UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

FEB 12 2020

WW-16J

Glenn Skuta, Watershed Division Director
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Dear Mr. Skuta:

The U.S. Environmental Protection Agency has conducted a complete review of the final Total Maximum Daily Loads (TMDLs) for the Minnesota River-Greater Blue Earth watershed, including supporting documentation and follow up information. The Minnesota River-Greater Blue Earth watershed is located in south-central Minnesota. The TMDLs were calculated for total suspended solids (TSS) to address the impaired Aquatic Life Use.

EPA has determined that these TMDLs meet the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, EPA hereby approves Minnesota's 68 TMDLs for the Minnesota River-Greater Blue Earth watershed. The statutory and regulatory requirements, and EPA's review of Minnesota's compliance with each requirement, are described in the enclosed decision document.

We wish to acknowledge Minnesota's effort in submitting these TMDL addressing Aquatic Life Use, and look forward to future submissions by the State of Minnesota. If you have any questions, please contact Mr. David Pfeifer, Chief of the Watersheds and Wetlands Branch, at 312-353-9029.

Sincerely,

Thomas R. Short, Jr.
Acting Director, Water Division

Enclosure

cc: Celine Lyman, MPCA
Paul Davis, MPCA

wq-iw7-47g

**TMDL:** Minnesota River-Greater Blue Earth River Watershed TMDL, MN
**Date:** FEB 1 2 2020

# DECISION DOCUMENT FOR THE MINNESOTA RIVER-GREATER BLUE EARTH WATERSHED TMDLS, MN

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. Part 130 describe the statutory and regulatory requirements for approvable TMDLs. Additional information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation. Use of the term "should" below denotes information that is generally necessary for EPA to determine if a submitted TMDL is approvable. These TMDL review guidelines are not themselves regulations. They are an attempt to summarize and provide guidance regarding currently effective statutory and regulatory requirements relating to TMDLs. Any differences between these guidelines and EPA's TMDL regulations should be resolved in favor of the regulations themselves.

## 1. Identification of Waterbody, Pollutant of Concern, Pollutant Sources, and Priority Ranking

The TMDL submittal should identify the waterbody as it appears on the State's/Tribe's 303(d) list. The waterbody should be identified/georeferenced using the National Hydrography Dataset (NHD), and the TMDL should clearly identify the pollutant for which the TMDL is being established. In addition, the TMDL should identify the priority ranking of the waterbody and specify the link between the pollutant of concern and the water quality standard (see Section 2 below).

The TMDL submittal should include an identification of the point and nonpoint sources of the pollutant of concern, including location of the source(s) and the quantity of the loading, e.g., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the waterbody. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for EPA's review of the load and wasteload allocations, which are required by regulation.

The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as:

(1) the spatial extent of the watershed in which the impaired waterbody is located;
(2) the assumed distribution of land use in the watershed (e.g., urban, forested, agriculture);
(3) population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources;
(4) present and future growth trends, if taken into consideration in preparing the TMDL (e.g., the TMDL could include the design capacity of a wastewater treatment facility); and

(5) an explanation and analytical basis for expressing the TMDL through *surrogate measures*, if applicable. *Surrogate measures* are parameters such as percent fines and turbidity for sediment impairments; chlorophyll *a* and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices.

**Comment:**

**Location Description/Spatial Extent:**

The Minnesota River - Greater Blue Earth River (MRGBE) watershed is located in south-central Minnesota. The overall Minnesota River watershed covers over 17,000 square miles and includes all or parts of 37 counties and two states (Minnesota and South Dakota). For this TMDL project, the Minnesota Pollution Control Agency (MPCA) determined that the Lac Qui Parle reservoir was the upstream boundary; from the reservoir, the Minnesota River flows southeast until the City of Mankato. At Mankato, the Blue Earth River enters the Minnesota River, and the Minnesota River turns sharply north and flows northeast until it discharges into the Mississippi River near Fort Snelling, Minnesota (Figure 2 of the TMDL). The Greater Blue Earth River watershed includes the Blue Earth River, Le Sueur River, and Watonwan River watersheds (Figure 2 of the TMDL). The TMDL portion of the river is approximately 275 miles in length and drains approximately 13,000 square miles.

This TMDL effort addresses impaired segments of the Minnesota River mainstem, as well as numerous segments in the Watonwan, Blue Earth, and Le Sueur river watersheds (Figure 2 and Appendix D of the TMDL; Attachment 1 of this Decision Document). A total of 68 segments impaired by total suspended solids (TSS) are addressed in this TMDL. Two of the mainstem Minnesota River segments border tribal reservations; the State explicitly excluded these lands from the TMDL allocation process. A portion of the Blue Earth River watershed extends into Iowa; this area is excluded from the TMDL calculations.

MPCA identified several previously-approved TSS TMDLs within the Minnesota River watershed (Section 3 of the TMDL). The MRGBE TMDL project does not revise those TMDLs; they remain in effect.

**Land Use:**

The MRGBE TMDL watersheds are mainly cropland in nature, ranging from 50% to 85% cropland, mainly corn and soybeans. The more northern (upstream) watersheds include some significant pasturelands (10-24%), along with wetlands (10-11%). The Lower Minnesota River watershed (07020012), where the Minnesota River discharges into the Mississippi River, is moderately developed (16%). This watershed is located near Minneapolis/St. Paul. Table 5 of the TMDL contains the land use information for each Hydrologic Unit Code (HUC) 8 watershed.

MPCA does not anticipate increases in TSS loading due to changes in land use within the watersheds. An allocation for future growth (reserve capacity) was not determined by MPCA.

**Problem Identification:**

The waterbodies were placed on the MPCA 303(d) list of impaired waters over a lengthy time period, from 2002 to 2018. In addition, some waters will be placed on the 2020 303(d) list.

The segments were placed on the MPCA 303(d) list of impaired waters due to exceedances of the turbidity or TSS criteria. The waters listed before 2014 were determined to be impaired

based upon the turbidity criteria, which was replaced with a TSS criteria in 2011. Section 4.3, Table 6, and Appendix B of the TMDL summarize the data used to assess the waterbodies. Most segments have TSS data, although some segments were listed based upon turbidity data alone. Review of the data indicates exceedences vary in the segments, both in the number of exceedences as well as the magnitude.

**Pollutant:**
The pollutant of concern is TSS. TSS is a measurement of the sediment and organic material that inhibits natural light from penetrating the surface water column. Excessive sediment and organic material within the water column can negatively impact fish and macroinvertebrates within the ecosystem. Excess sediment and organic material may create turbid conditions within the water column and may increase the costs of treating surface waters used for drinking water or other industrial purposes (ex. food processing).

Excessive amounts of fine sediment in stream environments can degrade aquatic communities. Sediment can reduce spawning and rearing areas for certain fish species. Excess suspended sediment can clog the gills of fish, stress certain sensitive species by abrading their tissue, and thus reduce fish health. When in suspension, sediment can limit visibility and light penetration which may impair foraging and predation activities by certain species.

Excess siltation and flow alteration in streams impacts aquatic life by altering habitats. Excess sediment can fill pools, embed substrates, and reduce connectivity between different stream habitats. The result is a decline in habitat types that, in healthy streams, support diverse macroinvertebrate communities. Excess sediment can reduce spawning and rearing habitats for certain fish species.

**Source Identification (point and nonpoint sources):**
Point Source Identification:
MPCA identified approximately 200 municipal and industrial waste water treatment plants (WWTPs) discharging to the MRGBE project area (Section 4.4.3 and Appendix E of the TMDL; Attachment 3 of this Decision Document). MPCA explained that municipal WWTPs typically have an effluent limit of 30 or 45 mg/L of TSS, which is well below the in-stream WQS of 65 mg/L. As a result, MPCA considers these sources to have limited impact on sediment loading in the MRGBE TMDL watershed. Further explanation of how MPCA determined the allocations for these facilities is found in Section 5 of this Decision Document.

MPCA identified 62 Municipal Separate Storm Sewer System (MS4) dischargers in the TMDL watershed (Section 5.4.3 and Appendix F of the TMDL; Attachment 4 of this Decision Document). Stormwater can contain sediment loads as a result of precipitation runoff from urbanized areas. Permitted stormwaters loads were estimated based upon modeling results in the watershed. MPCA noted that while localized stormwater impacts are possible, stormwater loads represent a small portion of the overall loading in the TMDL watershed.

MPCA noted that construction may contribute sediment via stormwater runoff during precipitation events. These areas within the TMDL watershed must comply with the requirements of the MPCA's NPDES Stormwater Program. The NPDES program requires construction sites to create a Stormwater Pollution Prevention Plan (SWPPP) that summarizes how stormwater will be minimized from the site.

MPCA identified stormwater discharges from permitted industrial sites in the TMDL watershed as potential sources of TSS. The allocations are for sites regulated under several MPCA general permits, including the Industrial Stormwater Multi-Sector Permit (MNR050000) and the General Permit for Nonmetallic Mining and Associated Activities (MNG490000).

A total of 186 Concentrated Animal Feeding Operations (CAFOs) were identified in the MRGBE River TMDL watershed (Section 4.3 and Appendix I of the TMDL). CAFOs are generally defined as having over 1000 animal units confined for more than 45 days in a year. Under MPCA NPDES permit requirements, discharges of pollutants from CAFOs are not allowed except under extreme circumstances (24-hour storm duration exceeding the 25-year recurrence interval; approximately a 4-5 inch rain in the watershed), and therefore no allocations were developed for the manure-handling facilities. Runoff from the spreading of manure in agronomic rates is not regulated as a point source discharge and is therefore considered in the nonpoint source load discussed below.

Nonpoint Source Identification:
*Near-channel sources*: Eroding streambanks, bluffs and ravines add sediment to local surface waters (Section 4.4.2 of the TMDL). Eroding riparian areas may be linked to soil inputs within the water column and potentially to changes in flow patterns. Changes in flow patterns may also encourage down-cutting of the stream bed and streambanks. Subsurface drainage tiling, channelization of waterways, land cover alteration, and increases in impervious surfaces all decrease detention time in the watershed and increase flow from fields and in streams. Draining and tiling wetland areas can decrease water storage on the landscape, which can lead to lower evapotranspiration and increased river flow. Unrestricted livestock access to streams and streambank areas may lead to streambank degradation and sediment additions to stream environments. These sources can include both natural and anthropogenic causes.

*Upland erosion*: MPCA defined upland sources of sediment as those related to field runoff due to precipitation (Section 4.4.2 of the TMDL). This includes sheet and rill erosion, as well as gully erosion. MPCA noted that the conversion of prairie grassland to agricultural land (ranging from 55% to 83% of watersheds) has significantly altered the hydrological patterns in the watershed. Modern agricultural practices began in the 1940's, and further altered the landscape. TSS loadings have increased significantly since this time due to the alterations in the natural landscape. For example, when precipitation falls on unprotected soils surface runoff can carve gullies into the soils thereby transporting significant amounts of sediment into waterways. Agricultural tiling may reduce runoff, but increase flow downstream, exacerbating near-channel erosion.

**Future Growth:**
MPCA expects little change in the allocations between point and nonpoint sources (Sections 5 and 7 of the TMDL). MPCA did not set aside an allocation for future growth (reserve capacity). There is discussion in Section 7 of the TMDL on how future growth will be addressed for permitted sources.

**Priority Ranking:**
As discussed in Section 1.3 of the TMDL, MPCA's schedule for TMDL completions, as indicated on the 303(d) impaired waters list, reflects Minnesota's priority ranking of this TMDL.

The MPCA has aligned TMDL priorities with the watershed approach and Watershed Restoration and Protection Strategy (WRAPS) cycle. The schedule for TMDL completion corresponds to the WRAPS report completion on the 10-year cycle. Mainstem river TMDLs, which are not contained in major watersheds and thus not addressed in WRAPS, must also be completed. The MPCA developed a state plan, Minnesota's TMDL Priority Framework Report, to meet the needs of EPA's national measure (WQ-27) under EPA's Long-Term Vision for Assessment, Restoration and Protection under the CWA section 303(d) program. As part of these efforts, the MPCA identified water quality-impaired segments that will be addressed by TMDLs by 2022. The waters of the Minnesota River and Greater Blue Earth River basins addressed by this TMDL are part of the MPCA prioritization plan to meet EPA's national measure.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of the first criterion.

## 2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribal water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the antidegradation policy (40 C.F.R. §130.7(c)(1)). EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

The TMDL submittal must identify a numeric water quality target(s) – a quantitative value used to measure whether or not the applicable water quality standard is attained. Generally, the pollutant of concern and the numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target. Occasionally, the pollutant of concern is different from the pollutant that is the subject of the numeric water quality target (e.g., when the pollutant of concern is phosphorus and the numeric water quality target is expressed as Dissolved Oxygen (DO) criteria). In such cases, the TMDL submittal should explain the linkage between the pollutant of concern and the chosen numeric water quality target.

**Comment:**

**Designated Uses:**

Minnesota Rule Chapter 7050 designates uses for waters of the state. As noted in Attachment 1 of this Decision Document, the impaired waters addressed by this TMDL are designated as Class 2B. In Minnesota, Class 2C waters were upgraded in 2017 to Class 2B.

Class 2B waters are protected for aquatic life and recreation use (boating, swimming, fishing, etc.). The Class 2B aquatic life and recreation designated use is described as:

> *"The quality of Class 2B surface waters shall be such as to permit the propagation and maintenance of a healthy community of cool or warm water sport or commercial fish and associated aquatic life, and their habitats. These waters shall be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. "*

*Numeric TSS criteria:*
EPA approved MPCA's regionally-based TSS criteria for rivers and streams in 2015. The TSS criteria replaced Minnesota's statewide turbidity criterion. The TSS criteria provide water clarity targets for measuring suspended particles in rivers and streams. The impaired waters are in the Southern River Nutrient Region, and the criteria is TSS to not exceed 65 mg/L in more than 10% of the samples collected between April 1 and September 30 (Minn. R. Ch. 7050.222; Section 2 of the TMDL).

*Target:* MPCA employed the Southern River Nutrient Region TSS criteria of **65 mg/L**.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of the second criterion.

## 3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a waterbody for the applicable pollutant. EPA regulations define loading capacity as the greatest amount of a pollutant that a water can receive without violating water quality standards (40 C.F.R. §130.2(f)).

The pollutant loadings may be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. §130.2(i)). If the TMDL is expressed in terms other than a daily load, e.g., an annual load, the submittal should explain why it is appropriate to express the TMDL in the unit of measurement chosen. The TMDL submittal should describe the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In many instances, this method will be a water quality model.

The TMDL submittal should contain documentation supporting the TMDL analysis, including the basis for any assumptions; a discussion of strengths and weaknesses in the analytical process; and results from any water quality modeling. EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

TMDLs must take into account *critical conditions* for steam flow, loading, and water quality parameters as part of the analysis of loading capacity (40 C.F.R. §130.7(c)(1)). TMDLs should define applicable *critical conditions* and describe their approach to estimating both point and nonpoint source loadings under such *critical conditions*. In particular, the TMDL should discuss the approach used to compute and allocate nonpoint source loadings, e.g., meteorological conditions and land use distribution.

**Comment:**
Functionally a TMDL is represented by the equation:

$$TMDL = LC = \Sigma WLA + \Sigma LA + MOS + RC,$$

where: LC is the loading capacity; WLA is the wasteload allocation; LA is the load allocation; MOS is the margin of safety; and (pursuant to MPCA rules) RC is any reserve capacity set aside for future growth. MPCA used a load duration curve (LDC) process to determine TSS loads in the watershed. TMDL summary tables are located in Attachment 2 of this Decision Document (Appendix D of the TMDL).

HSPF is a comprehensive modeling package used to simulate watershed hydrology and water quality on a basin scale. The package includes both an Agricultural Runoff Model and a more general nonpoint source model. HSPF parametrizes numerous hydrologic and hydrodynamic processes to determine flow rate, sediment, and nutrient loads. HSPF uses continuous meteorological records to create hydrographs and to estimate time series pollution concentrations.[1,2] The output of the HSPF process is a model of multiple hydrologic response units (HRUs), or subwatersheds of the overall MRGBE watershed. The flow from these HRUs were calibrated to different gage sites with up to seventeen years of data (1995 through 2012).

