
2005 NPDES Stormwater Management Program and Annual Report

Executive Summary

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Report Objective

This report is prepared in compliance with the requirements of NPDES (National Pollutant Discharge Elimination System) Permit No. MN0061018.

Background

NPDES is a program created in 1990 by the United States Environmental Protection Agency to protect water quality through the regulation of the discharge of pollutants to lakes, streams, wetlands, and other surface waters. The Minnesota Pollution Control Agency (MPCA) is the local authority responsible for administering this program. Under this program, specific permits are issued to regulate different types of municipal and industrial activities.

The MPCA issued the first Municipal Separated Storm Sewer System NPDES Permit to the City of Minneapolis on December 1, 2000. This Permit requires the implementation of approved stormwater management activities, referred as Best Management Practices (BMP), and documentation in the form of a Stormwater Management Program and an Annual Report that is due on June 1st of each year. The Permit also requires public input in the development of the priorities and programs, and adoption of the Annual Report as the City's Stormwater Management Plan. This Report presents the activities that will be implemented for this year, and provides documentation and analysis of the activities conducted in the previous year.

In 1991, The City of Minneapolis started to implement stormwater management programs to mitigate stormwater pollution impacts on local surface water quality, along with the preparation of NPDES Permit Application Parts 1 and 2. Program activities include: passage and implementation of a Stormwater Management and Erosion Control and Sedimentation Ordinance; construction of wetlands and stormwater ponds; construction of stormwater sediment chambers, installation of manufactured BMP devices; surface water and stormwater quality monitoring; street sweeping; stormwater drainage system inspection and cleaning; and public education.

The Minneapolis NPDES Stormwater Management program is developed and administered by the City departments responsible for permit activities. These departments are: Minneapolis Park and Recreation Board; Engineering Services, Sewer Maintenance, and Street Maintenance divisions of the Public Works Department; the Regulatory Services division of Environmental Management; and the City Attorney's Office. This group is responsible for completion of required

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Permit submittals. Engineering Services provides program management and completes each Annual Report. The responsibilities of staff to maintain this Permit include the following tasks:

- Program and Annual Report guidance, coordination, production, task assignment, submittal schedule, and procedures establishment
- Revise coding to meet financial reporting requirements
- Propose specific Program goals
- Propose performance measures to be used to gauge effectiveness, success, or benefits of activities
- Propose permit modifications
- Propose new programs and regulatory controls
- Provide education and status updates for policy-makers on Program and Report
- Provide department representatives at public hearings, and provide a response to comments received
- Renew and amend cooperative agreements between the Joint Permittees
- Propose changes, participate in negotiations, and complete applications for new Permits

2004 Highlights

All activities mandated by the Permit have been implemented. A description of each activity that is required by the permit, and the responsible department, is listed on page 7. Below is a summary of accomplishments and noteworthy events by activity category.

Storm Drain System Operation

Maintenance operations accomplishments:

- Completed 487 minor repairs to storm drain lines, catch basins or manholes.
- Completed 5 major repairs, including abandoning over 200' of 60" Storm Drain that is no longer in service anymore.
- Repaired 825 feet of storm drain (with a cured-in-place liner).
- Cleaned 5.99 miles of storm drain by jetting.
- Televised 0.53 miles of storm drain.

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- Inspected 112, and cleaned 95, grit chambers. A total of 488.5 cubic yards or about 678.5 tons of grit was removed.
- Inspected 239 of 387 storm drain outfalls. Maintained 9 (up from 8 in 2003) stormwater holding ponds.

Stormwater Management for New Developments

Public Works staff has been reviewing the Stormwater Management Ordinance for potential modifications. Revisions will be recommended following careful analysis. Site inspections and other work associated with the erosion and sedimentation control program have been increased substantially after a full time employee was hired for the task. During the last three months of 2004, over 400 site visits were completed by public works inspectors. In addition to the enforcement of the ordinance, inspectors use their time to help educate contractors by providing information, directing contractors to resources, and assisting with site BMP inventories.

Other accomplishments:

- 675 erosion control permits were issued.
- 180 erosion compliance orders were issued
- 40 sites captured under the stormwater ordinance

Street Sweeping and Deicing Materials Control

The salt storage shed at 44th St. E. & Snelling Ave. S. maintenance yard has been closed. Two temporary storage sheds will be abandoned in 3-5 years when the new Public Works facility at 26th St. E. & Hiawatha Ave. is completed. The new maintenance yard will employ the most effective BMPs available, such as runoff collection systems that would be installed around salt and sand stockpiles, and truck washing areas.

Maintenance operations accomplishments:

- 16,900 tons of material were reclaimed through street sweeping operations during spring and summer
- 7,600 tons of leaves were collected for composting during fall citywide sweep
- Twenty staff members attended an eight hour refresher for the 40-hour hazardous materials training class
- All divisional shift staff received their annual review of procedures to follow for the recognition and response to hazardous materials or situations

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Flood Control and Storm Drain Design

During 2004, several flood control and street paving projects has implemented stormwater BMPs. The following table lists completed and ongoing projects.

Completed and ongoing projects:

PROJECT AREA	MITIGATION MEASURE	STORMWATER RUNOFF BENEFITS
Chain of Lakes Grit Chambers - W 27 th & lake of the Isle	Construction of stormwater treatment devices for Lake of the Isles	Reduction of litter, TSS and related pollutants to receiving waters
Richfield Road reconstruction - W 39th St. from Sheridan Ave. S to Richfield Road and Richfield Road from W 39th St. to W 36th St.	Construction of 3 stormwater treatment devices at three outfalls to Lake Calhoun	Reduction of litter, TSS and related pollutants to receiving waters
Flood Area 27 east of Lake Hiawatha	Installation of underground storage chambers, new and upgraded storm drains, grit chambers	Reduction of litter, TSS and related pollutants to receiving water. Reduction in peak flows to Minnehaha Creek
37 th St E & Columbus Ave S, Flood Area 12	Wet Ponds and associated infrastructure	Removal of TSS, nutrients and other pollutants to receiving waters

Pesticides and Fertilizer Control

The Minneapolis Park and Recreation Board manages 6,400 acres of parkland in the City of Minneapolis (18% of 35,244 total land acres).

Accomplishments:

- 160 MPRB staff now hold pesticide applicator licenses through the Minnesota Department of Agriculture (MDA).
- Theodore Wirth and Meadowbrook Golf Course received Audubon Cooperative Sanctuary Program certification. An important component of this program is a reduction in chemical and fertilizer use in order to protect water quality and provide healthier habitats for wildlife.
- In 2004, a wide range of fertilizers were made available to allow park maintenance and golf course foremen to pick the best fertilizer required, based on soil test results.

Illicit Discharges and Spill Control

Accomplishments:

- Successful containment of 69 minor spill responses, 14 larger spills of oil or antifreeze
- Investigated 380 water pollution complaints (illegal dumping, spills)
- Notices sent to 180 of 344 residential erosion control permit holders

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- Inspected 48 contaminated soil complaints.
- The Sewer Maintenance Department also responded to seven incidents of alleged illicit discharges.

Public Education

The Minneapolis Park and Recreation Board manages citywide education efforts. In 2004, Minneapolis Park and Recreation Board staff continued development and distribution of informational brochures on non-point source pollution. The brochures are distributed at community events and are in a self-mailer format so they can be easily mailed upon request. In 2004, water quality information was sent to 98,000 Minneapolis households as utility bill inserts.

Coordination with Other Governmental Agencies

The Water Quality Monitoring Task Force was formed in late 2003 and met 6 times in 2004. Voting members include policymakers from the City, the MPRB and the local watersheds. Other invited guests include other government agencies and environmental groups. Topics in 2004 included development of water quality indicators, coordination of public education, ongoing TMDL studies, and review / comment of the Met Council's draft Water Resources Management Plan.

Stormwater and Water Quality Monitoring

Accomplishments:

- 9 lakes show stable water quality or water quality improvements.
- Continued Wetland Health Evaluation Project begun in 2002 including Diamond Lake.
- Continued monitoring of Powderhorn CDS units.

Program Assessment

Program strengths:

- A coordinated effort among City departments and other governmental entities
- An exchange of information among City departments, other governmental entities, environmental and citizen's groups in an effort to implement stormwater management programs
- Increased awareness and clarification of roles and responsibilities of City departments
- Development of uniform documentation and reporting procedures

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Program weaknesses:

- Limited flexibility to modify requirements of programs to fit the specific needs of Minneapolis
- Lack of Federal or State support for funding of the stormwater management program
- Extensive amount of documentation and record-keeping associated with permit compliance

The current permit expired on January 1st of 2004. A permit renewal application has been submitted to MPCA. The City will continue its program under the existing permit until the new permit is received.

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<p>Structural Controls Maintenance and Operation</p>	<p><i>Responsible department:</i> Public Works Field Services, Sewer Maintenance</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Inspect controls (grit chambers, ponds, pump stations, other controls) at least 2 times a year. ▪ Adjust frequency of inspections after 2 years as indicated to prevent pollutants being conveyed to the receiving water. ▪ Inspect 20% of outfalls on a rotating basis. ▪ Perform maintenance and repairs as needed, or provide a schedule for work required. ▪ Document inspection results, date, antecedent weather conditions, sediment storage and capacity remaining
<p>Storm Sewer System Operation and Quality Control</p>	<p><i>Responsible department:</i> Public Works Field Services, Sewer Maintenance</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Maintain all facilities or systems in good working order and operate as efficiently as possible ▪ Provide adequate operating staff to insure compliance with the conditions of this permit
<p>Disposal of Removed Substances from Structural Controls</p>	<p><i>Responsible department:</i> Public Works Field Services, Sewer Maintenance</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Dispose of removed substances in a manner that will prevent pollution and comply with applicable regulations ▪ Document quantity of removed substances and categorize by structural control source, type of substance, and season
<p>New Developments and Construction</p>	<p><i>Responsible department:</i> Regulatory Services, Environmental Management Public Works, Engineering Services</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Use a planning process (site plan review) to regulate construction, and require erosion control and stormwater management
<p>Roadways</p>	<p><i>Responsible department:</i> Public Works Field Services, Street Maintenance</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Sweep at least twice a year ▪ Document frequency, methods, quantity of material picked up (categorize by season and/or material), disposal of materials. ▪ Use techniques or practices to minimize runoff of deicing materials from application and handling activities. ▪ Document quantity of materials used each year. ▪ Minimize runoff of deicing materials from storage – document location and condition of all storage facilities, planned improvements.
<p>Flood Control</p>	<p><i>Responsible department:</i> Public Works, Engineering Services</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Design flood control projects to minimize the impacts on the water quality of the receiving water. ▪ When planning repairs, improvements, or changes for flood control devices; evaluate the feasibility of retrofitting the existing devices to provide additional pollutant removal from stormwater discharges.
<p>Pesticides and Fertilizers</p>	<p><i>Responsible department:</i> Minneapolis Park and Recreation Board</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Implement a city wide education program regarding the proper application of pesticides and fertilizers. ▪ Conduct a pilot project to investigate the use of pesticides and fertilizers on City facilities.
<p>Illicit Discharges and Improper Disposal to Storm Sewer System</p>	<p><i>Responsible department:</i> Regulatory Services, Environmental Management Public Works Field Services, Street Maintenance Public Works Field Services, Sewer Maintenance</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Provide appropriate control measures for non-stormwater discharges ▪ Conduct field screening annually in 20% of the drainage areas. ▪ Prohibit disposal of motor vehicle fluids & household chemical wastes ▪ Report number of spills and unauthorized discharges that occurred and the response to the spills. ▪ Educate staff regarding the duty to notify the Department of Public Safety Duty Officer. ▪ Adopt notification protocol for response and containment of materials
<p>Storm Sewer Design for New Construction</p>	<p><i>Responsible department:</i> Public Works Engineering Services</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Design & construct new storm drain and BMPs to capture runoff and pollutants
<p>Public Education</p>	<p><i>Responsible department:</i> Minneapolis Park and Recreation Board</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Conduct a public education program to promote, publicize, and facilitate the proper management of stormwater discharges.
<p>Public Participation Process</p>	<p><i>Responsible department:</i> Public Works Engineering Services</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Adopt a process to allow for public input into the development of priorities and activities necessary to maintain compliance with this permit. ▪ Conduct a public hearing or other meeting where the opportunities for public testimony is available prior to annual report submittal & notify all governmental entities with jurisdiction over activities related to stormwater management in the area. ▪ Include a formal resolution from the City Council adopting the report with a summary of the public input received and the City's response
<p>Coordination with Other Governmental Entities</p>	<p><i>Responsible department:</i> Public Works Engineering Services Planning Department</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Submit an annual report by June 1 of each year describing how the different governmental entities are cooperating and coordinating efforts in managing stormwater related activities in the drainage area including goals for each cooperative effort, where and how the activity will be performed, & schedule for implementation.
<p>Stormwater Monitoring</p>	<p><i>Responsible department:</i> Minneapolis Park and Recreation Board</p> <p><i>Activities:</i></p> <ul style="list-style-type: none"> ▪ Conduct runoff monitoring. ▪ Provide analysis of data collected.