

Memorandum of Understanding

Between the Madison Metropolitan Sewerage District and the Wisconsin Department of Natural Resources

For the Yahara Watershed Adaptive Management Program

This Memorandum of Understanding (MOU) is effective this 11 day of Dec 2014 between the Wisconsin Department of Natural Resources (Department) and the Madison Metropolitan Sewerage District (District) collectively referred to as "the Parties."

1. Purpose.

The purpose of this MOU is to outline the standards and procedures for implementing an adaptive management project in the Yahara Watershed pursuant to Wis. Admin Code §NR 217.18 and Wis Stat. § 283.13(7) to aid the District in developing a final adaptive management plan for review and approval by the Department.

2. Adaptive Management Plan.

- a. The District may submit an adaptive management plan to DNR, or may choose to comply with phosphorus requirements through alternative compliance options. The adaptive management plan will be developed following the "Adaptive Management Technical Handbook-A Guidance Document for Stakeholders" and will be consistent with the requirements in Wis. Admin Code §NR 217.18. If adaptive management is chosen as District's compliance option, the plan will be submitted to DNR in accordance with the compliance schedule in the District's next permit.
- b. The adaptive management plan will contain a water quality monitoring plan, address how interim progress toward meeting water quality criteria will be determined using both modeling and monitoring, and identify a process for how adjustments to the plan will be made, if necessary, to ensure adequate progress is being made to comply with applicable water quality criteria.
- c. The adaptive management project will be used by participating entities as the compliance strategy to meet phosphorus numeric water quality criteria and sediment (TSS) reductions required to achieve applicable narrative standards. The total maximum daily load (TMDL) for the Yahara watershed, contained within the Rock River Basin TMDL, was approved by EPA in September, 2011. The TMDL outlines anticipated modeled reductions needed to meet phosphorus water quality criteria and narrative sediment (TSS) standards.

3. Determining Percentage Reductions During the Adaptive Management Project.

- a. The 2011 Rock River TMDL determines phosphorus and sediment (TSS) allocations for nonpoint, MS4s, and other point sources with contributions to stream reaches located within the Yahara Watershed.
- b. The adaptive management project will be structured to meet water quality criteria and narrative standards within the Yahara Watershed, or the total phosphorus and sediment (TSS) allocations specified in the TMDL, as defined in paragraph 6a.
- c. For the purposes of demonstrating interim progress, percent reductions will be calculated for phosphorus and sediment (TSS) within each stream reach and compared to the percent reductions for these parameters listed in the TMDL. Reductions can also be expressed in units of pounds/year for phosphorus and tons/year for sediment (TSS) for each stream reach based on the modeling procedures set forth in paragraph 4.
- d. If one or more permitted MS4 or other point source with a discharge to a stream reach located in the Yahara watershed decides not to participate in the adaptive management project, it will be assumed that these entities will meet their TMDL requirements independently, and the target reductions for phosphorus and sediment (TSS) in the adaptive management project will be adjusted accordingly.

4. Interim Progress: Measuring Load Reductions To Achieve Percentage Reduction Goals.

- a. "TMDL baseline loading condition" means the phosphorus and sediment pollutant loads from which percent reductions identified in the TMDL are measured.
- b. When evaluating interim progress, phosphorus and sediment (TSS) percent reductions for nonpoint sources and MS4s identified in the TMDL will be determined by calculations using the best available modeling tools and in accordance with DNR code and guidance where applicable. Agricultural best management practices (BMPs) characterized as soft practices will be modeled at the field scale using SNAP-Plus or equivalent methodologies agreed upon by the parties. BMPs characterized as hard practices or stream bank stabilization projects will be modeled or measured using methods approved by DNR. Watershed level modeling (when appropriate) shall be conducted using SWAT. Urban BMPs will be modeled in accordance with the WDNR technical standards and guidance for NR 151 and TMDL modeling. Work shall be done in accordance with generally accepted engineering practices and shall document the pounds reduced as compared to phosphorus and sediment (TSS) loading conditions prior to the installation of the BMP. When existing regulatory requirements contained in NR 151 or existing DNR guidance do not address potential agricultural and urban BMPs or engineered treatment systems, other models or methods may be used as deemed appropriate and subject to approval by DNR.

- c. When evaluating interim progress, phosphorus and sediment (TSS) percent reductions for point sources identified in the TMDL will be determined based on actual flow and concentration data as reported to DNR as required by WPDES permits.
- d. Phosphorus and sediment (TSS) load reductions below the TMDL baseline loading condition may be counted when calculating progress with percent reductions identified in the TMDL for each reach:

- i. Current conditions for municipal and industrial point sources at the start of the adaptive management project will be determined based on actual flow and effluent phosphorus concentrations reported to DNR on discharge monitoring reports (DMRs) using the most recent five year average. The difference between the current conditions and the TMDL baseline may be counted toward the reduction goal for the applicable reach.