The approach utilized by the MPCA to calculate the loading capacity for the TSS TMDLs are described in Section 5.1 of the TMDL.

Flow duration curves (FDC) were created for individual impaired segments of the MRGBE TSS TMDL project. Each FDC was developed from flow data from one of the 25 United States Geological Survey (USGS) monitoring sites in the Minnesota River watershed or from flow results from the HSPF model. Daily stream flows were necessary to implement the LDC approach. MPCA utilized the flow results from the HSPF model to provide additional input into an additional 36 LDCs in the watershed (Section 5.1.1 of the TMDL).

The FDC was transformed into a LDC by multiplying individual flow values by the WQS (65 mg/L) and then multiplying that value by a conversion factor. The resulting points are plotted onto a load duration curve graph. The LDC graphs for the waterbodies have flow duration interval (percentage of time flow exceeded) on the X-axis and TSS loads (tons of TSS per day) on the Y-axis. The curved line on a LDC graph represents the TMDL for the respective flow conditions observed at that location.

TSS values from the monitoring sites were converted to individual sampling loads by multiplying the sample concentration by the instantaneous flow measurement observed/estimated at the time of sample collection. The individual sampling loads were plotted on the same figure with the LDC (Appendix D of the TMDL).

The LDC plots were subdivided into five flow regimes; very high flows (exceeded 0–10% of the time), high conditions (exceeded 10–40% of the time), mid-range flows (exceeded 40–60% of the time), low conditions (exceeded 60–90% of the time), and very low flows (exceeded 90–100% of the time). LDC plots can be organized to display individual sampling loads and the calculated LDC. Watershed managers can interpret these plots (individual sampling points plotted with the LDC) to understand the relationship between flow conditions and water quality exceedances within the watershed. Individual sampling loads which plot above the LDC represent violations of the WQS and the allowable load under those flow conditions at those locations. The difference between individual sampling loads plotting above the LDC and the LDC, measured at the same flow, is the amount of reduction necessary to meet WQS.

The strengths of using the LDC method are that critical conditions and seasonal variation are considered in the creation of the FDC by plotting hydrologic conditions over the flows measured during the year. Additionally, the LDC methodology is relatively easy to use and cost-effective.

[1] HSPF User's Manual - https://water.usgs.gov/software/HSPF/code/doc/hspfhelp.zip
[2] EPA TMDL Models Webpage - https://www.epa.gov/exposure-assessment-models/tmdl-models-and-tools

The weaknesses of the LDC method are that nonpoint source allocations cannot be assigned to specific sources, and specific source reductions are not quantified. Overall, MPCA believes and EPA concurs that the strengths outweigh the weaknesses for the LDC method.

Implementing the results shown by the LDC requires watershed managers to understand the sources contributing to the water quality impairment and which Best Management Practices (BMPs) may be the most effective for reducing sediment loads based on flow magnitudes. Different sources will contribute sediment loads under varying flow conditions. For example, if exceedances are significant during high flow events, this would suggest storm events are one of the main contributors of sediment to the impaired segment, implementation efforts should target BMPs that will reduce stormwater runoff and consequently sediment loading into surface waters. This type of LDC analysis allows for a more efficient implementation effort.

TMDLs for the 68 waterbodies were calculated as appropriate. The regulated permittees discharging TSS have allocations determined for them (Attachment 3 of this Decision Document; Appendix E of the TMDL). The load allocation was calculated after the determination of the Margin of Safety (10% of the loading capacity). Load allocations were combined together into a generalized loading. Review of the LDCs indicate that exceedences are occurring under higher flow conditions, especially very high and high flows.

Attachment 2 of this Decision Document calculate five points (the midpoints of the designated flow regime) on the loading capacity curves. However, it should be understood that the components of the TMDL equation could be illustrated for any point on the entire loading capacity curve. The load duration curve method can be used to display collected sediment monitoring data and allows for the estimation of load reductions necessary for attainment of the TSS water quality standard. Using this method, daily loads were developed based upon the flow in the water body. Loading capacities were determined for the segment for multiple flow regimes. This allows the TMDL to be represented by an allowable daily load across all flow conditions. Although there are numeric loads for each flow regime, the LDC is what is being approved for these TMDLs.

MPCA explained that the allocations for portions of several segments are calculated as formulas rather than loads. In these segments, point source flow discharges theoretically exceed the actual instream flow. For the lowest flow regime, the WLA and LA estimates were set based on the formula of

Allocation = (flow contribution from a given source) * 65 mg/L (TSS standard).

EPA concurs with the data analysis and LDC approach utilized by MPCA in its calculation of loading capacities, wasteload allocations, load allocations and the margin of safety for the TSS TMDLs. The methods used for determining the TMDL are consistent with EPA technical memos.[3]

Critical condition: The critical condition for the TSS TMDLs is the higher flow conditions, generally during spring runoff or storm events (Section 5.7 of the TMDL). MPCA accounted for the critical conditions by focusing implementation actions towards the higher flow conditions, to reduce loads during these time periods (Sections 8 and 10 of the TMDL).

[3] U.S. Environmental Protection Agency. August 2007. *An Approach for Using Load Duration Curves in the Development of TMDLs*. Office of Water. EPA-841-B-07-006. Washington, D.C.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of the third criterion.

## 4. Load Allocations (LA)

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity attributed to existing and future nonpoint sources and to natural background. Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. §130.2(g)). Where possible, load allocations should be described separately for natural background and nonpoint sources.

**Comment:**
Load allocations are addressed in Section 5 of the TMDL. The LAs for TSS are in Attachment 2 of this Decision Document (Appendix D of the TMDL). Review of the LDCs show that the exceedences generally occur under higher flows, indicating that precipitation-related sources are of particular concern. None of the LAs were subdivided by source type but were calculated as "gross allotments" as per 40 CFR 130.2(g).

MPCA explained that the allocations for several segments are calculated as formulas rather than loads. In these segments, point source flow discharges theoretically exceed the actual instream flow. For the lowest flow regime, the WLA and LA estimates were set based on the formula of Allocation = (flow contribution from a given source) * 65 mg/L (TSS standard).

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of the fourth criterion.

## 5. Wasteload Allocations (WLAs)

EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to individual existing and future point source(s) (40 C.F.R. §130.2(h), 40 C.F.R. §130.2(i)). In some cases, WLAs may cover more than one discharger, e.g., if the source is contained within a general permit.

The individual WLAs may take the form of uniform percentage reductions or individual mass based limitations for dischargers where it can be shown that this solution meets WQSs and does not result in localized impairments. These individual WLAs may be adjusted during the NPDES permitting process. If the WLAs are adjusted, the individual effluent limits for each permit issued to a discharger on the impaired water must be consistent with the assumptions and requirements of the adjusted WLAs in the TMDL. If the WLAs are not adjusted, effluent limits contained in the permit must be consistent with the individual WLAs specified in the TMDL. If a draft permit provides for a higher load for a discharger than the corresponding individual WLA in the TMDL, the State/Tribe must demonstrate that the total WLA in the TMDL will be achieved through reductions in the remaining individual WLAs and that localized impairments will not result. All permittees should be notified of any deviations from the initial individual WLAs contained in the TMDL. EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA, as expressed in the TMDL, remains the same or decreases, and there is no reallocation between the total WLA and the total LA.

**Comment:**
MPCA determined that approximately 200 wastewater point sources discharge to TSS-impaired waterbodies (Section 5.4.1 and Appendix E of the TMDL). These facilities include WWTPs, industrial wastewater, industrial process water, and noncontact cooling water. Attachment 3 of this Decision Document lists the facilities for which TSS WLAs were calculated by MPCA.

MPCA noted that the technology-based TSS limits in the NPDES permits are 30 mg/L as a calendar month average and 45 mg/L as a maximum calendar week average for mechanical systems, and 45 mg/L as a calendar monthly average and 65 mg/L as a calendar monthly average for pond systems. MPCA explained that the process used to calculate the WLAs varied depending upon the facility. As noted in Section 5.4.1 of the TMDL, some facilities have a load limit in their NPDES permit. For these facilities, the permit load limit was used as the WLA. Many facilities have a TSS concentration limit in the NPDES permit, and the WLA was calculated as the permitted concentration limit (using the monthly 30 mg/L or 45 mg/L limit) multiplied by the average wet weather design flow (AWWDF). For facilities without a permitted concentration limit and/or a design flow, MPCA used the effluent limit target of 30 mg/L multiplied by the maximum design flow or estimated flow.

MPCA explained that the allocations for several segments are calculated as formulas rather than loads. In these segments, point source maximum flow discharges theoretically exceed the actual instream flow. For the lowest flow regime, the WLA and LA estimates were set based on the formula of:

Allocation = (flow contribution from a given source) * 65 mg/L (TSS standard)

MPCA also determined categorical WLAs for 62 MS4 dischargers in the TMDL watersheds (Attachment 3 of this Decision Document; Section 5.4.3 and Appendix F of the TMDL). The MS4 WLAs were based upon the developed land area under the jurisdiction of the MS4 permit multiplied by a TSS export rate of 154 lbs/acre/year based upon U.S. Army Corp of Engineers data (Section 5.4.3 of the TMDL). WLAs were calculated for the Minnesota Department of Transportation (MnDOT) based upon regulated roads and rights-of-way. MPCA also calculated MS4 WLAs for four dischargers (City of Belle Plains, City of Jordan, City of LeSueur, and City of New Prague) that are not currently permitted as MS4s but are expected to be designated as MS4s in the next few years. MPCA noted that TSS loading from MS4s are calculated to not increase relative to the baseline year of 2010 (Section 5.4.3 of the TMDL).

MPCA set aside 0.2% of the total loading capacity less the Margin of Safety and the wastewater WLAs to account for TSS loading from construction and industrial stormwater (Attachment 2 of this Decision Document; Section 5.2.2 of the TMDL). MPCA estimated the areal coverage of construction and industrial general permits issued in the counties, and calculated coverage to be below 0.2%.

MPCA explained that BMPs and other stormwater control measures should be implemented at active construction sites to limit the discharge of pollutants of concern. BMPs and other stormwater control measures which should be implemented at construction sites are defined in the State's NPDES/State Disposal System (SDS) General Stormwater Permit for Construction Activity (MNR100001). If a construction site owner/operator obtains coverage under the

NPDES/SDS General Stormwater Permit and properly selects, installs and maintains all BMPs required under the permit, including those related to impaired waters discharges and any applicable additional requirements found in Appendix A of the Construction General Permit, the stormwater discharges would be expected to be consistent with the WLA in this TMDL.

The WLA for stormwater discharges from sites where there is industrial activity reflects the number of sites in the watershed for which NPDES industrial stormwater permit coverage is required, and the BMPs and other stormwater control measures that should be implemented at the sites to limit the discharge of pollutants of concern; they are defined in the State's NPDES/SDS Industrial Stormwater Multi-Sector General Permit (MNR050000) or NPDES/SDS General Permit for Construction Sand & Gravel, Rock Quarrying and Hot Mix Asphalt Production facilities (MNG490000). If a facility owner/operator obtains coverage under the appropriate NPDES/SDS General Stormwater Permit and properly selects, installs and maintains all BMPs required under the permit, the stormwater discharges would be expected to be consistent with the WLA in this TMDL.

A total of 186 Concentrated Animal Feeding Operations (CAFOs) were identified in the MRGBE River TMDL watershed (Section 4.3 and Appendix I of the TMDL). CAFOs are generally defined as having over 1000 animal units confined for more than 45 days in a year. Under MPCA NPDES permit requirements, discharges of pollutants from CAFOs are not allowed except under extreme circumstances (24-hour storm duration exceeding the 25-year recurrence interval; approximately a 4-5 inch rain in the watershed), and therefore no allocations were developed for the manure-handling facilities. If there is a discharge, MPCA noted that it must be consistent with the applicable permit. Runoff from the spreading of manure in agronomic rates is not regulated as a point source discharge and is therefore considered in the nonpoint source load.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of the fifth criterion.

## 6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety (MOS) to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)). EPA's 1991 TMDL Guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

**Comment:**
The MGBRE TSS TMDLs incorporated an explicit MOS of 10% of the total loading capacity (Attachment 2 of this Decision Document). MPCA determined this is sufficient based upon the modeling results. MPCA used both flow gages in the impaired waters as well as results from the HSPF model flow modeling to generate the LDC curves. MPCA noted that the MOS is reasonable due to the generally good calibration of the HSPF model for hydrology and pollutant loading (Section 5.5 and Appendix H of the TMDL; Minnesota River Basin HSPF Model

Hydrology Recalibration, Tetra Tech, 2015). The HSPF modeling utilized numerous streamflow gages in the watershed, as discussed in Section 5.5 of the TMDL. The calibration results indicate the model adequately characterize the waterbody segments, and therefore additional MOS is not needed.

The EPA finds that the TMDL document submitted by the MPCA contains an appropriate MOS satisfying the requirements of the sixth criterion.

## 7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The TMDL must describe the method chosen for including seasonal variations. (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)).

**Comment:**
The TSS WQS applies from April to September which is also the time period when high concentrations of sediment are expected in the surface waters of the MRGBE River watershed. Sediment loading to surface waters in the watershed varies depending on surface water flow, land cover and climate/season. Typically, in the watershed, sediment is being moved from terrestrial source locations into surface waters during or shortly after wet weather events. Spring is typically associated with large flows from snowmelt, the summer is associated with the growing season as well as periodic storm events and receding streamflows, and the fall brings increasing precipitation and rapidly changing agricultural landscapes. Large precipitation events and minimally covered land surfaces can lead to large runoff volumes, especially to those areas which drain agricultural fields. The conditions generally occur in the spring and early summer seasons. The LDC developed from these flow records represents a range of flow conditions within the TSS – impaired watersheds and thereby accounted for seasonal variability over the recreation season.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of the seventh criterion.

## 8. Reasonable Assurance

When a TMDL is developed for waters impaired by point sources only, the issuance of a NPDES permit(s) provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved. This is because 40 C.F.R. 122.44(d)(1)(vii)(B) requires that effluent limits in permits be consistent with, "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.

When a TMDL is developed for waters impaired by both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur, EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. This information is necessary for EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.

EPA's August 1997 TMDL Guidance also directs Regions to work with States to achieve TMDL load allocations in waters impaired only by nonpoint sources. However, EPA cannot disapprove a TMDL for nonpoint source-only impaired waters, which do not have a demonstration of reasonable assurance that LAs will be achieved, because such a showing is not required by current regulations.

**Comment:**
Sections 8 and 10 of the TMDL provide information on actions and activities to reduce pollutant loading in the watershed. The main entities responsible for overseeing the pollutant reduction activities will be the MPCA, the 37 counties in the watershed, and numerous Soil and Water Conservation Districts (SWCDs).

SWCDs will provide actions and activities to attain WQSs in the MRGBE watershed. For example, the Blue Earth County SWCD has developed a *Water Management Plan (2017-2026)* that identifies impaired waters in the County, identifies priority areas for protection and restoration, and notes that sediment is a specific pollutant of concern. The plan also contains an implementation section that identifies responsible agencies/groups, ongoing and proposed actions, and sources of funding available to implement BMPs. The Cottonwood County SWCD has developed a *Local Watershed Management Plan (2017-2027)* that contains similar information as the Blue Earth SWCD Water Managment Plan. Several other counties have watershed plans that address sediment in the TMDL basin.

Several watershed groups also have activities on-going in the TMDL watershed (Section 8.2 of the TMDL). One example is the Hawk Creek Watershed Project https://www.hawkcreekwatershed.org/ , which has a list of BMPs in development in the Hawk Creek Watershed, as well as information on grants and cost-share programs available to landowners. Other local groups include the Chippewa River Watershed Project https://www.chippewariver.org/ and the Redwood-Cottonwood Rivers Alliance https://rcrca.com/.

MPCA also identified several existing TMDLs in the watershed (Section 3 of the TMDL). These TMDLs have been approved for several years, and implementation activities are underway. Table 3 of the TMDL lists the approved sediment TMDLs in the MRGBE watershed, and the link to these TMDLs can be found at https://www.pca.state.mn.us/water/total-maximum-daily-load-tmdl-projects). MPCA also noted that several TMDLs addressing bacteria and nutrients in the Minnesota River Basin will also reduce sediment loads, as many sources of bacteria and nutrients are linked with sediment, such as row-crop runoff.

