

Keeping it Clean  
StormWater


# City of Rochester

## Annual Progress Report: Stormwater Permit Activities

*January 1 to December 31, 2016*

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Presented to City Council on Monday, May 1, 2017





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# Stormwater Runoff

*Stormwater does not go to the Water Reclamation Plant for treatment!*

Instead, runoff...



- flows into one of 18,888 CBs and Inlets
- through more than 448 miles of City storm sewers
- and discharges into creeks, rivers, and lakes via 653 outfalls ...often without treatment

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# Sources of Urban Pollutants


- Primary pollutants of concern are nitrogen, phosphorus and sediment
- Other pollutants of concern are chlorides (salt), PAHs, metals, pesticides, oils, litter, etc.
- These pollutants are generated from, but not limited to:
  - Impervious surface areas (roofs, roadways, etc.)
  - Construction sites (commercial and residential developments)
  - Fertilizers, pet waste and yard waste

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# MS4 Phase II Permit Background

- The Municipal Separate Storm Sewer Systems (MS4) Phase II Permit establishes conditions for discharging stormwater and specific other related discharges to waters of the state.
- Cities that own or operate MS4s in urbanized areas play a key role in preventing or reducing the negative impacts of stormwater runoff.
- MS4 Permit is mandated by the USEPA and administered via the MPCA.
- City of Rochester has been operating under an MS4 Phase II permit since 2003.





## Annual Meeting

**Purpose:**

- Opportunity for public to provide comments on Storm Water Pollution Prevention Program (SWPPP)
- Access to SWPPP documents, annual reports, etc.

**Requirements:**

- Status of compliance with permit conditions
- Appropriateness of the Best Management Practices (BMPs)
- Progress toward achieving Measurable Goals
- Changes in BMPs and Measurable Goals
- Upcoming activities



## Permit Progress Status

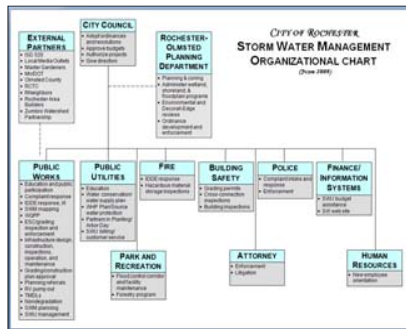
- Ongoing reporting and record keeping
- Not relying on other entities for fulfillment of permit requirements
- Status of compliance with permit conditions
  - Acceptable, but commitments remain to be met
- Best Management Practices
  - Appropriate
- Progress toward achieving Measurable Goals
  - Appropriate
- Changes in BMPs and Measurable Goals
  - None



## MS4 Permit Coordination

**City Staff:**

- Public Works
- Building Safety
- Finance
- Fire Department
- Human Resources
- Information Systems
- Police Department
- Planning
- RPU




## MS4 Permit Coordination

**Collaborating Organizations:**

- Community Work Service
- Houck Advertising
- ISD 535 Summer of Service
- Individual volunteers
- KAAL
- KIMT
- KTTG/KXLT/CW TV/MeTV
- Master Gardeners
- Minnesota Department of Transportation
- Olmsted County
- Rochester Area Builders
- Rochester Community & Technical College
- Rochester Garden and Flower Club
- RNeighbors
- Rochester Post Bulletin
- Saint Mary's University of Minnesota – Cascade Meadow
- Townsquare Media of Rochester
- Zumbro Watershed Partnership







## Minimum Control Measures


The SWPPP is implemented through Minimum Control Measures (MCMs). The six required MCM's include:

1. Public Education and Outreach
2. Public Participation/Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention/Good Housekeeping for Municipal Operations


*The highlights of each MCM are discussed in the following slides...*

## MCM 1: Public Education and Outreach




Storm Drain Marking




Presentation to City Council

**2016 Education Highlights:**



- Presentation – 9,700+ & Participation Attendees
- Handouts – 12,201



Informational Signage at Green Lake

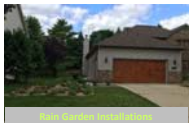


Solutions to Stormwater Pollution





## MCM 2: Public Participation/Involvement



- Annual Meeting
- *A Litter Bit Better!*: 3,650 volunteers picked up 19,340 lbs of litter
- Demonstration rain gardens: 3 residential and 1 community/school
- 375 Storm drains marked



New Rain Garden Installation




Litter Clean





## MCM 3: Illicit Discharge Detection & Elimination


- 16 illicit discharge reports
- 2 sanitary sewer overflow incidents
- Rochester Fire Department responded to over 200 accidents to contain hazardous material spills




Top of Sewer




Sanitary Sewer Overflow



Hazardous Material Spill








## MCM 4: Construction Site Stormwater Runoff Control

777 individual lot Erosion & Sediment Control (ESC) inspections involved 100 subdivisions and 76 builders

- 227 passed inspection
- 550 failed inspections
- 66 stop work warnings
- 2 stop work orders



1,080 ESC inspections of commercial sites, subdivisions and projects

- 64 sites were greater than one acre
- 715 passed inspection
- 365 failed inspection

