Minnesota Cities Stormwater Coalition

Municipal stormwater professionals working together for clean water

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MCSC is an affiliate of the League of Minnesota Cities

Robert Finley
Minnesota Pollution Control Agency
12 Civic Center Plaza, Suite 2165
Mankato, MN 56001

May 29, 2012

Dear Mr. Finley:

The League of Minnesota Cities and its Minnesota Cities Stormwater Coalition (collectively referred to as LMC) submit these Public Comments and this Petition for Contested Case Hearing in response to the Minnesota Pollution Control Agency's (MPCA) Public Notice for the Draft South Metro Mississippi River Total Suspended Solids Total Maximum Daily Load Report (TMDL Report).

The comments listed below are intended to be the LMC's Written Comments (as per the Public Notice) and the basis (reasons or proposed findings) for the LMC's Petition of Contested Case Hearing.

Statement of Interest

LMC's membership includes almost all municipalities located in Minnesota. Many of these cities are in the drainage area for this TMDL. In addition, certain of the LMC's members with a special interest in stormwater matters have coordinated under the auspices of the LMC to form the Minnesota Cities Stormwater Coalition (MCSC). Many of the member cities of MCSC are in the drainage area for this TMDL and, thus, are directly affected by its findings.

Relief Requested in Contested Case Hearing Proceeding

Comments

1. **Fatal flaws:** This TMDL, through the linkage to the MS4 permits, creates immense new legal obligations and liabilities for regulated MS4 cities. The simplest example of this is the $850 million cost estimate to achieve the MS4 WLA. These obligations and liabilities

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May 29, 2012

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Minnesota Pollution Control Agency
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RE: South Metro Mississippi River TMDL Comments

Dear Mr. Finley:

These comments on the South Metro Mississippi River TMDL are from the City of Blaine, a MS4 city within the drainage area of the TMDL. As you will notice the form of these comments are similar to others you will receive. We do want to emphasize Statements 2, 4, 7, 9, 10 and 13 as the most critical to our interests; however, all of the comments are significant and we hope they are seriously considered.

Draft South Metro Mississippi River Total Suspended Solids TMDL Report

The City of Blaine submits these Public Comments in response to the Minnesota Pollution Control Agency's (MPCA) Public Notice for the Draft South Metro Mississippi River Total Suspended Solids Total Maximum Daily Load Report (TMDL Report).

Statement of Interest

The City of Blaine is in the drainage area for this TMDL and, thus, is directly affected by its findings.

Comments

1. **Fatal flaws:** This TMDL, through the linkage to the MS4 permits, creates immense new legal obligations and liabilities for regulated MS4 cities. The simplest example of this is the $850 million cost estimate to achieve the MS4 WLA. These obligations and liabilities are not controllable by the MPCA. The MPCA has limited enforcement discretion under the Clean Water Act and State statutes and rules. Independent third parties are encouraged and empowered to act as private attorneys general to sue either the MPCA or the permitted parties to ensure compliance. There is a history of such suits under the TMDL and stormwater permitting programs in Minnesota and the United States.

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The power to create such significant new legal obligations and liabilities should be exercised with restraint, responsibility, and based on rigorous science, research, modeling, and analysis. These standards have not been met by this TMDL study and report.

Statement of Action #1

This TMDL should be withdrawn and redone. The flaws listed below, along with others, should be addressed and corrected.

Reasons or Proposed Findings #1

A list of some of the flaws of this TMDL is provided in the comments below. They include:

- Inadequate consideration of the fact that the TSS concentrations upstream of Lock & Dam 1 meet or exceed the TMDL target of 30 mg/L.
- The boundaries for the areas served by the MS4 conveyance system are significantly inaccurate throughout the TMDL
- Insufficient consideration of factors related to the distribution of particle sizes in various sources of stormwater runoff
- Improperly not using the results of the Minnesota River Turbidity TMDL as an input boundary condition for this TMDL
- Improperly setting the MS4 WLAs according to flow conditions in the river
- Improperly setting the MS4 baseline year at 2002
- Not meeting the statutory requirement to provide cost estimates for the implementation of the TMDL (for all sources and sectors)
- Providing no model calibration or sensitivity analysis for urban discharges
- Improperly setting a 25% MS4 load reduction that is arbitrary and ineffective
- Not providing sufficient information or MPCA commitment to trading, including for MS4 permitted cities
- Not accounting for the water quality benefits of high-density development in the process of setting the MS4 WLAs
- Not providing for the deferral of the MS4 WLA load reductions until actual reductions from the large unregulated sources can be demonstrated and confirmed
- Insufficient consideration of the fact that most stormwater and stabilization BMPs (urban and non-urban) are effective under low and moderate flow conditions but are not effective under high and very high flow conditions
- Providing insufficient information about the cost estimate to achieve the MS4 WLA
- Improperly requiring an MS4 load reduction that is much smaller than the MOS for the TMDL, and thus within the margin of uncertainty for the study, modeling, and the TMDL.

Many of these items are significant flaws individually. Taken together, they make the TMDL fatally flawed. With these flaws taken into consideration, the MPCA cannot say that the significant new legal obligations and liabilities created by this TMDL are the product of rigorous science, research, modeling, and analysis.

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2. **Insufficient attention to urban discharges**: The development of this TMDL posed significant challenges for the MPCA. One of the fundamental conclusions of the TMDL is that the large majority of the load comes from non-urban sources. Based on conversations with MPCA staff and discussions at the public information meetings for this TMDL, it appears that the MPCA decided to focus the large majority of its resources to addressing issues and questions related to the loading from non-urban sources.