Several additional TMDL projects are under development in the Minnesota River Basin (https://www.pca.state.mn.us/water/total-maximum-daily-load-tmdl-projects ). The Lower Minnesota River TMDL, the Minnesota River-Mankato TMDL, and the Watonwan River TMDL are all in the final stages of development by MPCA.

MPCA also identified State-wide and regional nonpoint source reduction efforts that will help reduce sediment loads in the TMDL watershed (Section 8.4 of the TMDL). The Buffer Law was passed in 2015 and requires vegetative buffers to be planted along public streams. Buffers can filter runoff from fields and agricultural operations, removing sediment, bacteria, and nutrients. The buffers can also improve habitat and reduce streambank erosion.

MPCA has developed the *Sediment Reduction Strategy for the Minnesota River Basin and South Metro Mississippi River* (MPCA, 2015). The Strategy outlines several goals for reducing sediment in the Minnesota River Basin, including a 25% reduction in sediment by 2020 and by 50% by 2030. The Strategy also targets reductions in peak flow in the watershed, to reduce high-flow erosion and related sediment loading (Section 10 of the TMDL).

Reasonable assurance that the WLA set forth in the TMDLs will be implemented is provided by regulatory actions. According to 40 CFR 122.44(d)(1)(vii)(B), NPDES permit effluent limits must be consistent with assumptions and requirements of all WLAs in an approved TMDL. MPCA's NPDES permit program is the implementing program for ensuring effluent limits are consistent with the TMDL.

All regulated MS4 communities are required to satisfy the requirements of the MS4 general permit. The MS4 general permit requires the permittee to develop an SWPPP which addresses all permit requirements, including the following six minimum control measures:

- Public education and outreach;
- Public participation;
- Illicit Discharge Detection and Elimination (IDDE) Program;
- Construction-site runoff controls;
- Post-construction runoff controls; and
- Pollution prevention and municipal good housekeeping measures.

A SWPPP is a management plan that describes the MS4 permittee's activities for managing stormwater within their jurisdiction or regulated area. In the event a TMDL study has been completed, approved by EPA prior to the effective date of the general permit, and assigned a wasteload allocation to an MS4 permittee, that permittee must document the WLA in its application and provide an outline of the best management practices to be implemented in the current permit term to address any needed reduction in loading from a MS4 community.

The stormwater program requires construction and industrial sites to create a SWPPP that summarizes how stormwater will be minimized from a site. Permittees are required to review the adequacy of local SWPPPs to ensure that each plan meets WLA set in the TMDL. In the event that the SWPPP does not meet the WLA, the SWPPP will need to be modified prior to the effective date of the next General Permit. This applies to the MS4, Construction, and Industrial Stormwater General Permits.

Clean Water Legacy Act (CWLA): The CWLA was passed in Minnesota in 2006 for the purposes of protecting, restoring, and preserving Minnesota water. The CWLA provides the protocols and practices to be followed in order to protect, enhance, and restore water quality in Minnesota.
The CWLA outlines how MPCA, public agencies and private entities should coordinate in their efforts toward improving land use management practices and water management. The CWLA anticipates that all agencies (i.e., MPCA, public agencies, local authorities and private entities, etc.) will cooperate regarding planning and restoration efforts. Cooperative efforts would likely include informal and formal agreements to jointly use technical, educational, and financial resources.

The CWLA also provides details on public and stakeholder participation, and how the funding will be used. In part to attain these goals, the CWLA requires MPCA to develop WRAPS. The WRAPS are required to contain such elements as the identification of impaired waters, watershed modeling outputs, point and nonpoint sources, load reductions, etc. (Chapter 114D.26; CWLA). The WRAPS also contain an implementation table of strategies and actions that are capable of achieving the needed load reductions, for both point and nonpoint sources (Chapter 114D.26, Subd. 1(8); CWLA). Implementation plans developed for the TMDLs are included in the table and are considered "priority areas" under the WRAPS process (Watershed Restoration and Protection Strategy Report Template, MPCA). This table includes not only needed actions but a timeline for achieving water quality targets, the reductions needed from both point and nonpoint sources, the governmental units responsible, and interim milestones for achieving the actions. MPCA has developed guidance on what is required in the WRAPS (Watershed Restoration and Protection Strategy Report Template, MPCA). Several of the WRAPS reports in the MRGBE watershed have been finalized (Table 11 of the TMDL). Many of the implementation actions listed in the WRAPS reports are already underway.

The Minnesota Board of Soil and Water Resources administers the Clean Water Fund as well and has developed a detailed grants policy explaining what is required to be eligible to receive Clean Water Fund money (FY 2014 Clean Water Fund Competitive Grants Request for Proposal (RFP); Minnesota Board of Soil and Water Resources, 2014).

The EPA finds that this criterion has been adequately addressed.

### 9. Monitoring Plan to Track TMDL Effectiveness

EPA's 1991 document, *Guidance for Water Quality-Based Decisions: The TMDL Process* (EPA 440/4-91-001), recommends a monitoring plan to track the effectiveness of a TMDL, particularly when a TMDL involves both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur. Such a TMDL should provide assurances that nonpoint source controls will achieve expected load reductions and, such TMDL should include a monitoring plan that describes the additional data to be collected to determine if the load reductions provided for in the TMDL are occurring and leading to attainment of water quality standards.

**Comment:**
The final TMDL document outlines the water monitoring efforts in the MRGBE watershed (Section 9 of the TMDL). Water quality monitoring is a critical component of the adaptive management strategy employed as part of the implementation planning efforts for these watersheds.

Follow-up monitoring is integral to the adaptive management approach. Monitoring addresses uncertainty in the efficacy of implementation actions and can provide assurance that implementation measures are succeeding in attaining water quality standards, as well as inform the ongoing TMDL implementation strategy. To assess progress toward meeting the TMDL targets, monitoring of the waterbodies will continue to be a part of the Soil and Water Conservation Districts monitoring programs. MPCA noted that monitoring will be especially important in the MRGBE watershed, as the land use differs in the watershed. At a minimum, the

MRGBE watershed will be monitored once every 10 years as part of the MPCA's Intensive Watershed Monitoring cycle (Table 11 of the TMDL).

The EPA finds that this criterion has been adequately addressed.

## 10. Implementation

EPA policy encourages Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired by nonpoint sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that nonpoint source LAs established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. In addition, EPA policy recognizes that other relevant watershed management processes may be used in the TMDL process. EPA is not required to and does not approve TMDL implementation plans.

**Comment:**
Implementation strategies are outlined in Section 10 of the TMDL and in the various WRAPS plans. The MPCA presented a variety of possible implementation activities which could be undertaken within the watersheds. MPCA outlined the importance of prioritizing areas within the MRGBE watershed, education and outreach efforts with local partners, and partnering with local stakeholders to improve water quality within the watershed. Reduction goals for the TSS TMDLs may be met via components of the following strategies:

*Urban/residential Stormwater Reduction Strategies:* Most downstream watersheds have significant amounts of urban/suburban land. MPCA anticipates that controls on stormwater will be needed to attain and maintain WQS. As noted in Section 5 of this Decision Document, the SWPPPs will be reviewed and revised as needed.

*Improved Agricultural Drainage Practices*: A review of local agricultural drainage networks will be completed to examine how improving drainage ditches and drainage channels could be reorganized to reduce the influx of sediments to the surface waters in the MRGBE watershed. The reorganization of the drainage network could include the installation of drainage ditches or sediment traps to encourage particle settling during high flow events. Additionally, cover cropping, and residue management is recommended to reduce erosion and thus siltation and runoff into streams.

*Improving Storage Capacity/Riparian Area Management*: These strategies involve reducing stormwater derived runoff from agricultural and urban landscapes and efforts toward attenuating peak flows and augmenting base flow in stream environments. These practices could include: stormwater retention structures (e.g., rain gardens), buffer/filter strips, wetland restoration, re-establishing vegetation in riparian areas (e.g., trees, shrubs, native grasses) and grassed waterways.

*Identification of Stream, River, and Lakeshore Erosional Areas*: An assessment of stream and river channel erosional areas should be completed to evaluate areas where erosion control strategies could be implemented in the MRGBE. Many of the projects and plans discussed in Section 8 of this Decision Document identify priority areas for pollutant controls. Implementation actions (e.g., planting deep-rooted vegetation near water bodies to stabilize

streambanks, grass filter strips, streambank stabilization practices, gully stabilization practices, installation of fencing near riparian areas, etc.) could be prioritized to target areas which are actively eroding. This strategy could prevent additional sediment inputs into surface waters of the TMDL watershed and minimize or eliminate degradation of habitat.

*Reducing Livestock Access to Stream Environments*: Livestock managers should be encouraged to implement measures to protect riparian areas. Managers should install exclusion fencing near stream environments to prevent direct access to these areas by livestock. Additionally, installing alternative watering locations and stream crossings between pastures may aid in reducing sediments to surface waters.

*Public Education Efforts:* Public programs will be developed to provide guidance to the general public on pollutant reduction efforts and their impact on water quality. These educational efforts could also be used to inform the general public on what they can do to protect the overall health of the waterbodies. As discussed in Section 11 of this Decision Document, MPCA has involved local stakeholders in the development of this TMDL for several years.

The EPA finds that this criterion has been adequately addressed. The EPA reviews but does not approve implementation plans.

## 11. Public Participation

EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 C.F.R. §130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. §130.7(d)(2)).

Provision of inadequate public participation may be a basis for disapproving a TMDL. If EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

**Comment:**
The public participation section of the TMDL submittal is found in Section 11 of the TMDL. Throughout the development of the MRGBE watershed TMDLs the public was given various opportunities to participate in the TMDL process. The MPCA encouraged public participation through public meetings and small group discussions with stakeholders within the watershed.

Meetings were first held in 2006, to begin the TMDL process. Initially, TMDLs were being developed for the Minnesota River and the Blue Earth River separately; and draft TMDLs were developed and public noticed in 2012. As a result of the public comments received, the MPCA reworked the TMDL, and combined the two projects into one; the Minnesota River-Greater Blue Earth River TMDL. Section 11 of the TMDL lists the numerous meetings regarding the TMDL

process held in the watershed. Participants included local government officials, stakeholders, and the public.

The draft TMDL was posted online by the MPCA at (http://www.pca.state.mn.us/water/tmdl). The public comment period began on July 22, 2019 and ended on September 20, 2019. The MPCA received numerous public comments and adequately addressed these comments. Comments were submitted by landowners in the watershed and several special interest groups. A summary of some of the major issues and MPCA responses is below.

Several commentors expressed support for the TMDL effort, and strongly encouraged the state to ensure that the sediment reductions were attained. The commentors also expressed support for the implementation of sediment controls, and how important the improvement of water quality was.

Several commentors expressed concerns over the presence of agricultural tile drains, and requested MPCA to either require permits, or reduce/remove tile drains. MPCA noted that that Clean Water Act specifically exempts agricultural stormwater from regulation as a point source. However, the State has several programs designed in part to encourage farmers to implement Best Management Practices (BMPs) that reduce sediment and other pollutants from entering waterbodies. Many watersheds have WRAPS either approved or in final stages of completion, which identify priority areas and actions needed to control sediment in the watershed.

Other commenters disagreed with MPCA that agricultural drain tiles are a significant source of flow and associated sediment into waterbodies in the MRGBR watershed. They explained that groundwater seepage and freeze-thaw cycles are leading to destabilized bluffs and gullies, causing them to fail and slump into the Minnesota River and its tributaries, rather than increased streamflow from agricultural tiles causing increased undercutting of streambanks and bluffs. MPCA explained that the causes of sediment loading in the MRGBE watershed vary in type and amount across the watershed. In some locations, bluff erosion is a significant sources, while in others, there is clear evidence that agricultural tiles are contributing to increased in-stream flows and related streambank erosion. MPCA agreed that detailed analyses (such as in the WRAPS and other implementation plans) are needed to determine the specific causes and locations of sediment loading, and that a suite of BMPs are best suited to reducing the loads. The State welcomed further study of sediment sources in the TMDL watershed to better understand sources and impacts.

Several commenters expressed concerns over the need to reduce high flows in the various waterbodies. As noted by MPCA, precipitation and related runoff levels have increased in the Minnesota River watershed, first in the 1940's with the advent of modern agricultural practices, and then in the 1980's, with a less discernable cause. Commentors requested addition controls such as ponds, detention structures and constructed/restored wetlands to help increase water storage and reduce the flashy flows. MPCA explained that the TMDL and related WRAPS documents include the impacts that increased water storage efforts will have on runoff volume, and these efforts will become even more critical as storm patterns change. MPCA reviewed rainfall data during the TMDL development process and noted that fewer but more intense storm events appear to be occuring, resulting in longer droughts but greater runoff when the storm events occur. The various WRAPS documents and Sediment Reduction Strategy provide information on what efforts are needed in which priority locations.

Comments were also raised regarding the prioritization of CWLA funding. Several commentors requested that funding be shifted from watershed assessment and monitoring to implementation activities. MPCA explained that over 81% of the CWLA funding has been spent on implementation activities. MPCA noted that over $3.3 billion has been spent since 2004 on water quality improvements in Minnesota, including both State and Federal dollars.

The EPA finds that the TMDL document submitted by the MPCA satisfies the requirements of this eleventh element.

## 12. Submittal Letter

A submittal letter should be included with the TMDL submittal, and should specify whether the TMDL is being submitted for a *technical review* or *final review and approval*. Each final TMDL submitted to EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final review and approval, should contain such identifying information as the name and location of the waterbody, and the pollutant(s) of concern.

**Comment:**
The EPA received the final MRGBE watershed TMDL document, submittal letter and accompanying documentation from the MPCA on January 16, 2020. The transmittal letter explicitly stated that the final Minnesota, Blue Earth, Le Sueur, and Watonwan River watershed TMDLs for TSS were being submitted to EPA pursuant to Section 303(d) of the Clean Water Act for EPA review and approval. The letter clearly stated that this was a final TMDL submittal under Section 303(d) of CWA. The letter also contained the name of the watershed as it appears on Minnesota's 303(d) list, and the causes/pollutants of concern. This TMDL was submitted per the requirements under Section 303(d) of the Clean Water Act and 40 CFR 130.

The EPA finds that the TMDL transmittal letter submitted for the MRGBE watershed by the MPCA satisfies the requirements of this twelfth element.

## 13. Conclusion

After a full and complete review, the EPA finds that the TMDLs for the MRGBE watershed satisfy all of the elements of approvable TMDLs. This approval is for 68 TMDLs, addressing aquatic life use impairments due to TSS.

The EPA's approval of these TMDLs extends to the water bodies which are identified In Table 1 of this Decision Document with the exception of any portions of the water bodies that are within Indian Country, as defined in 18 U.S.C. Section 1151. The EPA is taking no action to approve or disapprove TMDLs for those waters at this time. The EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under the CWA Section 303(d) for those waters.

EPA sent a letter to the Lower Sioux Indian Community and the Upper Sioux Indian Community in Minnesota. In the letter, EPA offered the Tribal representatives the opportunity to consult with the EPA regarding these TMDLs. EPA received no official response.

