



City of Marshall Stormwater Pollution Prevention Program (SWPPP)



2023 Annual Public Hearing
June 28, 2023

Background

- NPDES Phase II program is federally mandated program established by Environmental Protection Agency (EPA)
- The NPDES Phase II program was developed in 1999 as part of the 1972 Clean Water Act.
- The City of Marshall is designated as a regulated small Municipal Separate Storm Sewer System (MS4) under the National Pollutant Discharge Elimination Systems (NPDES) Phase II Regulations.



Background (cont'd.)

- At the state level the Minnesota Pollution Control Agency has implemented the NPDES Permit Program to cities with a population of more than 5,000 people.
- The Redwood and Minnesota Rivers are listed as impaired waters by the MPCA and EPA.
- The impaired status mandates the MPCA establish load limits for each permitted city.



NPDES Permit Goals

- The primary goal of the permit is to restore and maintain the chemical, physical, and biological integrity of Waters of the State through management and treatment of urban stormwater runoff.
- This is accomplished by management of Municipal Separate Storm Sewer Systems (MS4s) through a Stormwater Pollution Prevention Plan (SWPPP).



Urban Pollution Sources

- The Minnesota Stormwater Manual (MPCA 2006) identifies urban pollutant sources as those associated with: vehicular traffic, lawn and garden care, fallout from air pollution, municipal maintenance activities, commercial and industrial activities, illicit discharges, improper disposal of household hazardous waste, pet and wildlife fecal waste, litter, construction activities, combined storm sewer and sanitary sewer overflows, and runoff from residential driveways and parking areas.



Marshall's NPDES Permit & SWPPP

- The City of Marshall has operated under its NPDES Permit and Stormwater Pollution Prevention Plan (SWPPP) since February 2007.
- The permit was recently re-issued in November 2020 for the next 5-year permit term.
- The permit requires the City to develop, implement, and enforce a stormwater management program.
- The SWPPP must be designed to reduce the discharge of pollutants from MS4s to Maximum Extent Practicable (MEP)



Marshall's NPDES Permit & SWPPP

- The City must reduce its phosphorus output from stormwater by 30% and suspended solids to 154 lbs./acre/year to achieve compliance under the permit.
- Phosphorus contributes to algae blooms which in turn cause dissolved oxygen depletion in waters downstream.
- The dissolved oxygen depletion contributes to fish kills and stresses in aquatic animal life.
- Suspended solids are noticeable when you see a brown lake or river which lead to issues with aquatic plants and habitats.



Marshall's NPDES Permit & SWPPP

- The City's Stormwater Management Program goal is to restore and maintain the chemical, physical and biological integrity of the Redwood, Cottonwood and Minnesota Rivers through pollution prevention and reduction.
- The City intends to continue to implement its Stormwater Management Program to meet the requirements of the NPDES Phase II permit.



Marshall's NPDES Permit & SWPPP

- The City of Marshall SWPPP identifies the goals and Best Management Practices (BMPs) that will be implemented to meet the requirements of the NPDES Phase II rules.
- In doing so, the City will enhance aquatic and wildlife habitats and improve the urban environment to enhance the quality of life for its citizens.



Historical Best Management Practices (BMP's)

- Beginning in the 1990's, the City started developing a surface water management planning process to integrate traditional planning for adequate infrastructure and water quality components.
- The result was the development of many ordinances which address stormwater management issues.



How Do We Accomplish NPDES Goals?

- Primarily through public education programs, information flyers, and public outreach programs.
- Recruit public participation in education and city clean-up programs.
- Educate the public on illicit discharge detection and elimination.
- Work with Developers, Contractors and Homeowners on proper construction site management for stormwater control and quality.



How Do We Accomplish NPDES Goals?

- Promote programs for post construction stormwater management in new development and redevelopment areas.
- Develop programs for municipal operations which prevent pollution and promote good housekeeping practices.
- Operate and maintain a Stormwater Management page on the City's website.
- Operate and maintain structural stormwater management infrastructure, such as wet and dry ponds.