   From one perspective, this seems like a sound decision. Unfortunately, this TMDL creates immense new legal obligations and liabilities for regulated MS4 cities. The decision to focus on the non-urban sources meant that scant attention and resources were given to the issues and questions related to the discharges from urban sources. The results of this fact can be seen throughout the comments listed below.

   Statement of Action #2

   This TMDL should be withdrawn and redone. Sufficient attention and resources should be given to the issues and questions related to urban discharges. A proper and sufficient stakeholder process should be conducted with all the MS4 cities in the drainage area. The problems enumerated in the comments below should be rectified and resolved.

   Additionally, the MPCA TMDL program should work directly with the permitted MS4 cities to correct the problems in this TMDL and ensure that such flaws are not perpetuated in other TMDLS.

   Reasons or Proposed Findings #2

   The MPCA should not create new legal obligations or liabilities of this magnitude for the permitted MS4 cites without allocating sufficient and appropriate staff and funding resources to prepare this TMDL or any other TMDL with urban discharges in the drainage area.

3. **Flexible expression of the MS4 WLA**: The MPCA is to be commended for the manner in which the MS4 WLA is expressed in this TMDL. It is presented as numbers in metric tons per year for average flow conditions, and in metric tons per year and kilograms per day for the five flow conditions. The MS4 WLA is also expressed as a 25% reduction. Finally, it is also expressed as target loads for built-up areas (169 lbs/acre/year), newly developed areas, and open-space developed areas (112.5 lbs/acre/year). These multiple expressions of the MS4 WLA allow for appropriate flexibility for MS4s in designing and implementing urban stormwater management programs to meet the MS4 WLA for this TMDL.

4. **TSS concentrations upstream of Lock & Dam 1 meet or exceed the TMDL target**: The TMDL Report States that the TSS concentrations upstream of Lock & Dam 1 meet or exceed the TMDL target of 30 mg/L. The following text is from page 28 of the TMDL Report:

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"the long-term TSS concentration is 24 mg/L in the Mississippi River at Anoka, compared to 20 mg/L 24 miles downstream at Lock & Dam 1, in the heart of the Twin Cities metropolitan area"

In fact, the flows in the Mississippi River above Lock & Dam 1 are improving the water quality, helping to attain and maintain the water quality standard, and are not contributing to the impairment (in a manner similar to the wastewater treatment plants that are discharging at concentrations less than 30 mg/L (see page 53 of the TMDL Report)).

Statement of Action #4

The WLA for MS4 stormwater sources should be revised to reflect the facts above. The form of these revisions requires discussion and negotiation among MPCA, USEPA, and the affected regulated stormwater sources. Options could include:

- Exclude the entire drainage area for the Mississippi River above Lock & Dam 1 from the TMDL study area
- Consider the permitted discharges from the regulated MS4 permittees above Lock & Dam 1 to be similar to the discharges from wastewater treatment facilities that are below the 30 mg/L target. Adopt TMDL language similar to that on page 53 of the TMDL Report: *"Because this effluent concentration is less than the water quality standard of 32 mg/L, discharge from these facilities will remain below the water quality standard, thereby helping to attain and maintain the standard. For such facilities, which are listed in Appendix A, compliance with NPDES permits will be interpreted to constitute compliance with the TMDL".*
- Eliminate the 25% load reduction for all permitted MS4s above Lock & Dam 1, in light of this fact and other reasons. This approach could be similar to the approach taken for the MS4 dischargers in the Upper Vermillion River in deciding not to impose load reductions on them as part of the Lower Vermillion River Turbidity (TSS) TMDL. This language is from page 7 of that report: *"No load reductions are necessary for the Upper Vermillion River, although the planned movement of the Empire Wastewater Treatment Plant effluent to the Mississippi River is expected to have a beneficial impact on water quality within the LVR. Despite the fact that no load reductions are required for these sources, a load allocation for the Upper Vermillion River and wasteload allocations for its NDPES permitted municipalities (MS4s) were computed to meet the requirements of a comprehensive TMDL."*

At a minimum, the MPCA should explain why, in light of these facts, the drainage area above Lock & Dam 1 should be included in this TMDL study area and/or why the permitted MS4s above Lock & Dam 1 should have a required load reduction.

Reasons or Proposed Findings #4

The facts supporting this comment are included in the TMDL Report. We recommend a detailed review and discussion with stakeholders of the research, studies, and reports that were executed or prepared in the course of developing this TMDL and the Lake Pepin model. Details from these materials would serve as the basis for a contested case hearing on this comment. Precedent is available in other TMDLs.

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5. **Incorrect boundaries for MS4 cities**: The boundaries and land areas for the permitted MS4 cities used in this TMDL study are incorrect and significantly flawed. The TMDL Report is based on the 2002 National Land Cover Data (NLCD). Please see this excerpt from page 56 of the TMDL Report:

"To calculate the wastewater waste load allocation for regulated MS4 stormwater, the MPCA estimated loads using 2002 National Land Cover Data (NLCD) and TSS export coefficients for the NLCD land use classifications. The NLCD includes four developed land uses. These were assumed to represent urban land use. The four classes are based on ranges of impervious cover, as indicated below.