# Attachment 1

List of Waters Addressed by the Minnesota River- Blue Earth River TMDL

| HUC-8 | Stream Name | AUID (HUC-8) | Use Class | Description | Affected Designated Use | Year Listed | Target Start/ Completion |
|---|---|---|---|---|---|---|---|
| Minnesota River–Yellow Medicine River (07020004) | Yellow Medicine River | 502 | 2B, 3C | Spring Creek to Minnesota River | Aquatic Life | 2002 | 2008/2016 |
| | Minnesota River | 747 | 1C, 2Bd, 3C | Lac qui Parle Dam to Granite Falls Dam | Aquatic Life | a | |
| | Minnesota River [b] | 748 | 2B, 3C | Granite Falls Dam to Yellow Medicine River | Aquatic Life | a | |
| | Minnesota River | 749 | 2B, 3C | Yellow Medicine River to Echo Creek | Aquatic Life | a | |
| | Minnesota River | 750 | 2B, 3C | Echo Creek to Beaver Creek | Aquatic Life | a | |
| Chippewa River (07020005) | Chippewa River | 501 | 2B, 3C | Watson Sag to Minnesota River | Aquatic Life | 2002 | 2004/2016 |
| Redwood River (07020006) | Redwood River | 501 | 2B, 3C | Ramsey Creek to Minnesota River | Aquatic Life | 2004 | 2008/2016 |
| Minnesota River–Mankato (07020007) | Minnesota River [c] | 720 | 2B, 3C | Beaver Creek to Little Rock Creek | Aquatic Life | a | |
| | Minnesota River | 721 | 2B, 3C | Little Rock Creek to Cottonwood River | Aquatic Life | a | |
| | Minnesota River | 722 | 2B, 3C | Cottonwood River to Blue Earth River | Aquatic Life | a | |
| | Minnesota River | 723 | 2B, 3C | Blue Earth River to Cherry Creek | Aquatic Life | a | |
| Cottonwood River (07020008) | Cottonwood River | 501 | 2B, 3C | Judicial Ditch 30 to Minnesota River | Aquatic Life | 2002 | 2016/2016 |
| Blue Earth River (07020009) | Blue Earth River | 501 | 2B, 3C | Le Sueur River to Minnesota River | Aquatic Life | 2002 | 2008/2016 |
| | Elm Creek | 502 | 2B, 3C | Cedar Creek to Blue Earth River | Aquatic Life | 1996 | 2004/2016 |
| | Center Creek | 503 | 2B, 3C | Lily Creek to Blue Earth River | Aquatic Life | 2002 | 2004/2016 |
| | Blue Earth River | 504 | 2B, 3C | West Branch Blue Earth River to Coon Creek | Aquatic Life | 2002 | 2004/2016 |
| | Blue Earth River | 507 | 2B, 3C | Willow Creek to Watonwan River | Aquatic Life | 2008 | 2004/2016 |
| | Blue Earth River | 508 | 2B, 3C | East Branch Blue Earth River to South Creek | Aquatic Life | 2002 | 2004/2016 |
| | Blue Earth River | 509 | 2B, 3C | Rapidan Dam to Le Sueur River | Aquatic Life | 2004 | 2017/2016 |
| | Blue Earth River | 514 | 2B, 3C | Center Creek to Elm Creek | Aquatic Life | 2010 | 2010/2016 |
| | Blue Earth River | 515 | 2B, 3C | Elm Creek to Willow Creek | Aquatic Life | 2002 | 2004/2016 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Blue Earth River | 518 | 2B, 3C | Coon Creek to Badger Creek | Aquatic Life | 2008 | 2007/2016 |
| | Cedar (Run) Creek | 521 | 2C | Cedar Lake to Elm Creek | Aquatic Life | 2006 | 2004/2016 |
| | Elm Creek | 522 | 2B, 3C | South Fork Elm Creek to Cedar Creek | Aquatic Life | 2006 | 2004/2016 |
| | Elm Creek[d] | 523 | 2B, 3C | Headwaters to South Fork Elm Creek | Aquatic Life | 2010 | 2004/2016 |
| | | *630* | *2B, 3C* | *Headwaters to 570th Ave* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *631* | *2B, 3C* | *570th Ave to South Fork Elm Creek* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | Elm Creek, South Fork | 524 | 2C | T103 R34W S30, W line to T103 R34W S1, N line | Aquatic Life | 2010 | 2004/2017 |
| | Lily Creek[d] | 525 | 2B, 3C | Headwaters (Fox Lake 460109-00) to Center Crk | Aquatic Life | 2006 | 2004/2016 |
| | | *632* | *2B, 3C* | *Headwaters (Fox Lake 460109-00) to N Bixby Rd* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *633* | *2B, 3C* | *N Bixby Rd to Center Creek* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | Dutch Creek[d] | 527 | 2B, 3C | Headwaters to Hall Lake | Aquatic Life | 2006 | 2004/2016 |
| | | *634* | *2B, 3C* | *Headwaters to -94.507, 43.626* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *635* | *2B, 3C* | *-94.507, 43.626 to T102 R31W S13, south line* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *636* | *2B, 3C* | *T102 R31W S13, S line to T102 R31W S18, S line* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *637* | *2B, 3C* | *T102 R30W S19, north line to Hall Lk* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | Blue Earth River, E Br. | 553 | 2C, 3C | Brush Creek to Blue Earth River | Aquatic Life | 2008 | 2004/2016 |
| | Blue Earth River, E Br.[d] | 554 | 2B, 3C | Headwaters to Brush Creek | Aquatic Life | 2008 | 2004/2016 |
| | | *649* | *2B, 3C* | *East Branch; Headwaters to -93.663 43.624* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *650* | *2B, 3C* | *-93.663 43.624 to -93.73 43.654* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | Blue Earth River | 565 | 2B, 3C | Badger Creek to East Branch Blue Earth River | Aquatic Life | 2008 | 2004/2016 |
| Le Sueur River (07020011) | Le Sueur River | 501 | 2B, 3C | Maple River to Blue Earth River | Aquatic Life | 2002 | 2008/2016 |
| | Unnamed Creek (Little Beauford Ditch)[d] | 503 | 2B, 3C | Headwaters to Cobb River | Aquatic Life | 2002 | 2004/2016 |
| | | *642* | *2B, 3C* | *Headwaters to Victory Dr (MN22)* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *643* | *2B, 3C* | *Victory Dr (MN22) to Cobb R* | *Aquatic Life* | *2020[e]* | *2020[e]* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Little Cobb River | 504 | 2C | Bull Run Creek to Cobb River | Aquatic Life | 2002 | 2004/2016 |
| | Le Sueur River | 506 | 2B, 3C | Cobb River to Maple River | Aquatic Life | 2010 | 2008/2016 |
| | Le Sueur River | 507 | 2B, 3C | County Ditch 6 to Cobb River | Aquatic Life | 2008 | 2004/2016 |
| | Rice Creek | 531 | 2B, 3C | Headwaters to Maple River | Aquatic Life | 2010 | 2008/2016 |
| | Maple River | 534 | 2B, 3C | Rice Creek to Le Sueur River | Aquatic Life | 2008 | 2004/2016 |
| | Maple River | 535 | 2B, 3C | Minnesota Lake Outlet to Rice Creek | Aquatic Life | 2010 | 2010/2016 |
| | County Ditch 3 (Judicial Ditch 9)[d] | 552 | 2B, 3C | Judicial Ditch 9 to Maple River | Aquatic Life | 2010 | 2008/2016 |
| | | *652* | *2B, 3C* | *JD 9 to -93.958, 43.852* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *653* | *2B, 3C* | *-93.958, 43.852 to Maple R* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | Cobb River | 556 | 2C | T107 R26W S30, west line to Le Sueur River | Aquatic Life | 2008 | 2004/2016 |
| | Cobb River | 568 | 2C | T104 R23W S34, south line to Little Cobb River | Aquatic Life | 2010 | 2008/2016 |
| | Le Sueur River[d] | 619 | 2B, 3C | Headwaters to Boot Creek | Aquatic Life | 2010 | 2010/2016 |
| | | *664* | *2B, 3C* | *Headwaters to Freeborn/Steele County border* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | | *665* | *2B, 3C* | *Freeborn/Steele County border to Boot Creek* | *Aquatic Life* | *2020[e]* | *2020[e]* |
| | Le Sueur River | 620 | 2B, 3C | Boot Creek to CD6 | Aquatic Life | 2010 | 2010/2016 |
| Lower Minnesota River (07020012) | Minnesota River | 505 | 2C, 3C | RM 22 to Mississippi | Aquatic Life | 1996 | 2014/2019 |
| | Minnesota River | 506 | 2C, 3C | Carver Creek to RM 22 | Aquatic Life | 1996 | 2014/2019 |
| | Minnesota River | 799 | 2B, 3C | Cherry Creek to High Island Creek | Aquatic Life | a | |
| | Minnesota River | 800 | 2B, 3C | High Island to Carver Creek | Aquatic Life | a | |
| Watonwan River (07020010) | Watonwan River | 501 | 2B, 3C | Perch Creek to Blue Earth River | Aquatic Life | 2002 | 2008/2016 |
| | Watonwan River | 510 | 2B, 3C | South Fork Watonwan River to Perch Creek | Aquatic Life | 2008 | 2004/2016 |
| | Watonwan River | 511 | 2B, 3C | Butterfield Creek to South Fork Watonwan River | Aquatic Life | 2006 | 2004/2016 |
| | Butterfield Creek | 516 | 2C | Headwaters to St. James Creek | Aquatic Life | 2008 | 2004/2016 |
| | Watonwan River, South Fork | 517 | 2B, 3C | Willow Creek to Watonwan River | Aquatic Life | 2006 | 2004/2016 |
| | Perch Creek | 524 | 2C | Headwaters (Perch Lk 460046-00) to Spring Cr | Aquatic Life | 2006 | 2004/2016 |
| | St. James Creek (Kansas Lake Inlet) | 528 | 2C | Headwaters to Kansas Lake | Aquatic Life | 2002 | 2004/2016 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Watonwan River, South Fork | 547 | 2B, 3C | Irish Lake to Willow Creek | Aquatic Life | 2006 | 2008/2016 |
| | Watonwan River | 562 | 2B, 3C | North Fork Watonwan River to T107 R32W S13, east line | Aquatic Life | 2006 | 2004/2016 |
| | Watonwan River | 563 | 2B, 3C | T107 R31W S18, west line to Butterfield Creek | Aquatic Life | 2006 | 2004/2016 |
| | Watonwan River, North Fork | 564 | 2B, 3C | Headwaters to T107 R32W S6, east line | Aquatic Life | 2006 | 2004/2016 |
| | Watonwan River | 566 | 2B, 3C | Headwaters to T107 R33W S33, east line | Aquatic Life | 2006 | 2004/2016 |
| | Watonwan River | 567 | 2B, 3C | T107 R33W S34, west line to North Fork Watonwan River | Aquatic Life | 2006 | 2004/2016 |

a. Listed for TSS in the 2018 303(d) list of impaired waters
b. Adjacent to tribal lands of the Upper Sioux Community; noted as "partial designation" in the state's 2018 impaired waters list
c. Adjacent to tribal lands of the Lower Sioux Community; noted as "partial designation" in the state's 2018 impaired waters list
d. Reach split into multiple AUIDs following listing on 303(d) impaired waters list
**e.** Split reach proposed to be added to the 2020 303(d) impaired waters list

# Attachment 2

TMDL Summaries for the Minnesota River – Blue Earth River TMDL

Table D-1. TSS TMDL summary, Yellow Medicine River (07020004-502)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.29 | 0.062 | 0.013 | 0.0024 | – [b] |
| WLA: Wastewater | 1.0 | 1.0 | 1.0 | 1.0 | – [b] |
| Load Allocation | 146 | 31 | 6.7 | 1.2 | – [b] |
| Margin of Safety | 16 | 3.6 | 0.86 | 0.25 | 0.064 |
| Loading Capacity | 163 | 36 | 8.6 | 2.5 | 0.64 |
| Existing Concentration (mg/L) | 211 | | | | |
| Percent Reduction to Achieve Concentration Standard | 69% | | | | |

Table D-2. TSS TMDL summary, Minnesota River (07020004-747)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: City, County, and/or Township MS4 [a] | 1.29 | 0.48 | 0.19 | 0.088 | 0.042 |
| WLA: Industrial/Construction Stormwater | 0.59 | 0.18 | 0.069 | 0.029 | – [b] |
| WLA: Wastewater | 4.2 | 4.2 | 4.2 | 4.2 | – [b] |
| Load Allocation | 291 | 91 | 35 | 15 | – [b] |
| Margin of Safety | 33 | 11 | 4.3 | 2.1 | 0.43 |
| Loading Capacity | 1,132 | 354 | 138 | 60 | 8.5 |
| Existing Concentration (mg/L) | 78 | | | | |
| Percent Reduction to Achieve Concentration Standard | 17% | | | | |

Table D-3. TSS TMDL summary, Minnesota River (07020004-748)*

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: City, County, and/or Township MS4 [a] | 1.29 | 0.48 | 0.19 | 0.088 | 0.042 |
| WLA: Industrial/Construction Stormwater | 0.63 | 0.20 | 0.073 | 0.030 | – [b] |
| WLA: Wastewater | 4.9 | 4.9 | 4.9 | 4.9 | – [b] |
| Load Allocation | 312 | 98 | 36 | 15 | – [b] |
| Margin of Safety | 35 | 11 | 4.6 | 2.2 | 0.45 |
| Loading Capacity | 1,156 | 362 | 140 | 61 | 8.7 |
| Existing Concentration (mg/L) | 76 | | | | |
| Percent Reduction to Achieve Concentration Standard | 14% | | | | |

* - TMDL does not apply to Tribal lands

Table D-4. TSS TMDL summary, Minnesota River (07020004-749)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: City, County, and/or Township MS4 [a] | 3.88 | 1.44 | 0.58 | 0.26 | 0.13 |
| WLA: Industrial/Construction Stormwater | 1.1 | 0.33 | 0.12 | 0.046 | – [b] |
| WLA: Wastewater | 8.7 | 8.7 | 8.7 | 8.7 | – [b] |
| Load Allocation | 524 | 162 | 59 | 22.5 | – [b] |
| Margin of Safety | 60 | 19 | 7.6 | 3.5 | 0.63 |
| Loading Capacity | 1,400 | 438 | 170 | 74 | 11 |
| Existing Concentration (mg/L) | 122 | | | | |
| Percent Reduction to Achieve Concentration Standard | 47% | | | | |

Table D-5. TSS TMDL summary, Minnesota River (07020004-750)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: City, County, and/or Township MS4 [a] | 7.23 | 2.68 | 1.08 | 0.49 | 0.24 |
| WLA: Industrial/Construction Stormwater | 1.41 | 0.54 | 0.16 | 0.06 | 0.03 |
| WLA: Wastewater | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 |
| Load Allocation | 695 | 265.5 | 78.5 | 26.3 | 12.1 |
| Margin of Safety | 80 | 31 | 11 | 4.8 | 3.1 |
| Loading Capacity | 1,601 | 562 | 200 | 86 | 35 |
| Existing Concentration (mg/L) | 120 | | | | |
| Percent Reduction to Achieve Concentration Standard | 46% | | | | |

Table D-6. TSS TMDL summary, Chippewa River (07020005-501)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 0.63 | 0.23 | 0.094 | 0.043 | 0.021 |
| WLA: Industrial/Construction Stormwater | 0.31 | 0.15 | 0.049 | 0.020 | 0.0058 |
| WLA: Wastewater | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Load Allocation | 157 | 72 | 24.5 | 10 | 2.9 |
| Margin of Safety | 18 | 8.3 | 3.0 | 1.4 | 0.59 |
| Loading Capacity | 178 | 83 | 30 | 14 | 5.9 |
| Existing Concentration (mg/L) | 52 | | | | |

| | |
|---|---|
| Percent Reduction to Achieve Concentration Standard | _ ** |

** This impairment was originally listed in 2002 based on turbidity data; however, the TSS data presented in this report do not show impairment. Older (1989–1994) TSS data evaluated by MPCA for the impairment assessment include observations that exceed the current TSS standard. The MPCA will reevaluate the reach in the next impairment assessment for this watershed.

**Table D-7. TSS TMDL summary, Redwood River (07020006-501)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 3.35 | 1.24 | 0.50 | 0.23 | 0.11 |
| WLA: Industrial/Construction Stormwater | 0.35 | 0.076 | 0.020 | 0.0049 | – [b] |
| WLA: Wastewater | 2.5 | 2.5 | 2.5 | 2.5 | – [b] |
| Load Allocation | 173 | 37 | 9.6 | 2.2 | – [b] |
| Margin of Safety | 20 | 4.5 | 1.4 | 0.55 | 0.17 |
| Loading Capacity | 199 | 45 | 14 | 5.5 | 1.7 |
| Existing Concentration (mg/L) | 61 | | | | |
| Percent Reduction to Achieve Concentration Standard | _ ** | | | | |

** This impairment was originally listed in 2004 based on turbidity data; however, the TSS data presented in this report do not show impairment. The MPCA will reevaluate the reach in the next impairment assessment for this watershed.

