The objective of this document is to provide you with current and helpful information regarding water protection, and the Michigan Agriculture Environmental Assurance Program (MAEAP).

Consider incorporating drainage water management systems into new or existing tile drain systems

Michigan’s soils, hydrology, and topography make tile drain systems an essential piece of agricultural systems in many areas of the state. As precipitation patterns become seemingly more variable, more attention is being directed at increasing the management of tile drains. At the same time, P and N losses are increasingly occurring in forms dissolved in water that can be lost from fields through tile drains.

Drainage water management (DWM) systems allow for the adjustment of the water table elevation in fields, lowering the water table when equipment will be in the field, such as planting and harvest, but increasing the height of the water table during other periods of the year. Higher water tables during the summer months allow a degree of drought protection, keeping greater amounts of plant-available water in the root zone. Once crops are harvested, keeping the water table high until spring limits water leaving the field. That not only translates into fewer nutrients leaving the field through tile drains, but also increases groundwater recharge.

As an edge-of-field practice, DWM systems don’t require changes to agronomic management like most other conservation practices. They require minimal time from a producer to manage; adjusting the system to change water table levels takes only minutes. Effective systems are currently limited to fields with less than 1% slopes, but emerging technologies promise to increase the range of conditions where DWM systems can be implemented.

Cost-share assistance is often available to implement systems, such as through the Saginaw Bay RCPP program in conjunction with The Nature Conservancy and Ecosystem Services Exchange (ESE). ESE is one of the few technical service providers that can write DWM plans for NRCS in Michigan, greatly streamlining the approval and implementation process. ESE’s website at ecoexch.com has details on both the latest technical advances in DWM, as well as resources to assist with cost-share.

As a conservation practice, DWM retains flexibility of in-field agronomic management, does not remove land from production, offers immediate yield increase potential, and has assessable cost-share opportunities, a combination not often seen with other conservation practices. Producers should be encouraged to learn more about DWM and explore opportunities to implement systems on their farms.