Using a Geographic Information System (GIS), NLCD developed land uses were clipped using the regulated MS4 boundaries. The following acreages were determined for the South Metro Mississippi watershed:

- *Developed, low intensity (20 to 49 percent impervious) – 248,750 acres;*
- *Developed, medium intensity (50 to 79 percent impervious) – 140,000 acres;*
- *Developed, high density (more than 79 percent impervious) – 65,750 acres; and*
- *Developed, open space (less than 20 percent impervious) – 154,600 acres."*

Statement of Action #5

The TMDL should be revised using the accurate boundaries for the permitted areas within MS4 cities. The modeling should be revised using these boundaries. These boundaries can be provided by the cities. The boundaries for the MS4 WLA should be set to include only the land areas covered by the MS4 permit. The modeling should be redone based on these corrected MS4 boundaries.

Reasons or Proposed Findings #5

The boundaries for the permitted cities are flawed in at least three significant ways:

- The outside boundaries of the areas covered under the MS4 permit are not accurate. These outside boundaries are determined by the land areas served by the cities' MS4 conveyance systems. The cities have these areas mapped, but the MPCA never requested this information in the course of preparing the TMDL. The NLCD does not include any information about the extent of the land areas served by any of the MS4 cities' conveyance systems. The actual boundaries of the land areas served by the conveyance system and, therefore, covered under the MS4 permit were not used in the course of developing the TMDL or any of the underlying models. Only the permitted areas of the MS4 cities should be included in the WLA.
- Some of the cities in the drainage area for this TMDL have significant land areas within their boundaries that have never discharged urban stormwater outside the city boundaries or to the Mississippi River or its tributaries. In some cases, these landlocked areas constitute one-third or one-half of the land area served by the cities' MS4 conveyance systems. The land areas used to develop the TMDL and the underlying models did not include this information and are, therefore, significantly inaccurate. The MPCA never requested this information from any of the permitted cities in the drainage area.
- There are portions of every permitted MS4 city that drain overland (sheet flow) directly to receiving waters without passing through the cities' MS4 conveyance systems. Depending

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on the density and types of receiving waters in each city, this land area can be as much as 30% of the land area within the outside boundary of a city's MS4 conveyance system. The loading from this type of land, immediately adjacent to receiving waters, corresponds to near-channel loading that was found to be a very significant type of contribution to the loading for the Minnesota River. The land areas used to develop the TMDL and the underlying models did not include this information and are, therefore, significantly inaccurate. The MPCA never requested this information from any of the permitted cities in the drainage area.

Taken together, these flaws mean that the land areas for the permitted MS4 cities used to develop the TMDL and the underlying models were significantly inaccurate. This means that the WLA for the permitted cities is inaccurate. Establishing the correct boundaries is one of the most fundamental starting points for any water quality modeling project. The fact that the MS4 cities' boundaries are significantly inaccurate in this TMDL study is unacceptable and inexcusable.

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6. **Variations in particle size distributions**: Information about variation in the distribution of particle sizes in runoff from various sources is missing from this TMDL. Information about the relationship between the particle size distribution of runoff and the resulting turbidity in the receiving waters is also missing. Without addressing these factors, the MS4 WLA cannot be accurate.

Statement of Action #6

Please revise the TMDL study to include information about the distribution of particle sizes in runoff from various sources. Revise the TMDL to address issues related to the relationship between particle sizes and turbidity. Address the differences in the particle size distributions between urban stormwater discharges and discharges from non-urban sources. Address these differences and relationships in the modeling for the TMDL. Revise the load allocations with particle size distributions included as factors.

Reasons or Proposed Findings #6

It is widely recognized that the sizes of particles is a significant factor in the relationship between TSS loading and turbidity in receiving waters. Smaller particles more greatly influence higher turbidity. It is also widely recognized that there are significant differences between the particle size distributions for urban runoff compared to non-urban runoff. Without addressing these factors, the MS4 WLA cannot be accurate. Saint Anthony Falls Laboratory, of the University of Minnesota, is a source of excellent information and research on these subjects.

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7. **MN River TMDL loading should be an input boundary condition**: This TMDL should be revised to include the results from the Minnesota River Turbidity TMDL as an input boundary condition. As written, the loading from the Minnesota River Basin in the modeling that supports the final allocations does not match the loading targets for the basin in the Minnesota River Turbidity TMDL.

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Statement of Action #7

Revise the TMDL to include the results from the Minnesota River Turbidity TMDL as an input boundary condition. Revise the underlying models and revise all the allocations accordingly. The Minnesota River modeling Scenario 5 should be linked to the South Metro Mississippi modeling system (instead of Scenario 4, see page 45) and the new model results should serve as the basis for a new set of allocations for this TMDL. The same action should be taken for the Cannon River Basin and Vermillion River Basin, based on the text on page 47 of the TMDL Report.

Reasons or Proposed Findings #7

The study area for the Minnesota River Turbidity TMDL matches the Minnesota River Basin included in this TMDL. The results of the MN River TMDL should be used as input for this TMDL. This is customary practice for "nested" TMDLs. It was clearly the intent described on page 45 of the TMDL Report, but the wrong scenario was used. Scenario 5 from the MN River TMDL should be used because it is the basis for the allocations in the MN River TMDL. Without this revision, all the allocations in this TMDL are incorrect. The load reduction in the MN River TMDL is 90%. The load reduction for the MN River Basin in this TMDL Report is 50% to 60%. There is a significant difference between these two load reductions.

The same reasons or proposed findings apply to Cannon River Basin and Vermillion River Basin, based on the text on page 47 of the TMDL Report.