**Table D-8. TSS TMDL summary, Minnesota River (07020007-720)***

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: City, County, and/or Township MS4 [a] | 7.92 | 2.94 | 1.18 | 0.54 | 0.26 |
| WLA: Industrial/Construction Stormwater | 1.54 | 0.58 | 0.17 | 0.06 | 0.02 |
| WLA: Wastewater | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| Load Allocation | 759 | 286 | 85 | 27.7 | 11.7 |
| Margin of Safety | 87 | 34 | 11 | 5.2 | 3.3 |
| Loading Capacity | 1,675 | 588 | 209 | 90 | 37 |
| Existing Concentration (mg/L) | 151 | | | | |
| Percent Reduction to Achieve Concentration Standard | 57% | | | | |

**Table D-9. TSS TMDL summary, Minnesota River (07020007-721)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: City, County, and/or Township MS4 [a] | 9.40 | 3.49 | 1.41 | 0.64 | 0.31 |

| | | | | | |
|---|---|---|---|---|---|
| WLA: Industrial/Construction Stormwater | 1.6 | 0.60 | 0.18 | 0.062 | 0.025 |
| WLA: Wastewater | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| Load Allocation | 794.5 | 297.4 | 88.9 | 30.4 | 12.6 |
| Margin of Safety | 91 | 36 | 12 | 5.4 | 3.4 |
| Loading Capacity | 1,716 | 602 | 214 | 93 | 38 |
| Existing Concentration (mg/L) | 145 | | | | |
| Percent Reduction to Achieve Concentration Standard | 55% | | | | |

**Table D-10. TSS TMDL summary, Minnesota River (07020007-722)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: MnDOT Outstate MS4 [a] | 0.034 | 0.013 | 0.0053 | 0.0023 | 0.00075 |
| WLA: City, County, and/or Township MS4 [a] | 11.52 | 4.27 | 1.72 | 0.78 | 0.38 |
| WLA: Industrial/Construction Stormwater | 3.6 | 1.3 | 0.47 | 0.13 | 0.010 |
| WLA: Wastewater | 23 | 23 | 23 | 23 | 23 |
| Load Allocation | 1798 | 655.5 | 234 | 64.3 | 5.2 |
| Margin of Safety | 204 | 76 | 29 | 9.8 | 3.2 |
| Loading Capacity | 2,842 | 1,007 | 382 | 137 | 36 |
| Existing Concentration (mg/L) | 219 | | | | |
| Percent Reduction to Achieve Concentration Standard | 70% | | | | |

**Table D-11. TSS TMDL summary, Minnesota River (07020007-723)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: MnDOT Outstate MS4 [a] | 0.45 | 0.17 | 0.07 | 0.03 | 0.01 |
| WLA: City, County, and/or Township MS4 [a] | 25.54 | 9.47 | 3.82 | 1.74 | 0.84 |
| WLA: Industrial/Construction Stormwater | 5.27 | 1.87 | 0.65 | 0.16 | – [b] |
| WLA: Wastewater | 45.88 | 45.88 | 45.88 | 45.88 | – [b] |
| Load Allocation | 2607.96 | 927.56 | 323.66 | 81.16 | – [b] |
| Margin of Safety | 298 | 109 | 41 | 14 | 4.3 |
| Loading Capacity | 3,785 | 1,341 | 509 | 182 | 48 |
| Existing Concentration (mg/L) | 301 | | | | |
| Percent Reduction to Achieve Concentration Standard | 78% | | | | |

Table D-12. TSS TMDL summary, Cottonwood River (07020008-501)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 1.23 | 0.46 | 0.18 | 0.084 | 0.040 |
| WLA: Industrial/Construction Stormwater | 0.68 | 0.19 | 0.056 | 0.011 | – [b] |
| WLA: Wastewater | 4.5 | 4.5 | 4.5 | 4.5 | – [b] |
| Load Allocation | 339.6 | 93 | 28 | 5.5 | – [b] |
| Margin of Safety | 38 | 11 | 3.6 | 1.1 | 0.33 |
| Loading Capacity | 384 | 109 | 36 | 11 | 3.3 |
| Existing Concentration (mg/L) | 370 | | | | |
| Percent Reduction to Achieve Concentration Standard | 82% | | | | |

Table D-13. TSS TMDL summary, Blue Earth River (07020009-501)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: MnDOT Outstate MS4 [a] | 0.14 | 0.052 | 0.021 | 0.0091 | 0.0030 |
| WLA: City, County, and/or Township MS4 [a] | 5.60 | 2.08 | 0.84 | 0.38 | 0.18 |
| WLA: Industrial/Construction Stormwater | 2.69 | 0.82 | 0.24 | 0.044 | – [b] |
| WLA: Wastewater | 11 | 11 | 11 | 11 | – [b] |
| Load Allocation | 1339.6 | 408 | 119.9 | 23.7 | – [b] |
| Margin of Safety | 151 | 47 | 15 | 3.9 | 0.96 |
| Loading Capacity | 1,510 | 469 | 147 | 39 | 9.6 |
| Existing Concentration (mg/L) | 437 | | | | |
| Percent Reduction to Achieve Concentration Standard | 85% | | | | |

Table D-14. TSS TMDL summary, Elm Creek (07020009-502)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.19 | 0.053 | 0.018 | 0.0046 | – [b] |
| WLA: Wastewater | .164 | .164 | .164 | .164 | – [b] |
| Load Allocation | 96.5 | 26.5 | 9.6 | 2.8 | – [b] |
| Margin of Safety | 11 | 3.0 | 1.1 | 0.33 | 0.051 |
| Loading Capacity | 108 | 30 | 11 | 3.3 | 0.51 |
| Existing Concentration (mg/L) | 121 | | | | |
| Percent Reduction to Achieve Concentration Standard | 46% | | | | |

**Table D-15. TSS TMDL summary, Center Creek (07020009-503)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 2.61 | 0.97 | 0.39 | 0.18 | 0.086 |
| WLA: Industrial/Construction Stormwater | 0.088 | 0.021 | 0.0068 | 0.00013 | – [b] |
| WLA: Wastewater | .60 | .60 | .60 | .60 | – [b] |
| Load Allocation | 41.6 | 10.1 | 3.1 | .66 | – [b] |
| Margin of Safety | 5.0 | 1.3 | 0.46 | 0.16 | 0.024 |
| Loading Capacity | 50 | 13 | 4.6 | 1.6 | 0.24 |
| Existing Concentration (mg/L) | 139 | | | | |
| Percent Reduction to Achieve Concentration Standard | 53% | | | | |

**Table D-16. TSS TMDL summary, Blue Earth River (07020009-504)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.25 | 0.066 | 0.020 | 0.0060 | 0.00043 |
| WLA: Wastewater | 0.47 | 0.47 | 0.47 | 0.47 | 0.47 |
| Load Allocation | 126 | 33 | 10 | 3.0 | 0.21 |
| Margin of Safety | 14 | 3.7 | 1.2 | 0.39 | 0.076 |
| Loading Capacity | 141 | 37 | 12 | 3.9 | 0.76 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

*** No data in the TMDL period (2006–2015); data in Figure D-16 are from 1998–2000.

**Table D-17. TSS TMDL summary, Blue Earth River (07020009-507)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 2.61 | 0.97 | 0.39 | 0.18 | 0.086 |
| WLA: Industrial/Construction Stormwater | 1.14 | 0.34 | 0.10 | 0.023 | 0.0017 |
| WLA: Wastewater | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Load Allocation | 568.8 | 167.1 | 52.8 | 11.8 | 1.5 |
| Margin of Safety | 64 | 19 | 6.2 | 1.6 | 0.44 |
| Loading Capacity | 639 | 190 | 62 | 16 | 4.4 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

*** No data in the TMDL period (2006–2015); data in Figure D-17 are from 1999–2000.

Table D-18. TSS TMDL summary, Blue Earth River (07020009-508)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.64 | 0.17 | 0.058 | 0.017 | 0.0018 |
| WLA: Wastewater | 1.42 | 1.42 | 1.42 | 1.42 | 1.42 |
| Load Allocation | 321.5 | 86.9 | 29.2 | 8.57 | 0.95 |
| Margin of Safety | 36 | 9.8 | 3.4 | 1.1 | 0.26 |
| Loading Capacity | 360 | 98 | 34 | 11 | 2.6 |
| Existing Concentration (mg/L) | _ *** | | | | |
| Percent Reduction to Achieve Concentration Standard | _ *** | | | | |

*** No data in the TMDL period (2006–2015); data in Figure D-18 are from 1999–2000.

Table D-19. TSS TMDL summary, Blue Earth River (07020009-509)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: MnDOT Outstate MS4 [a] | 0.0050 | 0.0019 | 0.00077 | 0.00033 | 0.00011 |
| WLA: City, County, and/or Township MS4 [a] | 3.03 | 1.12 | 0.45 | 0.21 | 0.10 |
| WLA: Industrial/Construction Stormwater | 1.8 | 0.53 | 0.16 | 0.034 | 0.0004 |
| WLA: Wastewater | 5.42 | 5.42 | 5.42 | 5.42 | 5.42 |
| Load Allocation | 895.6 | 262.9 | 81.3 | 17.8 | .74 |
| Margin of Safety | 101 | 30 | 9.7 | 2.6 | 0.69 |
| Loading Capacity | 1,007 | 300 | 97 | 26 | 6.9 |
| Existing Concentration (mg/L) | 386 | | | | |
| Percent Reduction to Achieve Concentration Standard | 83% | | | | |

Table D-20. TSS TMDL summary, Blue Earth River (07020009-514)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 2.61 | 0.97 | 0.39 | 0.18 | 0.086 |
| WLA: Industrial/Construction Stormwater | 0.81 | 0.23 | 0.08 | 0.022 | 0.0018 |
| WLA: Wastewater | 2.02 | 2.02 | 2.02 | 2.02 | 2.02 |
| Load Allocation | 402.6 | 111.8 | 37.9 | 11.3 | .95 |
| Margin of Safety | 45 | 13 | 4.5 | 1.5 | 0.34 |
| Loading Capacity | 453 | 128 | 45 | 15 | 3.4 |
| Existing Concentration (mg/L) | _ *** | | | | |
| Percent Reduction to Achieve Concentration Standard | _ *** | | | | |

*** No data in the TMDL period (2006–2015); data in Figure D-20 are from 1999.

**Table D-21. TSS TMDL summary, Blue Earth River (07020009-515)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 2.61 | 0.97 | 0.39 | 0.18 | 0.086 |
| WLA: Industrial/Construction Stormwater | 1.05 | 0.31 | 0.096 | 0.021 | 0.0011 |
| WLA: Wastewater | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Load Allocation | 519.6 | 153.4 | 47.6 | 10.9 | 1.1 |
| Margin of Safety | 59 | 17 | 5.6 | 1.5 | 0.40 |
| Loading Capacity | 585 | 174 | 56 | 15 | 4.0 |
| Existing Concentration (mg/L) | 189 | | | | |
| Percent Reduction to Achieve Concentration Standard | 66% | | | | |

**Table D-22. TSS TMDL summary, Blue Earth River (07020009-518)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.33 | 0.09 | 0.03 | 0.010 | 0.001 |
| WLA: Wastewater | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 |
| Load Allocation | 162 | 425 | 13 | 3.9 | 0.49 |
| Margin of Safety | 18 | 4.8 | 1.5 | 0.50 | 0.11 |
| Loading Capacity | 181 | 48 | 15 | 5.0 | 1.1 |
| Existing Concentration (mg/L) | 93 | | | | |
| Percent Reduction to Achieve Concentration Standard | 30% | | | | |

**Table D-23. TSS TMDL summary, Cedar Creek (07020009-521)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.04 | 0.01 | 0.0033 | – [b] | – [b] |
| WLA: Wastewater | .024 | .024 | .024 | – [b] | – [b] |
| Load Allocation | 19.4 | 4.9 | 1.4 | – [b] | – [b] |
| Margin of Safety | 2.2 | 0.55 | 0.16 | 0.037 | 0.0031 |
| Loading Capacity | 22 | 5.5 | 1.6 | 0.37 | 0.031 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

*** No data in the TMDL period (2006–2015); data in Figure D-23 are from 2000.

Table D-24. TSS TMDL summary, Elm Creek (07020009-522)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.094 | 0.025 | 0.0080 | 0.0025 | 0.00040 |
| Load Allocation | 47 | 13 | 4.0 | 1.3 | 0.20 |
| Margin of Safety | 5.2 | 1.4 | 0.44 | 0.14 | 0.022 |
| Loading Capacity | 52 | 14 | 4.4 | 1.4 | 0.22 |
| Existing Concentration (mg/L) | 94 | | | | |
| Percent Reduction to Achieve Concentration Standard | 31% | | | | |

Table D-25. TSS TMDL summary, Elm Creek (07020009-523) #

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.034 | 0.0084 | 0.0028 | 0.00087 | 0.00012 |
| Load Allocation | 17 | 4.2 | 1.4 | 0.43 | 0.058 |
| Margin of Safety | 1.9 | 0.47 | 0.16 | 0.048 | 0.0065 |
| Loading Capacity | 19 | 4.7 | 1.6 | 0.48 | 0.065 |
| Existing Concentration (mg/L) | _*** | | | | |
| Percent Reduction to Achieve Concentration Standard | _*** | | | | |

# AUID 07020009-523 has been split into child AUIDs 07020009-630 and07020009-631. These child AUIDs will be proposed for the 2020 303(d) Impaired Waters List. The allocations in the above table address the impairments for both reaches.

Table D-26. TSS TMDL summary, Elm Creek, South Fork (07020009-524)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.023 | 0.0055 | 0.0017 | 0.00055 | 0.000079 |
| Load Allocation | 11 | 2.4 | 0.75 | 0.25 | 0.035 |
| Margin of Safety | 1.2 | 0.27 | 0.084 | 0.028 | 0.0039 |
| Loading Capacity | 12 | 2.7 | 0.84 | 0.28 | 0.039 |
| Existing Concentration (mg/L) | _*** | | | | |
| Percent Reduction to Achieve Concentration Standard | _*** | | | | |

Table D-27. TSS TMDL summary, Lily Creek (07020009-525)#

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, Township MS4 [a] | 0.024 | 0.0090 | 0.0036 | 0.0017 | 0.00079 |
| WLA: Industrial/Construction Stormwater | 0.024 | 0.0057 | 0.0017 | 0.0038 | – [b] |
| WLA: Wastewater | .0325 | .0325 | .0325 | .0325 | – [b] |

| | | | | | |
|---|---|---|---|---|---|
| Load Allocation | 11.65 | 2.95 | 1.02 | 0.33 | – [b] |
| Margin of Safety | 1.3 | 0.33 | 0.12 | 0.041 | 0.0059 |
| Loading Capacity | 13 | 3.3 | 1.2 | 0.41 | 0.059 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

# AUID 07020009-525 has been split into child AUIDs 07020009-632 and07020009-633. These child AUIDs will be proposed for the 2020 303(d) Impaired Waters List. The allocations in the above table address the impairments for both reaches.

**Table D-28. TSS TMDL summary, Dutch Creek (07020009-527) #**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, Township MS4 [a] | 0.061 | 0.023 | 0.0091 | 0.0042 | 0.0020 |
| WLA: Industrial/Construction Stormwater | 0.011 | 0.0028 | 0.00091 | 0.00030 | 0.000041 |
| WLA: Wastewater | 0.00038 | 0.00038 | 0.00038 | 0.00038 | 0.00038 |
| Load Allocation | 5.6 | 1.3 | 0.44 | 0.15 | 0.018 |
| Margin of Safety | 0.63 | 0.15 | 0.050 | 0.017 | 0.0023 |
| Loading Capacity | 6.3 | 1.5 | 0.50 | 0.17 | 0.023 |
| Existing Concentration (mg/L) | 64 | | | | |
| Percent Reduction to Achieve Concentration Standard | – ** | | | | |

** This impairment was originally listed in 2004 based on turbidity data; however, the TSS data presented in this report do not show impairment. The MPCA will reevaluate the reach in the next impairment assessment for this watershed.

# AUID 07020009-527 has been split into child AUIDs 07020009-634, 07020009-635, 07020009-636 and 07020009-637. These child AUIDs will be proposed for the 2020 303(d) Impaired Waters List. The allocations in the above table address the impairments for all of these reaches.