- ii. Conditions for nonpoint sources at the start of the adaptive management project will be determined using loads from the original Yahara Clean SWAT model (2010) that was updated in 2014 by extending the SWAT model to include the entire Yahara watershed. The Yahara Watershed SWAT model should be consistent with methodologies and assumptions used in the EPA approved TMDL. Any differences between the Yahara Watershed SWAT model and the TMDL modeling will be documented and submitted to the Department for approval.

Revisions to the nonpoint loads generated by the Yahara Watershed SWAT model will be made to reflect the changes in nonpoint loads from both the installation of agricultural best management practices (BMPs) and any increases in loading from changes in agricultural management that have occurred since the time period covered in the Yahara Watershed SWAT model. Both the resulting load revisions and methodologies used to calculate the load revisions will be verified by the Dane County Land and Water Resources Department or other organizations approved by DNR.

- iii. Analysis for Municipal Separate Storm Sewer Systems (MS4s) will be consistent with the Department's "TMDL Guidance for MS4 permits: Planning, Implementation, and Modeling Guidance." If the current conditions discharge value from an MS4 is lower than the TMDL baseline loading condition for the MS4, then the difference may be counted toward the TMDL percent reduction goals in the applicable reach.

- e. Municipal Separate Storm Sewer Systems (MS4s) participating in the adaptive management project will need to achieve a 40% sediment (TSS) reduction within

urban areas, consistent with baseline assumptions of the TMDL. MS4s not meeting the 40% sediment (TSS) control within a stream reach can satisfy the 40% control requirement by obtaining offsets from other MS4s with discharges to the same stream reach that have achieved greater than 40% sediment (TSS) control, provided that the resulting weighted average sediment (TSS) reduction for MS4s in that stream reach is equal to or greater than 40%.

- f. If a best management practice (BMP) funded under the adaptive management pilot or a full scale adaptive management project subsequently becomes mandated by local, state or federal law, the phosphorus and sediment (TSS) reduction associated with that BMP will continue to be counted toward meeting reduction goals, as outlined in this MOU, so long as the BMP is properly maintained. BMPs with DNR, the Natural Resources Conservation Services, or the Department of Agriculture Trade and Consumer Protection technical standards shall be maintained according to the requirements in the corresponding technical standards. Verification of BMP maintenance shall be consistent with permit requirements.
- g. Pollutant reductions cannot be double counted and used by more than one entity in percent reductions i.e. multiple parties cannot use the same load reductions to offset their required load reductions).

5. Reduction Credit for State Funded Nonpoint Reductions

Targeted Runoff Management (TRM) Grant funds and other sources of state funding may be available and used by nonpoint sources within the Yahara Watershed. However, TRM Grant funds may not be used to comply with the minimum phosphorus reduction specified in a WPDES permit, and TRM funds may not be used to demonstrate compliance with point source load reductions needed under water quality trading.

6. End of the Adaptive Management Period

- a. Compliance at the end of the adaptive management period shall be measured based on:
 - i. Attainment of the phosphorus water quality criteria and TSS narrative standards through water quality monitoring.
 - ii. If phosphorus water quality criteria or TSS narrative standards have not been attained, compliance can be measured using effluent data and watershed modeling that uses similar assumptions as the TMDL to demonstrate that the sum total of the allocations have been achieved for each reach. If some, but not all, reaches are complying with the allocations of the TMDL, only those point sources in the complying reaches will be considered in compliance at the end of the adaptive management period. Point sources will only be deemed in compliance for pollutants for which the allocations have been achieved (i.e. for

a specific reach, if allocations are attained for TSS but not phosphorus, the point source in that reach will only be deemed in compliance for TSS).

- b. If water quality monitoring shows compliance with applicable water quality criteria and standards, further reductions are not required within that reach to satisfy TMDL requirements so long as compliance with the water quality criteria is maintained over time and provided additional reductions are not required in that reach to meet downstream criteria.
- c. If at the end of the adaptive management period the phosphorus and sediment (TSS) allocations identified in the TMDL have not been met for a stream reach, the entities participating in the adaptive management project will be responsible for taking additional steps to achieve compliance with phosphorus requirements in their WPDES permits. This could include converting to a water quality trading program that is consistent with applicable DNR guidance. Verifiable phosphorus and sediment (TSS) reductions achieved through the adaptive management project can be counted toward reductions in a water quality trading program provided the documentation is consistent with applicable DNR guidance.

7. Modification of this MOU

- a. This MOU applies while an approved Adaptive Management Plan for the Yahara watershed remains in place and is implemented. This MOU may be modified by mutual agreement of the parties. This MOU does not replace the need for an adaptive management plan, nor does it supersede an approved adaptive management plan.
- b. This MOU is subject to all applicable state and federal laws and regulations and shall be construed in accordance with those laws.

8. Signatures

For the Madison Metropolitan Sewerage District

By:


D. Michael Mucha
Chief Engineer and Director

11-26-14

Date

For the Wisconsin Department of Natural Resources

By:


Cathy Stepp
WDNR Secretary

12/11/14

Date