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8. **Setting MS4 WLAs in relationship to flow conditions:** There are multiple questions regarding the appropriateness of determining and setting the MS4 WLAs according to five flow conditions. These include, but are not limited to :
    - There is relatively little correlation between the TSS loading in urban discharges and the flow condition in the river. In a river system the size of the Mississippi River, the flow conditions are frequently determined by large-scale rain events over large land areas and long durations of time. TSS loading accumulates on urban impervious surfaces at a fairly constant rate over time. This load is then washed off and discharged to the receiving water during intense rain events. These rain events can be short, localized events that have minimal effect on the flow in the river but result in significant TSS loading from the urban land. In the event of a heavy, long-duration rain event, the loading in the urban discharge is typically much greater early in the event than later in the event. The amount of time between intense rain events is more important than the size or duration of each event. The large portion of impervious surfaces serves to armor the surface from the impact of raindrops, thus making the loading in the urban discharges much different from the loading in non-urban settings with low percentages of impervious surfaces. The timing and amount of TSS loading from urban land behaves in very different ways than TSS loading from non-urban land.
    - TSS loading from urban land during snowmelt and floods is very different from the loading from non-urban land. Cities have addressed flood control in their jurisdictions for many years. They commonly have significant flood control structures and BMPs in place within

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their jurisdictions. Many of these structures impound water, thus changing the flow regime and settling out significant amounts of solids. The armoring of urban surfaces also results in loading during the large rain events that may cause floods to be much different from the loading for non-urban land. The saturation of the soils is much less a factor in urban settings. Floods and snowmelt are conditions that result in a significant portion of the total TSS loading to the river system.

- In a river system the size of the Mississippi River, the flow condition in the river will frequently be determined by a rain or snowmelt event that has occurred far upstream of a given MS4 city. In that circumstance, the city could have little loading in its discharge during a flow condition when a larger loading would be allowed under the MS4 WLA. Conversely, a city can have an intense localize rain event that causes heavy loading in its discharge but does not change a low flow condition in the river. This could be viewed as a violation of the MS4 WLA that is set according to low flow conditions.

There is no indication that these factors were considered in the process of setting the MS4 WLAs according to the flow conditions in the river.

Statement of Action #8

If these factors and other related factors were considered in the course of developing the TMDL model and allocations, please provide a complete explanation in the TMDL Report. If they were not, please revise the TMDL methodology, model, and allocations to address these factors. Please evaluate and reconsider whether the MS4 WLAs should be expressed in relationship with the flow conditions in the river. If it is determined that this approach is poorly supported, please revise the methodology, modeling, and/or allocations appropriately.

Reasons or Proposed Findings #8

There are significant and multiple differences between TSS loadings in urban and non-urban settings. There are very different relationships between rainfall, snowmelt, and TSS loadings in urban and non-urban settings. If these differences were addressed in deciding to link the MS4 WLAs to the flow conditions in the river, a complete and comprehensive explanation is needed in the TMDL Report. If these differences were not addressed and the linkage between the MS4 WLAs and the river flow conditions is not appropriate, the MS4 WLA are expressed inappropriately and the TMDL is setting the MS4 cities up for failure and violations.

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9. **Baseline set at no BMPs**: The baseline for the MS4 WLAs for this TMDL should be set with no BMPs in place at all. The baseline condition should not be set based on the year of the 86th percentile flow condition.

Statement of Action #9

Please revise the baseline for the MS4 WLAs as the condition with no BMPs in place. Please disconnect the baseline from a specific year.

Reasons or Proposed Findings #9

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The HSPF model, as described in the TMDL Report, did not include BMPs for the land use inputs. As listed on page 56 of the TMDL Report, the model used NCLD developed land uses. It appears there were only four types of land uses included. They were differentiated only by the percentage of impervious area. They were:

"Developed, low intensity (20 to 49 percent impervious) – 248,750 acres;
Developed, medium intensity (50 to 79 percent impervious) – 140,000 acres;
Developed, high density (more than 79 percent impervious) – 65,750 acres; and
Developed, open space (less than 20 percent impervious) – 154,600 acres."

In the following scenario, it appears that the following two land areas would be identical model inputs:

- Two residential developments
- Same total land area
- Same percentage of impervious area
- One built in 1960 with no stormwater BMPs at all
- The other development built in 2001, with a stormwater pond and multiple rain gardens and infiltration BMPs included.

If this is correct, this means that the baseline condition used for the model was urban land use with no BMPs in place. This, then, should be the baseline condition for the MS4 WLAs.

Furthermore, the MS4 WLA (expressed as either the 25% load reduction from the baseline or the target loading rates) is stated as being for the average flow condition (page 57). In light of this fact, setting the baseline for the MS4 WLA at 2002, because it corresponds to the 86th percentile flows condition, is inappropriate.

The baseline year set for the MS4 loadings is of immense importance for the regulated MS4s. Cities in Minnesota have been making sure that stormwater controls and BMPs have been implemented in significant numbers since the 1980s. As TMDLs and the MS4 permit are currently interpreted, setting the MS4 baseline year at 2002 would mean that a very large number of BMPs could not be counted toward meeting the TMDL. This would be of enormous financial consequence for the regulated MS4s.

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10. **Insufficient cost estimates provided**: This TMDL Report includes a cost estimate only for achieving the MS4 WLA. This does not meet the statutory requirement for the preparation of a TMDL.