**Table D-29. TSS TMDL summary, Blue Earth River, East Branch (07020009-553)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.26 | 0.065 | 0.023 | 0.0062 | 0.00029 |
| WLA: Wastewater | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Load Allocation | 128 | 32 | 11 | 3.1 | 0.14 |
| Margin of Safety | 14 | 3.7 | 1.3 | 0.43 | 0.10 |
| Loading Capacity | 143 | 37 | 13 | 4.3 | 1.0 |
| Existing Concentration (mg/L) | 141 | | | | |
| Percent Reduction to Achieve Concentration Standard | 54% | | | | |

**Table D-30. TSS TMDL summary, Blue Earth River, East Branch (07020009-554) #**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.12 | 0.030 | 0.011 | 0.0029 | – [b] |
| WLA: Wastewater | 0.49 | 0.49 | 0.49 | 0.49 | – [a] |

| | | | | | |
|---|---|---|---|---|---|
| Load Allocation | 61 | 15 | 5.4 | 1.4 | – [b] |
| Margin of Safety | 6.8 | 1.7 | 0.66 | 0.21 | 0.036 |
| Loading Capacity | 68 | 17 | 6.6 | 2.1 | 0.36 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

# AUID 07020009-554 has been split into child AUIDs 07020009-649 and 07020009-650. These child AUIDs will be proposed for the 2020 303(d) Impaired Waters List. The allocations in the above table address the impairments for both reaches.

**Table D-31. TSS TMDL summary, Blue Earth River (07020009-565)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.39 | 0.10 | 0.032 | 0.0098 | 0.0012 |
| WLA: Wastewater | 0.66 | 0.66 | 0.66 | 0.66 | 0.66 |
| Load Allocation | 193 | 51 | 16 | 4.9 | 0.57 |
| Margin of Safety | 22 | 5.8 | 1.9 | 0.62 | 0.14 |
| Loading Capacity | 216 | 58 | 19 | 6.2 | 1.4 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

**Table D-32. TSS TMDL summary, Watonwan River (07020010-501)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.57 | 0.15 | 0.041 | 0.0057 | – [b] |
| WLA: Wastewater | 3.0 | 3.0 | 3.0 | 3.0 | – [a] |
| Load Allocation | 284 | 73 | 20 | 2.8 | – [b] |
| Margin of Safety | 32 | 8.5 | 2.6 | 0.65 | 0.16 |
| Loading Capacity | 320 | 85 | 26 | 6.5 | 1.6 |
| Existing Concentration (mg/L) | 141 | | | | |
| Percent Reduction to Achieve Concentration Standard | 54% | | | | |

**Table D-33. TSS TMDL summary, Watonwan River (07020010-510)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.44 | 0.11 | 0.031 | 0.0034 | – [b] |
| WLA: Wastewater | 2.8 | 2.8 | 2.8 | 2.8 | – [a] |
| Load Allocation | 221 | 56 | 15 | 1.7 | – [b] |
| Margin of Safety | 25 | 6.6 | 2.0 | 0.50 | 0.12 |
| Loading Capacity | 249 | 66 | 20 | 5.0 | 1.2 |
| Existing Concentration (mg/L) | 95 | | | | |

| | |
|---|---|
| Percent Reduction to Achieve Concentration Standard | 32% |

**Table D-34. TSS TMDL summary, Watonwan River (07020010-511)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.15 | 0.036 | 0.012 | 0.0024 | – [b] |
| WLA: Wastewater | 2.1 | 2.1 | 2.1 | 2.1 | – [a] |
| Load Allocation | 72 | 19 | 6.2 | 1.2 | – [b] |
| Margin of Safety | 8.3 | 2.3 | 0.92 | 0.37 | 0.12 |
| Loading Capacity | 83 | 23 | 9.2 | 3.7 | 1.2 |
| Existing Concentration (mg/L) | 158 | | | | |
| Percent Reduction to Achieve Concentration Standard | 59% | | | | |

**Table D-35. TSS TMDL summary, Butterfield Creek (07020010-516)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.023 | 0.0052 | 0.00086 | – [b] | – [b] |
| WLA: Wastewater | 0.97 | 0.97 | 0.97 | – [a] | – [a] |
| Load Allocation | 12 | 2.6 | 0.43 | – [b] | – [b] |
| Margin of Safety | 1.4 | 0.40 | 0.16 | 0.057 | 0.012 |
| Loading Capacity | 14 | 4.0 | 1.6 | 0.57 | 0.12 |
| Existing Concentration (mg/L) | 77.2 | | | | |
| Percent Reduction to Achieve Concentration Standard | 16% | | | | |

**Table D-36. TSS TMDL summary, Watonwan River, South Fork (07020010-517)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.10 | 0.025 | 0.0092 | 0.0027 | 0.00024 |
| WLA: Wastewater | 0.087 | 0.087 | 0.087 | 0.087 | 0.087 |
| Load Allocation | 52 | 12 | 4.6 | 1.4 | 0.12 |
| Margin of Safety | 5.8 | 1.4 | 0.52 | 0.16 | 0.023 |
| Loading Capacity | 58 | 13.5 | 5.2 | 1.6 | 0.22 |
| Existing Concentration (mg/L) | 132 | | | | |
| Percent Reduction to Achieve Concentration Standard | 51% | | | | |

Table D-37. TSS TMDL summary, Perch Creek (07020010-524)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.092 | 0.020 | 0.0070 | 0.0019 | 0.00017 |
| WLA: Wastewater | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| Load Allocation | 46 | 9.7 | 3.5 | 0.95 | 0.087 |
| Margin of Safety | 5.1 | 1.1 | 0.40 | 0.12 | 0.021 |
| Loading Capacity | 51 | 11 | 4.0 | 1.2 | 0.21 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

Table D-38. TSS TMDL summary, St. James Creek (07020010-528)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.0040 | 0.00085 | 0.00034 | 0.00010 | 0.000018 |
| Load Allocation | 2.0 | 0.42 | 0.17 | 0.052 | 0.0087 |
| Margin of Safety | 0.22 | 0.047 | 0.019 | 0.0058 | 0.00097 |
| Loading Capacity | 2.2 | 0.47 | 0.19 | 0.058 | 0.0097 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

*** No data in the TMDL period (2006–2015); data in Figure D-38 are from 1992.

Table D-39. TSS TMDL summary, Watonwan River, South Fork (07020010-547)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.050 | 0.012 | 0.0041 | 0.0012 | 0.000049 |
| WLA: Wastewater | 0.078 | 0.078 | 0.078 | 0.078 | 0.078 |
| Load Allocation | 25 | 5.8 | 2.1 | 0.59 | 0.024 |
| Margin of Safety | 2.8 | 0.66 | 0.24 | 0.075 | 0.012 |
| Loading Capacity | 28 | 6.6 | 2.4 | 0.74 | 0.11 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

Table D-40. TSS TMDL summary, Watonwan River (07020010-562)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.077 | 0.018 | 0.0061 | 0.0015 | – [b] |
| WLA: Wastewater | 0.77 | 0.77 | 0.77 | 0.77 | – [b] |
| Load Allocation | 39 | 9.0 | 3.0 | 0.75 | – [b] |

| | | | | | |
|---|---|---|---|---|---|
| Margin of Safety | 4.4 | 1.1 | 0.42 | 0.17 | 0.043 |
| Loading Capacity | 44 | 11 | 4.2 | 1.7 | 0.43 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

**Table D-41. TSS TMDL summary, Watonwan River (07020010-563)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.080 | 0.019 | 0.0063 | 0.0016 | – [b] |
| WLA: Wastewater | 0.78 | 0.78 | 0.78 | 0.78 | – [a] |
| Load Allocation | 40 | 9.3 | 3.2 | 0.80 | – [b] |
| Margin of Safety | 4.5 | 1.1 | 0.44 | 0.18 | 0.044 |
| Loading Capacity | 45 | 11 | 4.4 | 1.8 | 0.44 |
| Existing Concentration (mg/L) | 79 | | | | |
| Percent Reduction to Achieve Concentration Standard | 17% | | | | |

**Table D-42. TSS TMDL summary, Watonwan River, North Fork (07020010-564)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.031 | 0.0064 | 0.0023 | 0.00090 | 0.00022 |
| Load Allocation | 15 | 3.2 | 1.2 | 0.45 | 0.11 |
| Margin of Safety | 1.7 | 0.36 | 0.13 | 0.050 | 0.012 |
| Loading Capacity | 17 | 3.6 | 1.3 | 0.50 | 0.12 |
| Existing Concentration (mg/L) | 47 | | | | |
| Percent Reduction to Achieve Concentration Standard | – ** | | | | |

** This impairment was originally listed in 2004 based on turbidity data; however, the TSS data presented in this report do not show impairment. The MPCA will reevaluate the reach in the next impairment assessment for this watershed.

**Table D-43. TSS TMDL summary, Watonwan River (07020010-566)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.036 | 0.0073 | 0.0022 | – [b] | – [b] |
| WLA: Wastewater | 0.77 | 0.77 | 0.77 | – [b] | – [b] |
| Load Allocation | 18 | 3.6 | 1.1 | – [b] | – [b] |
| Margin of Safety | 2.1 | 0.49 | 0.21 | 0.081 | 0.020 |
| Loading Capacity | 21 | 4.9 | 2.1 | 0.81 | 0.20 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

Table D-44. TSS TMDL summary, Watonwan River (07020010-567)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.048 | 0.011 | 0.0036 | 0.00048 | – [b] |
| WLA: Wastewater | 0.77 | 0.77 | 0.77 | 0.77 | – [b] |
| Load Allocation | 23 | 5.4 | 1.7 | 0.24 | – [b] |
| Margin of Safety | 2.7 | 0.69 | 0.28 | 0.11 | 0.028 |
| Loading Capacity | 27 | 6.9 | 2.8 | 1.1 | 0.28 |
| Existing Concentration (mg/L) | 81 | | | | |
| Percent Reduction to Achieve Concentration Standard | 20% | | | | |

Table D-45. TSS TMDL summary, Le Sueur River (07020011-501)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: MnDOT Outstate MS4 [a] | 0.11 | 0.041 | 0.017 | 0.0072 | 0.0024 |
| WLA: City, County, and/or Township MS4 [a] | 2.13 | 0.79 | 0.32 | 0.15 | 0.070 |
| WLA: Industrial/Construction Stormwater | 0.95 | 0.26 | 0.067 | 0.0072 | – [b] |
| WLA: Wastewater | 6.2 | 6.2 | 6.2 | 6.2 | – [b] |
| Load Allocation | 472.7 | 127 | 33 | 3.6 | – [b] |
| Margin of Safety | 54 | 15 | 4.4 | 1.1 | 0.25 |
| Loading Capacity | 536 | 149 | 44 | 11 | 2.5 |
| Existing Concentration (mg/L) | 592 | | | | |
| Percent Reduction to Achieve Concentration Standard | 89% | | | | |

Table D-46. TSS TMDL summary, Unnamed creek (Little Beauford Ditch; 07020011-503) #

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.0076 | 0.0010 | 0.00021 | 0.000046 | 0.0000076 |
| Load Allocation | 3.8 | 0.52 | 0.11 | 0.023 | 0.0038 |
| Margin of Safety | 0.42 | 0.058 | 0.012 | 0.0026 | 0.00042 |
| Loading Capacity | 4.2 | 0.58 | 0.12 | 0.026 | 0.0042 |
| Existing Concentration (mg/L) | 90 | | | | |
| Percent Reduction to Achieve Concentration Standard | 28% | | | | |

# AUID 07020011-503 has been split into child AUIDs 07020011-642 and 07020011-643. These child AUIDs will be proposed for the 2020 303(d) Impaired Waters List. The allocations in the above table address the impairments for both reaches.

**Table D-47. TSS TMDL summary, Little Cobb River (07020011-504)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.11 | 0.023 | 0.0058 | 0.00096 | – [b] |
| WLA: Wastewater | 0.13 | 0.13 | 0.13 | 0.13 | – [a] |
| Load Allocation | 54 | 12 | 2.9 | 0.48 | – [b] |
| Margin of Safety | 6.0 | 1.3 | 0.34 | 0.068 | 0.013 |
| Loading Capacity | 60 | 13 | 3.4 | 0.68 | 0.13 |
| Existing Concentration (mg/L) | 128 | | | | |
| Percent Reduction to Achieve Concentration Standard | 49% | | | | |

**Table D-48. TSS TMDL summary, Le Sueur River (07020011-506)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: MnDOT Outstate MS4 [a] | 0.11 | 0.041 | 0.017 | 0.0072 | 0.0024 |
| WLA: City, County, and/or Township MS4 [a] | 2.04 | 0.76 | 0.31 | 0.14 | 0.067 |
| WLA: Industrial/Construction Stormwater | 0.66 | 0.18 | 0.049 | 0.0083 | – [b] |
| WLA: Wastewater | 2.6 | 2.6 | 2.6 | 2.6 | – [b] |
| Load Allocation | 324.6 | 88.5 | 24 | 3.9 | – [b] |
| Margin of Safety | 37 | 10 | 3.0 | 0.74 | 0.17 |
| Loading Capacity | 367 | 102 | 30 | 7.4 | 1.7 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

**Table D-49. TSS TMDL summary, Le Sueur River (07020011-507)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: MnDOT Outstate MS4 [a] | 0.11 | 0.041 | 0.017 | 0.0072 | 0.0024 |
| WLA: City, County, and/or Township MS4 [a] | 2.04 | 0.76 | 0.31 | 0.14 | 0.067 |
| WLA: Industrial/Construction Stormwater | 0.36 | 0.091 | 0.030 | 0.0073 | – [c] |
| WLA: Wastewater | 1.7 | 1.7 | 1.7 | 1.7 | – [b] |
| Load Allocation | 178.8 | 44.2 | 15 | 3.5 | – [c] |
| Margin of Safety | 20 | 5.2 | 1.9 | 0.60 | 0.16 |
| Loading Capacity | 203 | 52 | 19 | 6.0 | 1.6 |
| Existing Concentration (mg/L) | 476 | | | | |
| Percent Reduction to Achieve Concentration Standard | 86% | | | | |

Table D-50. TSS TMDL summary, Rice Creek (07020011-531)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.075 | 0.012 | 0.0028 | 0.00047 | – [b] |
| WLA: Wastewater | 0.076 | 0.076 | 0.076 | 0.076 | – [b] |
| Load Allocation | 38 | 6.2 | 1.5 | 0.24 | – [b] |
| Margin of Safety | 4.2 | 0.70 | 0.17 | 0.035 | 0.0048 |
| Loading Capacity | 42 | 7.0 | 1.7 | 0.35 | 0.048 |
| Existing Concentration (mg/L) | 79 | | | | |
| Percent Reduction to Achieve Concentration Standard | 17% | | | | |

Table D-51. TSS TMDL summary, Maple River (07020011-534)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.32 | 0.053 | 0.0094 | – [b] | – [b] |
| WLA: Wastewater | 3.6 | 3.6 | 3.6 | – [b] | – [b] |
| Load Allocation | 158 | 26 | 4.7 | – [b] | – [b] |
| Margin of Safety | 18 | 3.3 | 0.92 | 0.35 | 0.080 |
| Loading Capacity | 180 | 33 | 9.2 | 3.5 | 0.80 |
| Existing Concentration (mg/L) | 293 | | | | |
| Percent Reduction to Achieve Concentration Standard | 78% | | | | |

Table D-52. TSS TMDL summary, Maple River (07020011-535)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.20 | 0.031 | 0.0055 | – [b] | – [b] |
| WLA: Wastewater | 2.9 | 2.9 | 2.9 | – [b] | – [b] |
| Load Allocation | 98 | 15 | 2.8 | – [b] | – [b] |
| Margin of Safety | 11 | 2.0 | 0.63 | 0.26 | 0.046 |
| Loading Capacity | 112 | 20 | 6.3 | 2.6 | 0.46 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

Table D-53. TSS TMDL summary, County Ditch 3 (07020011-552) #

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.071 | 0.010 | 0.0022 | 0.00043 | 0.000043 |
| Load Allocation | 36 | 4.9 | 1.1 | 0.22 | 0.022 |
| Margin of Safety | 4.0 | 0.55 | 0.12 | 0.024 | 0.0024 |

| | | | | | |
|---|---|---|---|---|---|
| Loading Capacity | 40 | 5.5 | 1.2 | 0.24 | 0.024 |
| Existing Concentration (mg/L) | 49 | | | | |
| Percent Reduction to Achieve Concentration Standard | _ ** | | | | |

** This impairment was originally listed in 2004 based on turbidity data; however, the TSS data presented in this report do not show impairment. The MPCA will reevaluate the reach in the next impairment assessment for this watershed.

