MINNESOTA DEPARTMENT OF NATURAL RESOURCES
Division of Ecological and Water Resources
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November 4, 2015

Jan Voit
Administrator - Heron Lake Watershed District
P.O. Box 345
Heron Lake, MN 56137

Subject: Preliminary Engineer's Report (PER)
Improvement of County Ditch No. 3
Jackson County, MN

Dear Ms. Voit:

On behalf of the Director of the Division of Ecological and Water Resources of the Department of Natural Resources (DNR), I offer the following comments on the Preliminary Engineer's Report (PER) for the project referenced above, in accordance with Minnesota Statutes Section 103E.255.

Of general concern in all proposed ditch improvement is the cumulative effect that the project may have upon downstream water resources, natural resources, and property owners in terms of quantity and quality of water that is received. Project specific and cumulative impacts from ditch projects can result in downstream flooding, erosion, and a decrease in water quality. For these reasons, we urge careful evaluation of the project to ensure it is consistent with Priority Concerns identified in the Jackson County Local Water Management Plan (Water Plan). The Water Plan includes priority concerns that address surface water quality and drainage management.

The Water Plan prioritizes the reduction of erosion and runoff. During peak flow periods (i.e. spring runoff) runoff from agricultural lands can be reduced through the use of cover crops. Cover crops help retain topsoil on the land, improve soil structure, aid in the infiltration and storage of soil moisture, and improve water quality. The retention and health of topsoil is vital to long-term agricultural production. The use of cover crops in the watershed could reduce the need to expand ditch systems, stabilize ditch and stream banks, and decrease the frequency of ditch cleanouts resulting in lower landowner costs for ditch maintenance.

The Agricultural BMP Handbook for Minnesota has been developed by the Minnesota Department of Agriculture to address water quality impairments. The document provides a review of 30 conservation practices that are designed to enhance agriculture's role in addressing water quality concerns in Minnesota. Engineer Reports should include the appropriate BMP's for the project and landowners should be encouraged to implement them. The Agricultural BMP Handbook for Minnesota can be viewed at the following link: http://www.mda.state.mn.us/protecting/cleanwaterfund/research/agbmphandbook.aspx.

The end of the Main open ditch and outlet into the public watercourse of Okabena Creek are located in a Reinvest In Minnesota easement. Aerial images indicate that work has been done within the easement to restore and create wetlands that provide water retention. Coordination should occur with the landowner and Board of Water and Soil Resources to determine if additional water retention can be incorporated in the RIM easement in the vicinity of the Main open ditch. Additional water retention has the potential to reduce downstream flows, sediment, and nutrients from entering Okabena Creek. Okabena Creek is on the Minnesota Pollution Control Agencies Impaired Waters List for turbidity and fecal coliform.

Another option to decrease outlet flows is to reduce the proposed tile size when the drainage coefficient exceeds the NRCS recommended drainage coefficient of 0.50 in/day. Reducing the proposed tile size will not only reduce outlet flows during major flood events, but it will also decrease the cost of the tile used for the ditch project. Over 25 of the tile replacements exceed a drainage coefficient of 0.75 in/day. The tile sizes should be reduced or as a minimum the FER should explain why so many of the drainage coefficients significantly exceed the NRCS recommended drainage coefficient of 0.50 in/day.

The DNR supports the inclusion of the 2-stage open ditch, low-flow weir, side inlets, water quality inlets, and other Best Management Practices as outlined in the PER. On page 9 it indicates the low-flow weir will be five and a half feet tall and forty feet wide with a two-foot wide opening. At what flood event will the water flow over the top of the weir?

The DNR recommends that the FER include a copy of the DNR letter on the PER and responses to each issue. Providing this information will enable the drainage authority, landowners, and agencies to more easily assess the project as decisions are made.

Please contact Kevin Mixon, Regional Environmental Assessment Ecologist, at (507-359-6073; email: kevin.mixon@state.mn.us) if you have any general questions about this letter.

Sincerely,

Jim Sehl
EWR Assistant Regional Manager

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