Statement of Action #10

Include "a range of estimates of the cost of implementation of the TMDL" in this TMDL Report. This range of estimates should include the cost to achieve all the allocations, including the LA.

Reasons or Proposed Findings #10

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MN Statute 114D.25 includes the following text:

"(b) A TMDL must include a statement of the facts and scientific data supporting the TMDL and a list of potential implementation options, including:

(1) a range of estimates of the cost of implementation of the TMDL; and

(2) for point sources, the individual wasteload data and the estimated cost of compliance addressed by the TMDL."

By including a cost estimate only for achieving the MS4 WLA and only addressing item b.2. in the statute listed above, this TMDL Report does not fulfill this statutory requirement. This TMDL Report should be revised to include the cost to achieve all the allocations, including the LA.

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11. **No model calibration or sensitivity analysis for urban discharges**: It appears that the modeling for this TMDL did not include any calibration to validate or check the reliability of the model results for the loading from permitted MS4s. It also appears that no sensitivity analysis was performed for the loading from permitted MS4s to identify which variables had more or less influence on the model results.

Statement of Action #11

Perform calibration and sensitivity analysis for the elements of the model directly related to the permitted MS4 loading. If it is impossible to separate these elements in a model of the scale and/or type used for this TMDL, use a separate type and/or scale model to address loading from permitted MS4s.

Reasons or Proposed Findings #11

Calibration and sensitivity analysis are essential elements of water quality modeling. Without calibration and sensitivity analysis for the various types of loading included in this TMDL, the reliability and accuracy of the modeling results for each type of loading cannot be evaluated sufficiently. The results of a large-scale and coarse model that cannot support calibration and sensitivity analysis for the permitted MS4 loading are not sufficient to support the MS4 WLAs in this TMDL that result in an $850 million set of legal obligations and liabilities for the permitted MS4 cities.

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12. **Past results for the Minnesota River**: In 1992, Governor Arne Carlson issued a famous challenge: to make the Minnesota River fishable and swimmable in 10 years. The challenge resulted in:
    - Improving water quality in the MN River became a high priority for a wide range of state agencies and local/regional entities
    - State and local funding was directed toward improving water quality in the Minnesota River
    - The effort was focused on a range of voluntary practices and incentives to achieve changes in the drainage area for the river.

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In the 20 years since then, little discernible progress has been made, according to the MPCA's most recent biological assessment. A recent MPCA report titled "Revisiting the Minnesota River Assessment Project: An Evaluation of Fish and Invertebrate Community Progress (MPCA, May 2011, page 23) included the following text:

"In order to address the deteriorating conditions within the Basin, several advisory committees were formed, conservation programs were developed, and best management practices (BMPs) were implemented. To date, these efforts have led to only modest improvements to no change to the overall biological condition of rivers and streams within the Minnesota River Basin."

Other data indicates that TSS concentrations have diminished in the river but that flow rates have increased. When the lower concentrations are multiplied times the higher flows, the total loading in the river is roughly the same compared to 20 years ago.

Under the TMDL, the vast majority of the loading in the Mississippi River will come from the LA in the Minnesota River. The State's approach to achieving load reductions for this LA can be accurately described as follows:

- Improving water quality in the MN River will be a high priority for a wide range of state agencies and local/regional entities
- State and local funding will be directed toward improving water quality in the Minnesota River
- The effort will be focused on a range of voluntary practices and incentives to achieve changes in the drainage area for the river.

Please note the similarity of these bullet points to the bullet points in the paragraph just above.

Statement of Action #12

Please include, in the TMDL Report, an explanation of how the exact same approach that has yielded little or no improvement in the Minnesota River in the last 20 years can be expected to result in a 90% load reduction for the LA for the MN River. Please be specific and detailed.

Reasons or Proposed Findings #12

Please see above.

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13. **25% MS4 load reduction is arbitrary and ineffectual**: The 25% load reduction for all permitted MS4s in the entire TMDL study area appears to be arbitrary and ineffectual. This load reduction also serves as the basis for the target loading rates. This load reduction is not supported by scientific evidence or modeling results.

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Statement of Action #13

Please reconsider whether the 25% loading reduction is warranted and/or sufficiently supported by scientific data or modeling results. Please conduct a contested case hearing to make this determination.

Reasons or Proposed Findings #13

The 25% load reduction was the subject of some discussion with MS4 stakeholders during the development of this TMDL. At that time, many elements of the TMDL Report were either not known or not conveyed to the municipal participants. These elements included:

- The immense estimated cost to achieve the WLA
- The load reductions for the MN River TMDL
- The fact that the TSS loading in the Mississippi River above Lock & Dam 1 met or exceeded the TMDL target loading of 30 mg/L.

These stakeholder conversations also included only a very small percentage of the cities included in the drainage area. The implications of the decision to impose a 25% load reduction on all the MS4s was poorly understood by the participants in the stakeholder process. In light of these facts, the stakeholder process used, in large part, to arrive at the 25% load reduction was fatally flawed.

Finally, page 82 of the TMDL Report includes the following text, in the context of considering contingency measures if load reduction milestones are not met in the future:

> *"Contingency requirements for this TMDL will not include ratcheting down further on point sources by reducing their waste load allocations, be they permitted MS4s or permitted wastewater treatment facilities. As this document attests, these are very minor sources of sediment to the South Metro Mississippi River, and further reducing their waste load allocations will not help to accomplish the goals of the TMDL in any measurable way."*

The TMDL Report states that the permitted MS4s are only *"very minor sources of sediment"*. Additionally, the Report states that reducing the load from the permitted MS4s *"will not help to accomplish the goals of the TMDL in any measurable way."*

The stakeholder process was flawed. The science and the modeling in the TMDL do not support the load reduction. The load from the permitted MS4s is insignificant. Load reduction from the permitted MS4s will be ineffectual toward meeting the TMDL goals. The 25% load reduction for all permitted MS4s should not stand.

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14. **Trading**: There are huge cost differentials between BMPs on urban land compared to BMPs on non-urban land. This difference in cost-effectiveness calls out for a viable trading program that includes permitted MS4 cities.

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Statement of Action #14

The TMDL Report should be revised to include more detail about the potential of trading. The MPCA should commit to the development of a viable trading program that includes permitted MS4 cities. The trading program should also include funding efforts to address non-CWA-mandated activities (stream bank erosion control, ravine stabilization, hydrologic controls, etc.) that are far more cost-effective than many urban BMPs. The MPCA's trading development commitment should include specific timelines and interim milestones.

Reasons or Proposed Findings #14

Trading could result in a much more cost-effective set of responses to meet the TMDL goals. A specific commitment form the MPCA to develop a trading program that includes permitted MS4 cities is necessary and appropriate in the context of this TMDL.

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15. **Density**: In 2006, USEPA published a guidance document titled "Protecting Water Resources with Higher-Density Development". The conclusions from this guidance document should be incorporated into this TMDL, especially for the MS4 WLAs for permitted MS4 cities with higher-density development.

Statement of Action #15

The MS4 WLAs (load reductions and target loading rates) should be revised for MS4 cities with higher-density development. Higher-density development should not be viewed as a stormwater management BMP. Instead, the WLA numbers should be revised to reflect the value of higher-density development in protecting water quality.

Reasons or Proposed Findings #15

The USEPA guidance document includes the following text:

"EPA examined stormwater runoff from different development densities to determine the comparative difference between scenarios. This analysis demonstrated:

- *The higher-density scenarios generate less stormwater runoff per house at all scales—one acre, lot, and watershed—and time series build-out examples;*
- *For the same amount of development, higher-density development produces less runoff and less impervious cover than low-density development; and*
- *For a given amount of growth, lower-density development impacts more of the watershed.*

Taken together, these findings indicate that low-density development may not always be the preferred strategy for protecting water resources. Higher densities may better protect water quality—especially at the lot and watershed levels. To accommodate the same number of houses, denser developments consume less land than lower density developments. Consuming less land means creating less impervious cover in the

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watershed. EPA believes that increasing development densities is one strategy communities can use to minimize regional water quality impacts."

The WLAs for permitted MS4 cities with higher-density development should be revised to reflect the value of higher densities in protecting water quality, as described by USEPA. In considering density, the MPCA should include density factors beyond population. High-density development can also include office, commercial, industrial, and other types of land uses.

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16. **Defer the MS4 WLA load reductions**: The vast majority of the TSS loading to the Mississippi River is from unregulated, non-urban sources. Imposing load reductions on the regulated urban sources should be deferred pending confirmation that the large unregulated sources can be effectively reduced.

Statement of Action #16

Defer the imposition of the TMDL load reductions on the regulated sources until after it has been demonstrated that reasonable progress can be made in reducing the much larger loads from the unregulated sources. If such reasonable progress cannot be demonstrated, consideration should be made to declare certain sources "irretrievable" under applicable federal rules and to restructure the applicable standards and TMDL requirements accordingly.

Reasons or Proposed Findings #16

The estimated cost to achieve the TMDL goals for the permitted MS4s is immense: $850 million. The TMDL Report states that the load from the permitted MS4s is insignificant and that the load reduction from the permitted MS4s will be ineffectual toward meeting the TMDL goals. It would be a waste of public funds to compel the permitted MS4s to expend these monies if it proves to be impossible to achieve the much larger load reductions needed from the unregulated sources. It is appropriate to defer the imposition of the TMDL load reductions on the regulated sources until after it has been demonstrated that reasonable progress can be made in reducing the much larger loads from the unregulated sources.

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17. **Address the challenges of controlling loading during high flow conditions**: The TMDL has a special focus on the need to control TSS loading during high and very high flow conditions. Controlling TSS loading during such conditions poses unique challenges.

Statement of Action #17

Revise the TMDL to address the unique challenges of controlling TSS loadings during high and very high flow conditions. Discuss the fact that most stormwater BMPs are effective only during small and medium-sized storm events and are overwhelmed during large storm events. Discuss the fact that many stabilization BMPS are effective under low and moderate flow conditions and are not effective during high and very high flow conditions. Please

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specifically address the question of whether existing BMP technologies are capable of addressing the challenges specifically related to high and very high flow conditions.

Reasons or Proposed Findings #17

The proposed revisions to the TMDL should be made because many of the known control BMPs have only limited effectiveness during high and very high flow conditions.

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18. **Additional information for the MS4 WLA cost estimate**: The estimated cost to meet the MS4 WLA is immense, $850 million. For a cost of such magnitude, there is a remarkable lack of information regarding the method used to derive this estimated cost.