# AUID 07020011-552 has been split into child AUIDs 07020011-652 and 07020011-653. These child AUIDs will be proposed for the 2020 303(d) Impaired Waters List. The allocations in the above table address the impairments for both reaches.

**Table D-54. TSS TMDL summary, Cobb River (07020011-556)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.28 | 0.064 | 0.017 | 0.0034 | – [b] |
| WLA: Wastewater | 0.85 | 0.85 | 0.85 | 0.85 | – [a] |
| Load Allocation | 138 | 32 | 8.6 | 1.7 | – [b] |
| Margin of Safety | 16 | 3.7 | 1.1 | 0.28 | 0.090 |
| Loading Capacity | 155 | 37 | 11 | 2.8 | 0.90 |
| Existing Concentration (mg/L) | 247 | | | | |
| Percent Reduction to Achieve Concentration Standard | 74% | | | | |

**Table D-55. TSS TMDL summary, Cobb River (07020011-568)**

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.14 | 0.034 | 0.0095 | 0.0018 | – [b] |
| WLA: Wastewater | 0.72 | 0.72 | 0.72 | 0.72 | – [b] |
| Load Allocation | 68 | 17 | 4.8 | 0.89 | – [b] |
| Margin of Safety | 7.6 | 2.0 | 0.61 | 0.18 | 0.061 |
| Loading Capacity | 76 | 20 | 6.1 | 1.8 | 0.61 |
| Existing Concentration (mg/L) | _ *** | | | | |
| Percent Reduction to Achieve Concentration Standard | _ *** | | | | |

Table D-56. TSS TMDL summary, Le Sueur River (07020011-619) #

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: Industrial/Construction Stormwater | 0.079 | 0.019 | 0.0065 | 0.0019 | 0.00038 |
| Load Allocation | 40 | 9.6 | 3.2 | 0.93 | 0.19 |
| Margin of Safety | 4.4 | 1.1 | 0.36 | 0.10 | 0.021 |
| Loading Capacity | 44 | 11 | 3.6 | 1.0 | 0.21 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

# AUID 07020011-619 has been split into child AUIDs 07020011-664 and 07020011-665. These child AUIDs will be proposed for the 2020 303(d) Impaired Waters List. The allocations in the above table address the impairments for both reaches.

Table D-57. TSS TMDL summary, Le Sueur River (07020011-620)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| WLA: City, County, and/or Township MS4 [a] | 0.37 | 0.14 | 0.055 | 0.025 | 0.012 |
| WLA: Industrial/Construction Stormwater | 0.23 | 0.055 | 0.018 | 0.0039 | – [b] |
| WLA: Wastewater | 1.0 | 1.0 | 1.0 | 1.0 | – [b] |
| Load Allocation | 115.4 | 26.7 | 8.8 | 1.95 | – [b] |
| Margin of Safety | 13 | 3.1 | 1.1 | 0.33 | 0.085 |
| Loading Capacity | 130 | 31 | 11 | 3.3 | 0.85 |
| Existing Concentration (mg/L) | – *** | | | | |
| Percent Reduction to Achieve Concentration Standard | – *** | | | | |

Table D-58. TSS TMDL summary, Minnesota River (07020012-505)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: MnDOT Outstate MS4 [a] | 0.45 | 0.17 | 0.07 | 0.03 | 0.01 |
| WLA: MnDOT Metro MS4 [a] | 4.87 | 1.8 | 0.73 | 0.33 | 0.16 |
| WLA: City, County, and/or Township MS4 [a] | 119.2 | 44.21 | 17.83 | 8.12 | 3.9 |
| WLA: Industrial/Construction Stormwater | 6.3 | 2.3 | 0.83 | 0.28 | 0.07 |
| WLA: Wastewater | 90.5 | 90.5 | 90.5 | 90.5 | 90.5 |
| Load Allocation | 3009.7 | 1099.2 | 395.1 | 133.8 | 30.2 |
| Margin of Safety | 359 | 138 | 56 | 26 | 14 |
| Loading Capacity | 4,392 | 1,623 | 655 | 298 | 143 |
| Existing Concentration (mg/L) | 163 | | | | |
| Percent Reduction to Achieve Concentration Standard | 60% | | | | |

Table D-59. TSS TMDL summary, Minnesota River (07020012-506)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: MnDOT Outstate MS4 [a] | 0.45 | 0.17 | 0.07 | 0.03 | 0.01 |
| WLA: MnDOT Metro MS4 [a] | 0.81 | 0.30 | 0.12 | 0.055 | 0.027 |
| WLA: City, County, and/or Township MS4 [a] | 45.77 | 16.98 | 6.85 | 3.12 | 1.50 |
| WLA: Industrial/Construction Stormwater | 6.0 | 2.22 | 0.79 | 0.23 | 0.011 |
| WLA: Wastewater | 55.1 | 55.1 | 55.1 | 55.1 | 55.1 |
| Load Allocation | 2965.1 | 1092.1 | 388.2 | 109.5 | 5.39 |
| Margin of Safety | 341 | 130 | 50 | 19 | 6.8 |
| Loading Capacity | 4,216 | 1,544 | 595 | 226 | 73 |
| Existing Concentration (mg/L) | 252 | | | | |
| Percent Reduction to Achieve Concentration Standard | 74% | | | | |

Table D-60. TSS TMDL summary, Minnesota River (07020012-799)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: MnDOT Outstate MS4 [a] | 0.45 | 0.17 | 0.07 | 0.03 | 0.01 |
| WLA: City, County, and/or Township MS4 [a] | 26.38 | 9.78 | 3.95 | 1.80 | 0.86 |
| WLA: Industrial/Construction Stormwater | 5.63 | 2.08 | 0.74 | 0.21 | 0.01 |
| WLA: Wastewater | 52.14 | 52.14 | 52.14 | 52.14 | 52.14 |
| Load Allocation | 2783.4 | 1027.9 | 364.5 | 102.9 | 5.39 |
| Margin of Safety | 319 | 121 | 47 | 18 | 6.4 |
| Loading Capacity | 3,989 | 1,460 | 563 | 214 | 69 |
| Existing Concentration (mg/L) | 200 | | | | |
| Percent Reduction to Achieve Concentration Standard | 68% | | | | |

Table D-61. TSS TMDL summary, Minnesota River (07020012-800)

| TMDL Parameter | Flow Regimes | | | | |
|---|---|---|---|---|---|
| | Very High | High | Mid | Low | Very Low |
| | TSS Load (ton/d) | | | | |
| Upstream Boundary Condition | 802 | 247 | 94 | 39 | 4.2 |
| WLA: MnDOT Outstate MS4 [a] | 0.45 | 0.17 | 0.07 | 0.03 | 0.01 |
| WLA: City, County, and/or Township MS4 [a] | 30.27 | 11.23 | 4.53 | 2.06 | 0.99 |
| WLA: Industrial/Construction Stormwater | 5.96 | 2.2 | 0.78 | 0.22 | 0.01 |
| WLA: Wastewater | 53.8 | 53.8 | 53.8 | 53.8 | 53.8 |
| Load Allocation | 2945.5 | 1085.6 | 386.9 | 109.9 | 5.57 |
| Margin of Safety | 337 | 128 | 50 | 19 | 6.8 |
| Loading Capacity | 4,175 | 1,528 | 590 | 224 | 72 |
| Existing Concentration (mg/L) | 243 | | | | |
| Percent Reduction to Achieve Concentration Standard | 73% | | | | |

[a] To meet the WLAs for permitted MS4s, TSS loading does not need to be reduced but is not allowed to increase.

[b] Unable to calculate allocations because the wastewater WLA exceeds the loading capacity. The allocations are expressed as an equation rather than an absolute number: allocation = flow contribution from a given source x 65 mg/L. See Sections 5.4.2 and 5.6 for more detail.

*** N < 10; existing concentration and percent reduction not calculated.

# Attachment 3

# Individual Wastewater WLAs

Table E-1. Individual wastewater wasteload allocations

| Facility | Permit | Wasteload Allocation (tons/day) | Impairment AUID [a] |
|---|---|---|---|
| | | | |
| ADM Corn Processing - Marshall | MN0057037 | 0.330 | 07020006-501 |
| Alden WWTP | MNG585118 | 0.462 | 07020009-554 |
| Altona Hutterian Brethren WWTP | MN0067610 | 0.0220 | 07020012-799 |
| Amboy WWTP | MN0022624 | 0.0359 | 07020011-534 |
| Anchor Glass Container Corp | MN0003042 | 0.00739 | 07020012-505 |
| Arlington WWTP | MN0020834 | 0.100 | 07020012-800 |
| Balaton WWTP | MN0020559 | 0.153 | 07020008-501 |
| Belle Plaine WWTP | MN0022772 | 0.705 | 07020012-800 |
| Belview WWTP | MNG580003 | 0.163 | 07020004-750 |
| Benson WWTP | MN0020036 | 0.0978 | 07020005-501 |
| Bird Island WWTP | MN0022829 | 0.213 | 07020004-750 |
| Blomkest Svea Sewer Board WWTP | MN0069388 | 0.0849 | 07020004-587 |
| Blue Earth WWTP | MN0020532 | 0.122 | 07020009-565 |
| Bongards' Creameries Inc | MN0002135 | 0.357 | 07020012-506 |
| Bricelyn WWTP | MNG585129 | 0.0875 | 07020009-553 |
| Butterfield WWTP | MN0022977 | 0.519 | 07020010-516 |
| CHS Mankato[b] | MN0001228 | 0.497 | 07020009-501 |
| Clara City WWTP | MN0023035 | 0.0575 | 07020004-587 |
| Clarkfield WWTP | MNG580093 | 0.550 | 07020004-748 |
| Clements WWTP | MNG580094 | 0.0305 | 07020008-501 |
| Cleveland WWTP | MNG580009 | 0.202 | 07020007-723 |
| Clontarf WWTP | MNG580108 | 0.0397 | 07020005-501 |
| Cold Spring Granite Co | MNG490143 | 0.452 | 07020007-720 |
| Cologne WWTP | MN0023108 | 0.0407 | 07020012-506 |
| Comfrey WWTP | MN0021687 | 0.00937 | 07020007-722 |
| Community of Roseland WWTP | MN0070092 | 0.0694 | 07020004-587 |
| Cottonwood WWTP | MNG580010 | 0.347 | 07020004-749 |
| Dairy Farmers of America Inc - Winthrop | MN0003671 | 0.150 [c] | 07020012-799 |
| Danube WWTP | MNG580057 | 0.121 | 07020004-750 |
| Danvers WWTP | MNG585119 | 0.0354 | 07020005-501 |

| | | | |
|---|---|---|---|
| Darling International Inc - Blue Earth | MN0002313 | 0.069 | 07020009-518 |
| De Graff WWTP [d] | MN0071234 | 0.054 | 07020005-501 |
| Del Monte Foods Inc - Sleepy Eye Plant 114 | MN0001171 | 0.144 | 07020008-501 |
| Delavan WWTP | MNG585109 | 0.0764 | 07020011-531 |
| Delft Sanitary District WWTP | MN0066541 | 0.000717 | 07020010-566 |
| Delhi WWTP | MN0067008 | 0.0018 | 07020004-750 |

| | | | |
|---|---|---|---|
| Delta Air Lines Inc - Mpls/Saint Paul | MN0054194 | 0.00363 | 07020012-505 |
| Duininck Inc | MNG490046 | 0.651 | 07020004-587 |
| | | 1.14 | 07020004-747 |
| | | 1.63 | 07020004-750 |
| | | 0.651 | 07020005-501 |
| Echo WWTP | MNG580059 | 0.122 | 07020004-749 |
| Eden Prairie Well House 6 & 7 | MNG250084 | 0.00125 | 07020012-505 |
| Elmore WWTP | MNG585110 | 0.467 | 07020009-504 |
| Erosion Control Plus Inc | MNG490321 | 0.452 | 07020010-510 |
| Evan WWTP | MNG580202 | 0.0272 | 07020007-720 |
| Evansville WWTP | MNG585074 | 0.141 | 07020005-501 |
| Fabcon Inc | MN0068284 | 0.0901 | 07020012-505 |
| Fairfax WWTP | MNG580060 | 0.791 | 07020007-720 |
| Fairmont Foods Inc | MN0001996 | 0.00812 | 07020009-503 |
| Fairmont WTP | MN0045527 | 0.000376 | 07020009-527 |
| Fairmont WWTP | MN0030112 | 0.488 | 07020009-503 |
| Farwell Kensington Sanitary District WWTP | MNG585220 | 0.107 | 07020005-501 |
| Franklin WWTP | MN0021083 | 0.0216 | 07020007-720 |
| Freeborn WWTP | MN0040908 | 0.0459 | 07020011-568 |
| Frost WWTP | MNG585120 | 0.0737 | 07020009-553 |
| Garvin WWTP | MNG580101 | 0.0317 | 07020008-501 |
| Gaylord WWTP | MNG580204 | 0.826 | 07020012-799 |
| Ghent WWTP | MNG585121 | 0.0485 | 07020006-501 |
| Gibbon WWTP | MNG580020 | 0.187 | 07020012-799 |
| Good Thunder WWTP | MNG580206 | 0.133 | 07020011-534 |
| Granada WWTP | MNG585023 | 0.0679 | 07020009-503 |
| Granite Falls Energy LLC | MN0066800 | 0.0165 | 07020004-587 |

| | | | |
|---|---|---|---|
| Granite Falls WWTP | MN0021211 | 0.100 | 07020004-748 |
| Granite Valley Quarry | MNG490117 | 0.905 | 07020004-750 |
| | | 0.452 | 07020007-720 |
| Great River Energy - Lakefield Junction Station | MN0067709 | 0.00113 | 07020009-521 |
| Groebner Farms | MNG490270 | 0.452 | 07020008-501 |
| Hamburg WWTP | MN0025585 | 0.106 | 07020012-800 |
| Hancock WWTP | MNG585299 | 0.257 | 07020005-501 |
| Hanley Falls WWTP | MNG580122 | 0.0459 | 07020004-502 |
| Hanska WWTP | MN0052663 | 0.0703 | 07020007-722 |
| Hartland WWTP | MNG585102 | 0.0743 | 07020011-620 |
| Hoffman WWTP | MNG585134 | 0.463 | 07020005-501 |
| Hopkins Well 4 WTP | MNG640045 | 0.0250 | 07020012-505 |

| | | | |
|---|---|---|---|
| Ivanhoe WWTP | MNG580103 | 0.104 | 07020004-502 |
| Janesville WWTP | MNG580025 | 0.642 | 07020011-507 |
| Jeffers WWTP | MNG580111 | 0.0642 | 07020008-501 |
| Jordan Sands LLC | MN0070581 | 0.376 | 07020007-723 |
| Jordan WWTP | MN0020869 | 0.161 | 07020012-800 |
| Kerkhoven WWTP | MN0020583 | 0.0187 | 07020005-501 |
| Kiester WWTP | MNG585097 | 0.0933 | 07020009-553 |
| Kraemer Mining & Materials Burnsville | MN0002224 | 1.88 | 07020012-505 |
| La Salle WWTP | MN0067458 | 0.00187 | 07020010-563 |
| Lafayette WWTP | MN0023876 | 0.0119 | 07020012-799 |
| Lake Crystal WWTP | MN0055981 | 0.0739 | 07020007-722 |
| Laketown Community WWTP | MN0054399 | 0.000772 | 07020012-506 |
| Lamberton WWTP | MNG580100 | 0.245 | 07020008-501 |
| Le Center WWTP | MN0023931 | 0.103 | 07020012-799 |
| Le Sueur Cheese Co | MN0060216 | 0.0250 | 07020012-799 |
| Lewisville WWTP | MNG585314 | 0.0871 | 07020010-501 |
| LifeCore Biomedical LLC | MN0060747 | 0.00626 | 07020012-506 |
| Lincoln County Highway Department | MNG490203 | 0.452 | 07020004-502 |
| | | 0.452 | 07020006-501 |
| Lowry WWTP | MNG585123 | 0.0791 | 07020005-501 |
| Lucan WWTP | MN0031348 | 0.0428 | 07020008-501 |
| Lynd WWTP | MNG580030 | 0.0642 | 07020006-501 |