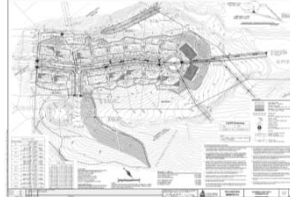


## MCM 5: Post-Construction Stormwater Management

- Owners/Operators of commercial and residential developments submit site plans with post-construction stormwater management BMPs for review and approval prior to construction
- BMPs must be implemented that encourage green infrastructure techniques and practices that create no net increase from pre-project conditions for:
  - Stormwater volume
  - Total Suspended Solids (TSS)
  - Total Phosphorus (TP)
- Long-term maintenance of structural stormwater BMPs

## MCM 5: Post-Construction Stormwater Management


- Projects are reviewed for compliance with City standards and ordinances, as well as MPCA water quality rules
  - Received 87 individual commercial and residential subdivision grading and stormwater management plans requiring 295 reviews
  - Approved 75 grading plans requiring grading permit
  - Approved 39 single lot residential grading plans







## MCM 6: Good Housekeeping for Municipal Operations

Pollution Prevention by:

- Maintaining inventory of City-Owned Facilities
- Developing and implementing BMPs for inventoried facilities
- Conducting stormwater pond assessments, inspections and maintenance
- Training employees on
  - Illicit Discharge Detection and Elimination
  - Erosion and Sediment Control
  - Best Management Practices



## MCM 6: Good Housekeeping for Municipal Operations

Highlights:

- Planted 55 boulevard trees at stormwater BMP sites
- Continued inspection and maintenance of over 150 stormwater ponds, filtration/infiltration basins and conveyance channels
  - Vegetation control
  - Sediment removal
  - Outlet modifications
- Managed prescribed burns at 15 sites
- Seeded 12 stormwater pond sites with a diverse mix of forbes and native grasses to reduce maintenance
- Managed turf maintenance at 25 boulevard locations
- Managed snow removal at 18 locations
- Managed the operation and maintenance of subdrain system
- Coordinated the repair and maintenance of numerous storm sewer issues with City Maintenance Staff or Contractor




## MCM 6: Good Housekeeping for Municipal Operations



Tractor mowing a stormwater pond



Tractor mowing a boulevard area



Person mowing a boulevard area



Person mowing a stormwater pond




## MCM 6: Good Housekeeping for Municipal Operations



Stormwater pond sediment removal



Stormwater pond outlet modification



Stormwater pond outlet modification




## MCM 6: Good Housekeeping for Municipal Operations



Stormwater pond sediment removal



Stormwater pond outlet modification



Stormwater pond outlet modification




Stormwater pond outlet modification



## MCM 6: Good Housekeeping for Municipal Operations







## Total Maximum Daily Loads (TMDLs)



MS4 Permit requires that City estimates progress toward meeting applicable waste load allocation (WLA) for USEPA-approved TMDL.

- Analysis performed for Fecal Coliform (FC) and Total Suspended Solids (TSS)
- Year over year reductions have been achieved
- City needs to show continued progress toward pollutant reductions
- Reductions are attributed only to newly implemented or retrofitted water quality BMPs permitted or constructed by the City.


## 2016 Program Additions and Highlights

- Multiple projects were constructed to address erosion and water quality:
  - Schaefer Lane Outfall Stabilization
  - 16<sup>th</sup> Street SW and Broadway Outfall Stabilization
  - 7<sup>th</sup> Avenue NE Storm Sewer Replacement
  - Moody's and KGG Outfall Stabilization to Zumbro River
  - Tee Time Court 100 Acre Woods Ravine Stabilization
- Continued integration and utilization of GIS to more fully track development and associated water quality impacts
- Continued development/updates of ordinances and checklists required for:
  - MCM 4: Construction Site Stormwater Management
  - MCM 5: Post-Construction Stormwater Management
- Participated in the MPCA's development of the Watershed Restoration and Protection Strategies (WRAPS) document for Zumbro Watershed and Draft TMDL (phosphorus).
- Began implementation of MS4Front software for management of the MS4 Permit documentation requirements
- Began utilizing InfoSWMM software for analysis of stormwater conveyance

## Looking Ahead

- **Projects:**
  - 319 Ultra-Urban Stormwater Pollution Reduction Project
    - Public Outreach/Engagement session at a Thursdays on First this summer
    - Installation complete by August 2018
  - Springbrook Valley Ravine Stabilization
  - Various Stormwater Management Plans
- Prepare for new MS4 Permit and SWPPP in 2018
- Continued coordination with MPCA for development of TMDLs and related documents
- Environmental Education Specialist to be hired





## Learn More & Provide Input

This presentation and the Annual MS4 Permit Report to the MPCA, along with other stormwater management information, is available online at:

[www.rochesterstormwater.com](http://www.rochesterstormwater.com)

Questions/Comments:

– Troy Erickson, Water Resources Manager  
([terickson@rochestermn.gov](mailto:terickson@rochestermn.gov))

Upcoming Presentation by Troy Erickson:

***City of Rochester BMPs: An Assessment of Current and Future Practices***

Tuesday, September 26 at 7pm at Saint Marys University – Cascade Meadow