Statement of Action #18

Please provide additional information about the method used to derive the estimated cost to achieve the MS4 WLA. Specifically, please address the following questions:

- How was the estimated cost to reduce TSS loading from urban land derived from the study by Weiss et al (2007)?
- Were the authors of this study consulted in the process of deriving the cost estimate?
- Were there other sources, studies, research, or papers used to derive or confirm the cost estimate?
- Does the cost estimate reflect the high cost of reducing TSS loads in urban areas that are already built-out? Does the cost estimate reflect the fact that stormwater BMPs are much more expensive to implement as retrofits compared to implementing them during new development or redevelopment? Did the methodology for deriving the cost estimate include an estimate of the portion of the MS4 cities where BMPs would have to be implemented as retrofits?
- Does the cost estimate include the cost of land for stormwater BMPs? Does it reflect an estimate of the higher cost of land for BMPs in retrofit situations?
- Does the cost estimate include the full life cycle costs of the proposed BMPs (maintenance, operations, mapping, documentation, reporting, inspections, decommissioning, etc.)?
- Was the methodology used to derive the cost estimate, in the view of the MPCA, sufficiently rigorous considering the magnitude of the cost, obligations, and legal liabilities that will be imposed on the regulated MS4 s because of this TMDL?

After considering, at a minimum, the questions listed above, the MPCA should consider revising the method used to derive the cost estimate to achieve the MS4 WLA. The revised number, along with a full explanation of the methodology used to derive it, should be included in a revision of the TMDL.

Reasons or Proposed Findings #18

Based in information provided during the public informational meetings, the methodology used to derive the estimated cost to achieve the MS4 WLA was not sufficiently rigorous

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considering the magnitude of the cost, obligations, and legal liabilities that will be imposed on the regulated MS4 s because of this TMDL.

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19. **Margin of Safety vs. MS4 WLA**: The total load reduction for the permitted MS4s in this TMDL is approximately 1.5% of the total load to Lake Pepin. The estimated cost to achieve this load reduction is $850 million. The TMDL, through linkage to the MS4 permits, creates an immense new set of legal obligations and liabilities for all the permitted MS4s.

    The Margin of Safety (MOS) is defined as "*an accounting of uncertainty about the relationship between pollutant loads and receiving water quality.*" (page 2) The TMDL also states that the MOS is included *"to account for any lack of knowledge concerning the relationship between load and waste load allocations and water quality."* (page 60) The MOS for this TMDL includes two portions: implicit and explicit. The implicit portion of the MOS is described but not quantified in the TMDL Report. In addition to the implicit margin of safety, an explicit margin of safety of 6% is included in the TMDL.

    Thus, the total load reduction required of the permitted MS4s is significantly less than one quarter of the uncertainty and lack of knowledge about the relationship between the loads and the load reductions and the receiving water quality.

    Statement of Action #19

    Please provide a detailed explanation of the MPCA's rationale for creating such a large new set of legal obligations and liabilities for the permitted MS4s when the entire proposed MS4 load reduction is only a small portion of the uncertainty in the underlying study and modeling. Please reconsider whether this is appropriate or justified. Please do not limit this explanation to "the Clean Water Act requires it". Please consider redoing the study, with more attention to urban loadings, in order to strengthen the support for the MS4 WLA.

    Reasons or Proposed Findings #19

    Typically, the strength of the research or analysis in a study that supports the creation of new legal obligations and/or liabilities is commensurate with the magnitude of those obligations or liabilities. This is not the case, in this example. Based on the stated relationship between the MS4 load reduction and the uncertainty in the study, either the load reduction needs to be revised or the study needs to be improved.

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20. **Second largest TMDL in the United States**: This TMDL, when approved, will be the second largest TMDL, in terms of drainage area, in the United States. Only the Chesapeake Bay TMDL is larger. The drainage area for this TMDL is approximately 45,000 square miles, compared to approximately 65,000 square miles for the Chesapeake Bay TMDL.

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Statement of Action #20

The MPCA should ascertain the total amount of federal funding that has gone to support the development of and implementation for the Chesapeake Bay TMDL. The MPCA should then work with the federal elected officials for Minnesota and the USEPA to secure a commensurate and proportional amount of federal funding support for the development of and implementation for this TMDL.

Reasons or Proposed Findings

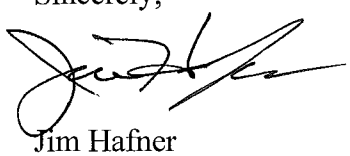
Commensurate and proportional federal funding support for this TMDL is fair and appropriate.

Conclusion

The City of Blaine asks that the MPCA take the requested actions set forth in this submittal. The City further requests that MPCA consider the comments raised in this submittal and revise or redo the TMDL Report.

Thank you for the opportunity to comment. We look forward to the response from the MPCA.

Sincerely,



Jim Hafner
Stormwater Manager
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CITY OF
BLOOMINGTON
MINNESOTA

May 29, 2012

Robert Finley
Minnesota Pollution Control Agency
12 Civic Center Plaza, Suite 2165
Mankato, MN 56001

RE: PUBLIC COMMENT – Public Notice for the Draft South Metro Mississippi River Total Suspended Solids Total Maximum Daily Load (TMDL) Report and Request for Comment

Dear Mr. Finley:

Please consider the following comments pertaining to the Public Notice for the Draft South Metro Mississippi River Total Suspended Solids TMDL Report.

Statement of Interest

The City of Bloomington has an interest in this TMDL as a permitted MS4 identified as being within the South Metro Mississippi River watershed.