| | | | |
|---|---|---|---|
| MA Gedney Co | MN0022446 | 0.254 | 07020012-506 |
| Madelia WWTP | MN0024040 | 0.164 | 07020010-510 |
| Magellan Pipeline Co LP - Marshall | MN0059838 | 0.0901 | 07020006-501 |
| Mankato Water Resource Recovery Facility | MN0030171 | 1.41 | 07020007-723 |
| Mapleton WWTP | MN0021172 | 0.672 | 07020011-568 |
| Marshall WWTP | MN0022179 | 0.562 | 07020006-501 |
| Martin Marietta Materials Yellow Medicine | MNG490195 | 0.626 | 07020004-747 |
| Mathiowetz Construction Co | MNG490137 | 0.452 | 07020010-516 |
| | | 0.452 | 07020011-534 |
| Maynard WWTP | MN0056588 | 0.0192 | 07020004-587 |
| McLaughlin Gormley King Co | MN0058033 | 0.000871 | 07020012-506 |
| Met Council - Blue Lake WWTP | MN0029882 | 5.252 | 07020012-505 |
| Met Council - Seneca WWTP | MN0030007 | 4.749 | 07020012-505 |
| Metropolitan Airports Commission | MN0002101 | 21.5 | 07020012-505 |
| MG Waldbaum Co | MN0060798 | 0.0688 | 07020012-799 |
| Millerville WWTP | MN0054305 | 0.0476 | 07020005-501 |
| Milroy WWTP | MNG585124 | 0.0463 | 07020006-501 |
| Minneota WWTP | MNG580033 | 0.336 | 07020004-502 |
| Montevideo WWTP | MN0020133 | 0.309 | 07020005-501 |
| Montgomery WWTP | MN0024210 | 0.121 | 07020012-800 |
| Morgan WWTP[e] | MN0020443 | 0.434 | 07020007-720 |
| Morton WWTP | MN0051292 | 0.0248 | 07020007-720 |
| Mountain Lake WWTP | MN0021466 | 0.773 | 07020010-566 |
| MRVPUC WWTP | MN0068195 | 0.230 | 07020012-799 |
| Murdock WWTP | MNG585086 | 0.0595 | 07020005-501 |
| Neuhof Hutterian Brethren | MNG580113 | 0.0217 | 07020010-547 |
| New Prague Utilities Commission | MNG640117 | 0.00426 | 07020012-800 |
| New Prague WWTP | MN0020150 | 0.229 | 07020012-800 |
| New Richland WWTP | MN0021032 | 0.0750 | 07020011-620 |
| New Ulm WWTP | MN0030066 | 0.847 | 07020008-501 |
| Nicollet WWTP | MNG580037 | 0.480 | 07020007-722 |
| Northern Con-Agg LLP | MNG490088 | 0.452 | 07020006-501 |
| Northern Con-Agg LLP - Redwood Falls | MN0059331 | 0.0451 | 07020007-720 |

| | | | |
|---|---|---|---|
| Northrop WWTP | MN0024384 | 0.148 | 07020009-502 |
| Northstar Ethanol LLC dba Poet Biorefining - Lake Crystal | MN0067172 | 0.0163 | 07020007-722 |
| Norwood Young America WWTP | MN0024392 | 0.114 | 07020012-800 |
| Odin-Ormsby WWTP | MN0069442 | 0.0562 | 07020010-547 |
| Olivia WWTP | MN0020907 | 0.122 | 07020004-750 |
| OMG Midwest Inc/Southern MN Construction Co Inc | MNG490131 | 0.452 | 07020007-722 |
| Pemberton WWTP | MNG585075 | 0.122 | 07020011-504 |
| Pennock WWTP | MNG580104 | 0.122 | 07020004-587 |
| Pepsi Beverages Co | MN0060101 | 0.0156 | 07020012-505 |
| Polar Semiconductor LLC | MN0064661 | 0.0175 | 07020012-505 |
| Porter WWTP | MNG580128 | 0.0305 | 07020004-502 |
| Prinsburg WWTP | MN0063932 | 0.00681 | 07020004-587 |
| Prior Lk/Spring Lk Ferric Chloride WTP | MN0067377 | 0.000626 | 07020012-505 |
| Rahr Malting Co | MN0031917 | 0.625 | 07020012-506 |
| Raymond WWTP | MN0045446 | 0.266 | 07020004-587 |
| Redwood Falls WWTP | MN0020401 | 0.248 | 07020004-750 |
| Renville WWTP | MN0020737 | 0.107 | 07020004-750 |
| Revere WWTP | MNG580114 | 0.0281 | 07020008-501 |
| Russell WWTP | MNG585062 | 0.110 | 07020006-501 |
| Ruthton WWTP | MNG585105 | 0.0709 | 07020006-501 |
| Sacred Heart WWTP | MN0024708 | 0.0297 | 07020004-749 |
| Saint Clair WWTP | MN0024716 | 0.0265 | 07020011-507 |
| Saint George District Sewer System | MN0064785 | 0.000816 | 07020007-721 |
| Saint James WWTP | MN0024759 | 0.370 | 07020010-511 |
| Saint Leo WWTP | MN0024775 | 0.0265 | 07020004-502 |
| Saint Peter WWTP | MN0022535 | 0.500 | 07020007-723 |
| Sanborn WWTP | MNG580115 | 0.0642 | 07020008-501 |
| Seagate Technology LLC - Bloomington | MN0030864 | 0.00376 | 07020012-505 |
| Searles WWTP | MNG580080 | 0.0722 | 07020007-722 |
| Seneca Foods Corp - Blue Earth | MN0001287 | 0.0182 | 07020009-553 |
| Seneca Foods Corp - Montgomery | MN0001279 | 0.0625 | 07020012-800 |
| SkyWater Technology Foundry | MN0056723 | 0.160 | 07020012-505 |

| | | | |
|---|---|---|---|
| Sleepy Eye WWTP | MNG580041 | 1.21 | 07020008-501 |
| Southern Minnesota Beet Sugar Coop[f] | MN0040665 | 0.614 | 07020004-750 |
| Springfield WWTP | MN0024953 | 0.0977 | 07020008-501 |
| Starbuck WWTP | MN0021415 | 0.0438 | 07020005-501 |
| Starland Hutterian Brethren Inc | MN0067334 | 0.0298 | 07020012-799 |
| Storden WWTP | MNG580106 | 0.0495 | 07020008-501 |
| SUEZ WTS Solutions USA Inc | MN0059013 | 0.0249 | 07020012-505 |
| Sunburg WWTP | MNG585125 | 0.0221 | 07020005-501 |
| Superior Minerals Co | MN0063584 | 0.0136 [g] | 07020012-505 |
| Taunton WWTP | MNG580090 | 0.0367 | 07020004-502 |
| Tracy WWTP[h] | MN0021725 | 0.656 | 07020008-501 |
| Trimont WWTP | MN0022071 | 0.0231 | 07020009-521 |
| Truman WTP | MNG640129 | 0.00188 | 07020010-524 |
| Truman WWTP | MN0021652 | 0.0981 | 07020010-524 |
| Tyler WWTP | MNG585116 | 0.205 | 07020006-501 |
| Ulland Brothers Inc | MNG490069 | 0.452 | 07020011-620 |
| Unimin Corp - Kasota Mining Project | MN0053082 | 2.09 | 07020007-723 |
| Unimin Corp - Ottawa Plant | MN0001716 | 3.76 | 07020007-723 |
| | | 3.76 | 07020007-799 |
| Urbank WWTP | MNG585343 | 0.0150 | 07020005-501 |
| Vernon Center WWTP | MN0030490 | 0.0110 | 07020009-507 |
| Vesta WWTP | MNG580043 | 0.0486 | 07020006-501 |
| Vetter Stone Co | MNG490173 | 2.71 | 07020007-723 |
| Wabasso WWTP | MN0025151 | 0.0141 | 07020008-501 |
| Waldorf WWTP | MN0021849 | 0.0120 | 07020011-504 |
| Walnut Grove WWTP | MN0021776 | 0.0254 | 07020008-501 |
| Walters WWTP | MNG585223 | 0.0274 | 07020009-554 |
| Wanda WWTP | MNG580126 | 0.0336 | 07020008-501 |
| Waseca WWTP | MN0020796 | 0.438 | 07020011-620 |
| Welcome WWTP | MN0021296 | 0.0325 | 07020009-525 |
| Wells Public Utilities | MN0025224 | 2.915 | 07020011-535 |
| Westbrook WWTP | MNG580127 | 0.305 | 07020008-501 |
| Willmar WWTF | MN0025259 | 0.939 | 07020004-587 |
| Winnebago WWTP | MN0025267 | 0.213 | 07020009-515 |

| | | | |
|---|---|---|---|
| Winthrop WWTP | MN0051098 | 0.392 | 07020012-799 |
| Wood Lake WWTP | MNG580107 | 0.0672 | 07020004-749 |
| Xcel Energy - Black Dog Generating Plant | MN0000876 | 1.69 | 07020012-505 |
| Xcel Energy - Key City/Wilmarth | MN0000914 | 0.0174 | 07020007-723 |

a. Only the most upstream impairment watershed is listed; each permitted facility's WLA also applies to impairments in this report that are located downstream of the indicated impairment AUID. b. WLA based on updated permitted flow of 3.9744 mgd.

c. The current permit limit of Dairy Farmers of America Inc–Winthrop (MN0003671) is based on 66 mg/L TSS, and the WLA is based on 65 mg/L TSS. A WQBEL will need to be considered upon permit reissuance.

d. An NPDES permit for the new De Graff WWTP is expected to be issued in summer or fall of 2018.

e. New permit and pond constructed since the WLA calculated for South Metro Mississippi TSS TMDL

f. WLA includes discharge of cooling water not accounted for in South Metro Mississippi TSS TMDL

g. The current permit limit of Superior Minerals Co (MN0063584) is based on 188 mg/L TSS, and the WLA is based on 65 mg/L TSS and flow of 0.0495 mgd. A WQBEL will need to be considered upon permit reissuance. h. Permitted flow increased to 0.462 mgd. 45 mg/L limit remains protective of WQS.

# Attachment 4

## MS4 Permittees in the Minnesota River-Great Blue Earth River TMDL

| Permit | Regulated Entity Name | 07020004-747 | 07020004-748 | 07020004-749 | 07020004-750 | 07020005-501 | 07020006-501 | 07020007-720 | 07020007-721 | 07020007-722 | 07020007-723 | 07020008-501 | 07020009-501 | 07020009-503 | 07020009-507 | 07020009-509 | 07020009-514 | 07020009-515 | 07020009-525 | 07020009-527 | 07020011-501 | 07020011-506 | 07020011-507 | 02070011-620 | 07020012-505 | 07020012-506 | 07020012-799 | 07020012-800 |
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| MS400074 | Apple Valley City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| – [a] | Belle Plaine City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400005 | Bloomington City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400276 | Blue Earth County MS4 | | | | | | | | | | ✓ | | ✓ | | | ✓ | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| MS400076 | Burnsville City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400077 | Carver City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400070 | Carver County MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400079 | Chanhassen City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400080 | Chaska City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400131 | Credit River Township MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400132 | Dakota County MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400013 | Deephaven City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400014 | Eagan City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400284 | Eagle Lake City MS4 | | | | | | | | | | ✓ | | ✓ | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| MS400015 | Eden Prairie City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400016 | Edina City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |

| Permit | Regulated Entity Name | 07020004-747 | 07020004-748 | 07020004-749 | 07020004-750 | 07020005-501 | 07020006-501 | 07020007-720 | 07020007-721 | 07020007-722 | 07020007-723 | 07020008-501 | 07020009-501 | 07020009-503 | 07020009-507 | 07020009-509 | 07020009-514 | 07020009-515 | 07020009-525 | 07020009-527 | 07020011-501 | 07020011-506 | 07020011-507 | 02070011-620 | 07020012-505 | 07020012-506 | 07020012-799 | 07020012-800 |
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| MS400237 | Elko New Market City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400239 | Fairmont City MS4 | | | | | | | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400138 | Hennepin County MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400199 | Hennepin Technical College Eden Prairie MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400024 | Hopkins City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400096 | Inver Grove Heights City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400140 | Jackson Township MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| – [a] | Jordan City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400142 | Laketown Township MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400099 | Lakeville City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| – [a] | Le Sueur City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400028 | Lilydale City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400144 | Louisville Township MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400226 | Mankato City MS4 | | | | | | | | | ✓ | ✓ | | ✓ | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| MS400297 | Mankato Township MS4 | | | | | | | | | | ✓ | | ✓ | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |

| Permit | Regulated Entity Name | 07020004-747 | 07020004-748 | 07020004-749 | 07020004-750 | 07020005-501 | 07020006-501 | 07020007-720 | 07020007-721 | 07020007-722 | 07020007-723 | 07020008-501 | 07020009-501 | 07020009-503 | 07020009-507 | 07020009-509 | 07020009-514 | 07020009-515 | 07020009-525 | 07020009-527 | 07020011-501 | 07020011-506 | 07020011-507 | 02070011-620 | 07020012-505 | 07020012-506 | 07020012-799 | 07020012-800 |
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| MS400241 | Marshall City MS4 | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400033 | Mendota City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400034 | Mendota Heights City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MN0061018 | Minneapolis Municipal Storm Water | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400035 | Minnetonka City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400106 | Minnetrista City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400279 | Minnesota State University – Mankato | | | | | | | | | | ✓ | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400170 | Mn/DOT Metro District MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400180 | Mn/DOT Outstate District MS4 | | | | | | | | | ✓ | ✓ | | ✓ | | | ✓ | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| MS400261 | Montevideo City MS4 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| – [a] | New Prague City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400228 | New Ulm City MS4 | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400255 | Normandale Community College MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |

| Permit | Regulated Entity Name | 07020004-747 | 07020004-748 | 07020004-749 | 07020004-750 | 07020005-501 | 07020006-501 | 07020007-720 | 07020007-721 | 07020007-722 | 07020007-723 | 07020008-501 | 07020009-501 | 07020009-503 | 07020009-507 | 07020009-509 | 07020009-514 | 07020009-515 | 07020009-525 | 07020009-527 | 07020011-501 | 07020011-506 | 07020011-507 | 02070011-620 | 07020012-505 | 07020012-506 | 07020012-799 | 07020012-800 |
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| MS400229 | North Mankato City MS4 | | | | | | | | | ✓ | ✓ | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400113 | Prior Lake City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400189 | Prior Lake-Spring Lake WSD MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400236 | Redwood Falls City MS4 | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400045 | Richfield City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400117 | Rosemount City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400119 | Savage City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400154 | Scott County MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400120 | Shakopee City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400122 | Shorewood City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | | | |
| MS400292 | Skyline City MS4 | | | | | | | | | | ✓ | | ✓ | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400156 | Spring Lake Township MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ |
| MS400299 | Southbend Township MS4 | | | | | | | | | ✓ | ✓ | | ✓ | | | ✓ | | | | | ✓ | | | | ✓ | ✓ | ✓ | ✓ |
| MS400245 | St Peter City MS4 | | | | | | | | | | ✓ | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |
| MS400126 | Victoria City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400232 | Waconia City MS4 | | | | | | | | | | | | | | | | | | | | | | | | ✓ | ✓ | | |
| MS400258 | Waseca City MS4 | | | | | | | | | | ✓ | | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

| Permit | Regulated Entity Name | 07020004-747 | 07020004-748 | 07020004-749 | 07020004-750 | 07020005-501 | 07020006-501 | 07020007-720 | 07020007-721 | 07020007-722 | 07020007-723 | 07020008-501 | 07020009-501 | 07020009-503 | 07020009-507 | 07020009-509 | 07020009-514 | 07020009-515 | 07020009-525 | 07020009-527 | 07020011-501 | 07020011-506 | 07020011-507 | 02070011-620 | 07020012-505 | 07020012-506 | 07020012-799 | 07020012-800 |
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| MS400272 | Willmar City MS4 | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ |