



Managing Drainage for Multiple Purposes

July 2016 Snapshots



Most of us, unless we work in agriculture or have relatives who do, don't have much of an understanding of agricultural drainage. Given how much of the state is farmland, however, agricultural drainage impacts both farmers and non-farmers alike. Staff at the Minnesota Board of Water and Soil Resources (BWSR) work with local governments, state, and federal agencies to implement conservation practices on the landscape that help manage drainage systems.

These days we talk about agricultural drainage using the language of "multipurpose drainage management." BWSR's Chief Engineer, Al Kean, has been talking about the benefits of the approach for many years. While the process has evolved over time, its fundamental goals and principles still drive improved drainage management.

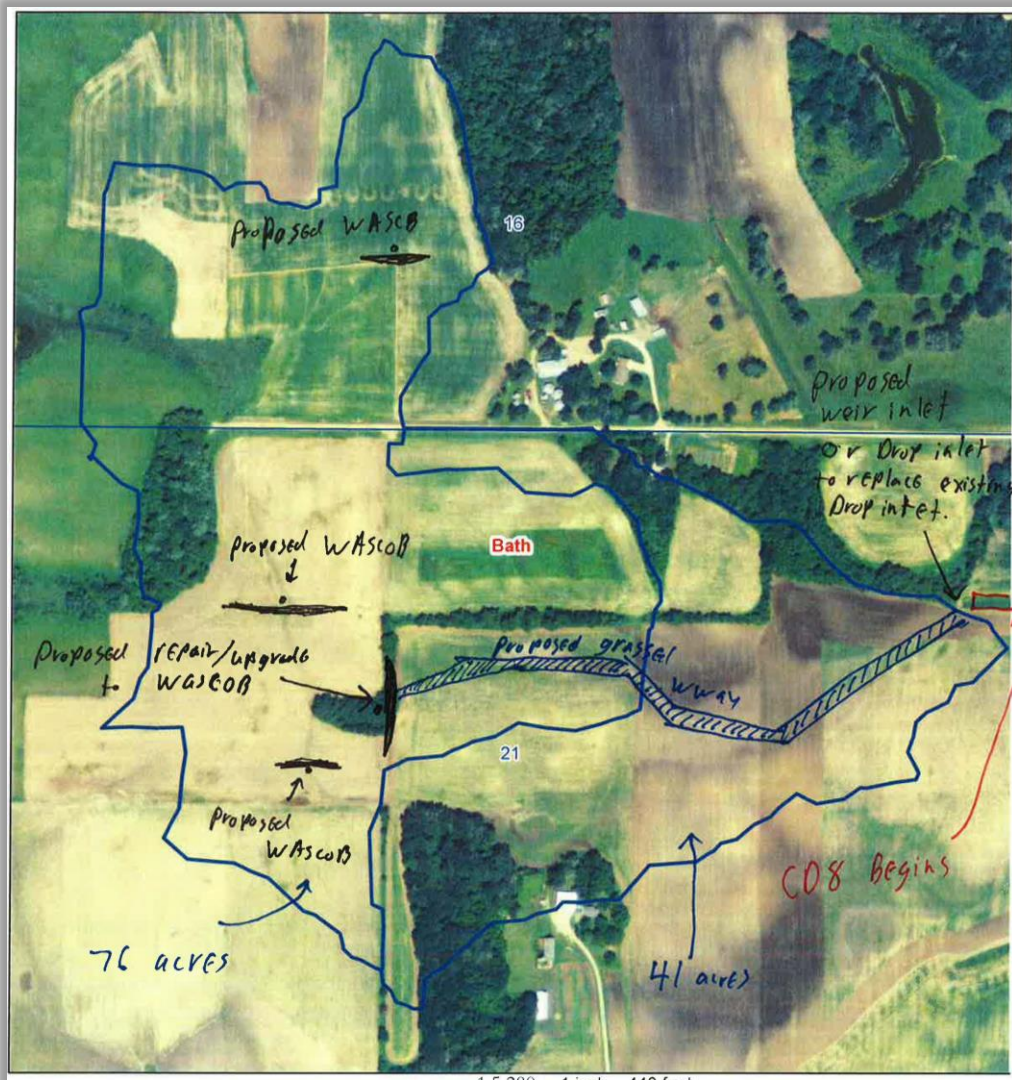
Guiding Principles for Multipurpose Drainage Management

- Avoid runoff concentration (and wind erosion)
- Protect concentrated flow areas from erosion
- Reduce peak flows to reduce erosion and flooding, and to improve water quality and habitat
- Reduce runoff volume & nutrient loss by increasing soil profile and surface water storage and evapotranspiration
- Manage nutrients carefully and denitrify tile drainage
- Do all of the above to improve resiliency
- Target investments for best return using both incremental practices and watershed approaches

Multipurpose Drainage Management Goals

- Provide adequate drainage for production on cropland
- Reduce runoff volume and peak flows to reduce flood damage
- Reduce erosion of agricultural lands to protect productivity
- Improve water quality by reducing field, ditch and stream erosion, pollutant concentration and carrying capacity
- Improve wildlife habitat
- Improve resiliency (ag and enviro)

As drainage law has evolved, the Legislature has recognized the usefulness of multipurpose drainage management. During the 2015 legislative session, part of Minnesota's drainage law (MN Chapter 103E.015, Subd 1) was retitled to include criteria for multipurpose water management. While a title change doesn't change the law itself, it does signal that those revising the law understand there are purposes for managing drainage water other than crop production.



In Multipurpose Drainage Management, conservation practices are placed off the system to benefit the system.

Funding is in place to help implement these practices in the current biennial budget. The legislature appropriated \$1.5 million to fund multipurpose drainage management projects, \$475,000 of which has already been awarded. This program will help drainage authorities and Soil and Water Conservation Districts fund conservation practices that help reduce erosion, reduce sediment, and maintain priority public drainage ditches, while improving water quality. Multipurpose drainage management helps manage water coming off the cropland, which is a win for farmers, drainage systems, and water quality alike.