Comments/Statements of Actions/Reasons of Support

1. **Statement of Action**
   - Revise the MS4 WLA and eliminate the 25% reduction in TSS loading from a baseline of 2002 for MS4s. The current WLA should be revised and 25% reduction should be eliminated or at a minimum expressed in a non-numeric form more closely following the Maximum Extent Practicable approach found in the MS4 Permit. Additionally, the 2002 baseline should either be eliminated or changed to a date more consistent with actual changes in pollutant loading from MS4s or perhaps even aligning with the current Nondegradation Rule.

   Reasons of Support
   - MS4s are already implementing Storm Water Pollution Prevention Programs to restore and maintain water quality standards to the Maximum Extent Practicable (See Permit No: MNR040000). MS4s with coverage under this permit are already meeting the goals of this TMDL.

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AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITIES EMPLOYER

- According to the TMDL (Page 33) the total MS4 area represents 6.4% of the South Metro Mississippi Watershed. The current estimated load accounts for 5.8% of the average annual TSS load (Page 57). A 25% reduction results in a 1.5% decrease in loading at an estimated cost of $850 million to the affected MS4s. The amount of benefit or reduction in TSS loading associated with this cost simply is not prudent.
- The TMDL Report states that the Minnesota River accounts for 75% of the TSS load and further identifies that the upstream sediment source is dominant. Simply put, not regulating the LA and expending significant resources to achieve a 1.5% decrease in pollutant loading will not result in achieving water quality standards for the South Metro Mississippi River.
- The 1.5% projected reduction in TSS loading along with the 5.8% existing annual TSS load are both less than the margin of safety (MOS). If the MOS is accounting for uncertainty, it is very likely that the $850 million expenditure to reduce TSS load in MS4s by 25% will likely have no noticeable, positive impact on the South Metro Mississippi River.

2. **Statement of Action**
   - The South Metro Mississippi River TMDL should be postponed or redone until completion of the nondegradation/antidegradation rule revision.

   Reasons of Support
   - The nondegradation/antidegradation rule revision will have an impact on all receiving waters and additionally will result in new requirements to MS4s. Specific projects such as the South Metro Mississippi TMDL should take advantage of efforts such as rules and statutes before developing requirements that could result in duplication or a less than efficient expenditure of resources.
   - The nondegradation/antidegradation rule addresses discharges, pollutants, and a baseline date to protect beneficial uses of waters.

3. **Statement of Action**
   - The South Metro Mississippi River TMDL should be postponed or redone until completion of "nested" TMDLs.

   Reasons of Support
   - According to the South Metro Mississippi River TMDL draft report the Minnesota River accounts for 75% of the TSS load to the South Metro Mississippi River. The Minnesota River Turbidity TMDL draft report has been completed and is out for

public comment. It does not seem possible to achieve the South Metro Mississippi River TMDL without first completing the Minnesota River Turbidity TMDL.

- At a minimum, the South Metro Mississippi River TMDL report and the Minnesota River Turbidity TMDL reports should have consistent allocations and loading targets or these results should be considered boundary conditions of the South Metro Mississippi River TMDL.
- The same consideration should be given to other TMDLs such as the Cannon River Basin and Vermillion River Basin.

4. **Statement of Action**
   - The South Metro Mississippi River TMDL through its linkage with the NPDES MS4 permit places tremendous costs and legal liability onto permitted MS4s. The cost to implement BMPs and the potential costs associated with addressing future claims should the South Metro Mississippi River not meet water quality standards is tremendous. As stated in the above comments there are numerous factors that contribute to the South Metro Mississippi River TMDL that are outside reach of MS4s and apparently even the MPCA, finalizing this TMDL in this format will ensure that water quality standards are not met while placing all liability on only a few parties. The South Metro Mississippi River TMDL should be postponed or redone until these issues are addressed.

Reasons of Support

- MS4s contribute only 5.8% of the average annual TSS load to the South Metro Mississippi River. Linking success of this TMDL to the MS4 permit will expose MS4s to liability that is outside of their control. MS4s have no control, ability or responsibility to address 94% of the remaining TSS load. Further, at least 75% load comes from non-permitted sources – according to the Draft TMDL any reductions to this 75% will be purely voluntary with no guarantee of implementation.
- There are a number of areas within the Draft TMDL that need to be reviewed relating to the TMDL and WLA from MS4s.
  - Improper or arbitrary baseline set at 2002.
  - Recognition of high costs of implementation with little to no measurable benefit.
  - No mechanism to adjust MS4 implementation commensurate with load reductions from non-permitted sources.
  - Requiring load reductions for loads that are below the MOS.

- There is no mechanism in place to address the "what if" in the event the South Metro Mississippi River does not meet water quality standards even after implementation of $850 million worth of urban MS4 BMP implementation.

In general, this draft TMDL takes an approach similar to what is existing and in-place today to address water quality issues for the South Metro Mississippi River – relying on voluntary actions to address close to 80% of the pollutant loading while imposing significant additional regulations and costs on the much smaller load source. This approach will be far from a guarantee of improved water quality while encumbering MS4s with enormous cost and liability exposure. Without a more direct approach to the source of the majority of the pollutant load, significant expenditures to meet this TMDL will be misguided and likely wasted. It is requested that the MPCA consider these comments and actions and make the necessary revisions to the Draft TDML Report.

Thank you for the opportunity to provide comments. If you have questions or need additional information or clarification, please contact me at 952-563-4867 or smanderson@ci.bloomington.mn.us

Sincerely,

Scott M. Anderson, P.E.
Engineering Division
City of Bloomington