidelines outlined in Minnesota Statutes 103E.255. The comments in this advisory report are based on review of the Judicial Ditch 15 Lateral V, Branch C Improvement Preliminary Engineer's Report, dated June 11, 2025.

Overview

The Judicial Ditch No. 15 Lateral V Branch C serves a watershed of approximately 250 acres within Sections 25 and 36 of Preston Lake Township in Renville County and consists solely of subsurface drainage tile. Branch C outlets into the JD 15 Lateral V open ditch in Section 25 of Preston Lake, which flows north to outlet into the JD15 main stem in Section 24. The JD 15 main open ditch flows generally eastward, ultimately discharging into Buffalo Creek, a designated public water at the McLeod County line. A petition was submitted to the Board of Managers of the Buffalo Creek Watershed District, acting as the drainage authority for JD 15, requesting improvements to the Branch C drainage system. The proposed improvements aim to enlarge the tile and increase the system's capacity to the maximum allowable drainage coefficient of 3/8 inch per day, as specified by the Buffalo Creek Watershed District rules.

The proposed project includes these options:

Option 1: Replace existing system with an improved system that includes larger tile size, alignment changes, and incorporation of wetland restoration.

Option 2: Improvement without storage

Comments on Discharge and Environmental Impacts of Proposed Options

- The narrative states the approximate watershed size for Branch C of Lateral V is 250 acres, however tables 1 &2 state 513 acres and 504 acres, respectively. Please explain and/or correct these numbers to reflect actual approximate drainage area.
- The peak flow rate for the proposed Option 1, which includes an outlet control structure and water storage basin, changes outlet capacity by 5, 5, 6, 3, 0, and -1 cubic feet per second (cfs) for 2-Year, 5-year, 10-year, 25-year, 50-year, and 100-year storm events, respectively. Option 2 results in peak flow increases of 5, 5, 6, 3, and 1 cfs for the same storm events. While the outlet does not discharge directly into Public Waters, we strongly recommend implementing mitigation measures for to address the high flow rates and prevent inundation and scouring near the tile outlet.
- Option 1 proposes to install a sheet pile structure within the wetland area prior to final system outlet to Lateral V, however overall information on this structure is limited within this report. The report mentions may be involved, however additional plan designs for outlet control structure, any associated embankment, and/or overall wetland restoration are not included. As this proposal incorporates this wetland restoration as a water storage option and is dependent on this wetland restoration for proposal success, additional information should be provided within the FER to account for this as an option.
- The PER report indicates replacing tile within the wetland area and terminus of Branch C is not possible due to current tile depths and inability to install new tile at existing depths. Please elaborate within the FER report if other options are viable if wetland restoration as detailed in option 1 is not pursued.
- The PER report proposes a shift in the historic alignment for Branch C, however, does not provide a reasoning for this shift – please provide this information.
- The DNR prefers Option 1 vs Option 2 as implementation of these strategies would result in far lower negative impacts on ecosystems and habitats in downstream public waters. The proposed storage wetland area will likely improve water quality by enhancing nutrient uptake for nitrogen and phosphorus, reducing total suspended solids, and increasing water retention and sedimentation.
- Review of the proposed plans and system hydraulics appears to indicate that discharge from this system is limited during most storm events due to tailwater control from downstream receiving waters. Along these lines, the discharge calculations displayed in Tables 4 and page 10 in the report may not specifically represent the discharge being delivered to the system outlet by this system under current or proposed conditions. Please clarify how tailwater control impacts peak flow and duration at this site.

Alternative Measures

Wetland restoration to mitigate excess runoff is discussed on page 5 in the PER as a project alternative but dismissed due to cost based on the assumed dimensions. We note that with a greater design depth, the footprint of any restored wetlands could be substantially reduced as well as the corresponding land cost. If a wetland restoration was pursued, it could be used to accept drainage water and if properly sized, it could potentially alleviate the need to increase the size of the tile system.

Compatibility of the Project with Local Land Use Plans

The Final Engineer's Report should address how the project aligns with the South Fork Crow River Watershed Comprehensive Watershed Management Plan (approved in March 2024). This is especially important since JD15 has been designated as a priority drainage system for drainage water management and a high-priority area for addressing water storage loss and altered hydrology—both of which are Tier 1 priority issues.

Public Waters Impacts & Permitting Requirements

The outlet of JD15 Branch Lateral V Branch C is located approximately 2 miles from Buffalo Creek, a designated public water. While the proposed conditions are not expected to negatively impact public waters, we strongly recommend implementing adequate mitigation measures to prevent significant increases in flow and subsequent soil erosion downstream. Additionally, it is important to assess the capacity of downstream drainage infrastructure to effectively convey the added hydraulic load.

Please send the response to this letter, the meeting minutes, the Finding of Fact, the Viewer's Report, and any Order issued by the Drainage Authority regarding this proposed improvement to the DNR when they become available. Please submit these documents to Region4Drainage.dnr@state.mn.us.

Thank you for consideration of these comments. If you have any further questions regarding the information in this report, please feel free to contact me at ethan.jenzen@state.mn.us or Area Hydrologist Alan Gleisner at alan.gleisner@state.mn.us.

Regards,

Ethan Jenzen

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