

SWPPP Addendum
Twin and Ryan Lakes Nutrient TMDL

The Twin and Ryan Lakes Nutrient TMDL and its Implementation Plan were developed as a cooperative effort between the MS4s in the watershed, the Shingle Creek Watershed Management Commission, and the MPCA. The Implementation Plan sets forth specific responsibilities and activities for each of those partners. The Commission has agreed to take the lead on general coordination, education, and ongoing monitoring and evaluation. [MS4 name] will undertake specific implementation activities as detailed in this SWPPP addendum. The MPCA will serve in a regulatory and advisory capacity, ensuring through the NPDES permit process that implementation activities proceed as set forth in the SWPPP and that progress is being made toward phosphorus load reduction.

Commission Activities

Coordination. The Commission will coordinate TMDL implementation in the following ways. These activities will be funded by the Commission's general administrative operations budget.

- Serving as a point of contact with the MPCA and other agencies.
- Taking the lead on lakeshed and watershed wide activities such as monitoring, evaluation, and education.
- Developing BMP evaluations, implementation policies, and other special studies as necessary or as requested.
- Coordinating with the Technical Advisory Committee to evaluate options for assigning target reductions to the MS4s.

Education. The Commission has an active education program that is coordinated by its Education and Public Outreach Committee (EPOC). The EPOC is composed of city staff, residents, and agency representatives. The education program will undertake the following activities:

- Develop and make available to the MS4s brochures, articles, newsletter topics, and other written and on-line material to be used in educating and informing residents, property owners, and property managers. Topics will include specific information about lake water quality and TMDL goals and progress toward meeting those goals as well as general information.
- Sponsor one or more workshops for property owners per year on topics such as rain garden installation and shoreline restoration.
- Provide water quality and best management practice information as requested to lake associations tailored to the needs and desires of the association

Monitoring. As part of its ongoing lake and stream monitoring program, the Commission will continue to monitor water quality in Twin and Ryan Lakes through the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP), and will continue to report this data in the Commission's Annual Water Quality Monitoring Report. The Commission will also periodically (every 4-5 years) conduct a more detailed analysis of water quality, collecting biweekly data on surface, water column, and lake bottom conditions.

The Commission will periodically conduct other monitoring. An aquatic vegetation survey for Twin and Ryan Lakes was completed in 2007. Sediment core sampling was completed in Upper Twin Lake in 2009. The DNR completed a fish survey in 2002. The Commission will complete and update zooplankton and phytoplankton surveys and possibly update the fish survey as part of the more detailed analysis of water quality.

Finally, the Commission is updating and refining its P8 model of the watershed, and that model will be available to help refine monitoring and implementation activities.

Evaluation. The Commission has requested the MS4s to annually report to the Commission BMPs undertaken in the lakeshed so these activities can be incorporated into the Commission's Annual Water Quality Monitoring Report. The Commission and its Technical Advisory Committee (TAC) will annually review that report to determine if progress toward load reductions is on track or if additional activities should be undertaken. At the end of the first five year period in 2013, the Commission and TAC will evaluate the success of BMP implementation in reducing nutrient loading to the lakes and in improving water quality, and will determine if adjustments to the Implementation Plan are necessary.

City of Robbinsdale Activities

The City of Robbinsdale is committed to reducing nutrient loading to Twin and Ryan Lakes. To accomplish this, we have completed or are currently implementing the following Best Management Practices:

- Orchard Avenue and 45th Avenue – CDS Unit
- Twin Oak Drive cul-de-sac – CDS Unit
- City Hall – Raingarden
- Public Works Facility – Raingarden
- 40th Avenue – Installation of 5 Draining Manholes
- Regent Avenue and 41½ Avenue – Draining Manhole
- Vera Cruz Avenue and 39th Avenue – Draining Manhole
- Trunk Highway 100 – 8 Ponds (in conjunction with MnDOT)
- Development Control – Redevelopments required to install BMP's – Robbins Way (Raingarden and Draining Manhole), No Place Like Home (Raingarden), Parker Village (Pond), Robbinsdale Senior Cottages (Raingardens), Beach South Apartments (CDS Unit)
- Street Sweeping – Streets that ultimately drain into the Twin Lake / Ryan Lake systems being swept at least 4 times per year.
- Inspections – All structural BMP's being inspected annually. 20% of all stormwater drainage outlets being inspected.

In addition, we plan to undertake the following new or expanded Best Management Practices over the next five years. New or revised BMP sheets are attached to this SWPPP addendum.

- Incorporate load reduction BMPs into Street Reconstruction Projects to the extent technically feasible.
- Evaluate the impact of modifying the street sweeping strategies in the neighborhoods immediately adjacent to the lakes, and implement the most feasible and cost-effective option starting in Spring 2011.
- Submit annual reports to the Shingle Creek Watershed Management Commission of ongoing and new nutrient load reduction activities undertaken that year.
- Participate in Watershed Commission Technical Advisory Committee meetings and workshops.
- Print at least one article annually in the City Newsletter reporting progress toward meeting the watershed goals.

The City will rely on the Shingle Creek Watershed Management Commission to monitor and evaluate progress toward meeting the watershed load reduction goals and the categorical wasteload allocation. The City will evaluate progress in implementing BMPs as part of its NPDES permit annual report. The Commission will evaluate progress in 2013, and the Technical Advisory Committee may determine that adjustments to the Implementation Plan may be necessary. Revisions to the Implementation Plan may require revisions to the BMPs in this SWPPP.

Table 1 sets forth the BMPs that The City of Robbinsdale intends to undertake to implement the Twin and Ryan Lake Nutrient TMDL.

Table 1. Twin and Ryan Lakes Nutrient TMDL BMP Implementation – City of Robbinsdale.

BMP	Time Period For Implementation	Resources Needed	Estimated Nutrient Load Reduction	Comments
Infiltration/ treatment BMP	With each street reconstruction project	Dependent upon BMP	Dependent upon BMP	Type of BMP selected will depend on opportunity, location and soil type etc
Highway 100 Corridor Pond Dredging	Review need starting 2015	~\$10,000 per pond	To be determined	Dredging will restore sediment and nutrient removal efficiency
Goose control	Review need annually	~\$2,000 per removal	To be determined	Will address nutrient loading to lakes
Enhanced street sweeping	Starting Spring 2011	None extra – BMP deals with timing of sweeping	To be determined	The City already sweeps all streets 4 times per year. This BMP will deal with efficient and timely sweeping
Rough fish management	Review need starting 2010	~\$30,000 initially ~\$3,000 every other year	To be determined	Co-ordinate through Watershed
Tracking and reporting BMPs	Annually	Staff time	None	
Participation in the Shingle Creek Technical Advisory Committee	Meetings are held several times per year, on an ongoing but irregular basis	Staff time, 2-3 hours/month	None	The TAC will annually review water quality monitoring data and make recommendations regarding future activities. The TAC will also assist in the preparation of the 5 year review.