How Do We Accomplish NPDES Goals?

- Staff reviews the City's SWPPP to evaluate compliance with the current NPDES permit.
- BMP's are reviewed, revised and added to ensure that they are relevant and effective.
- The City collects input from stakeholders, property owners, developers, and other interested parties on its SWPPP and BMP's using several mediums, including this Annual Hearing.



How Do We Accomplish NPDES Goals?

- The City will review current ordinances and other regulatory mechanisms for the appropriate language and requirements regarding erosion and sediment control practices.
- The City will adopt new ordinances or amend existing ones to address any deficiencies in current ordinances.
- For example, the City passed an ordinance addressing Bulk Storage of Deicing Chemicals in 2023.



Upcoming Changes

- To meet the requirements of the most current NPDES permit, the City is making several changes to the SWPPP program. Some of these changes include the following:
 1. Ordinance revisions
 2. Additional public education and outreach
 3. New residential programs to assist with stormwater retention and treatment.



How Can The Public Help?

- Property Owners
 - Incorporate BMPs into landscaping and other land disturbing activities.
 - Prevent illicit discharges into stormwater, drainage ways, ponds and rivers.
 - Report observed illicit discharges to City Public Works staff.
 - No dumping of grass clippings, leaves or branches into drainage ways, ponds or rivers.
 - Do not blow grass clippings and leaves onto public streets or alleys.



How Can The Public Help?

- Property Owners (cont.)
 - Voluntary use of phosphorus-free lawn fertilizers.
 - Proper use of fertilizers, pesticides, etc. near drainage ways, ponds and rivers.
 - Proper disposal of household hazardous wastes.
 - Prevent litter from escaping trash cans or dumpsters.
 - Ask the City Public Works staff about stormwater issues.



What Impact Will This Be On You?

- Developer/Contractor
 - Implement BMPs to comply with NPDES Phase II permit.
 - Conduct inspections to comply with the NPDES permit.
 - Maintain a separate daily diary or log with photo record and reports for erosion control management.
 - Develop project specific Erosion and Sediment Control (ESC) Plan including implementation schedule.
 - Proper management of construction site wastes and debris, such as concrete truck washout, building waste, garbage, etc.



How Can The Public Help?

- Developer/Contractor (cont.)
 - Implement Temporary BMPs for Runoff Control and Erosion Control, including but not limited to the following: Rock Entrance to site, Erosion Control Blankets or Stabilization Mats, Sediment Basins, Biorolls, Sediment Barriers, Silt Fence, Silt Curtains, Check Dams, and Inlet Protection.
 - Implement Permanent BMPs for Runoff Control and Erosion Control, including but not limited to the following: Riprap Inlets/Outlets, Check Dams, Dikes, Sediment Basins/Ponds, and Turf Establishment.



Poor Practice Examples

- Grass clippings blown into the street; stormwater intake will take clippings to the river.



Poor Practice Examples

- More grass clippings blown into the street



Poor Practice Examples

- Grass clippings on the river bank



Poor Practice Examples

- Leaves on riverbank



Poor Practice Examples

- Dirt gets washed or tracked onto streets



Poor Practice Examples

- Even gravel gets tracked onto streets



Poor Practice Examples

- Dirt in the gutter, no erosion control



Poor Practice Examples

- Unprotected piles lead to erosion and other issues



Poor Practice Examples

- Dirt on the gutter will get washed into intakes down the street.



Poor Practice Examples

- Does soil make it into intakes... Yes.



Poor Practice Examples

- Needs some help with erosion control and cleanup



Poor Practice Examples

- Needs some help with erosion control and cleanup



Poor Practice Examples

- Dumpster is great, but does it get windy in Marshall?



Poor Practice Examples

- MPCA does not allow this for concrete wash-outs



Poor Practice Examples

- MPCA does not allow this for concrete wash-outs



Poor Practice Examples

- MPCA does not allow this for concrete wash-outs



Poor Practice Examples

- Looks great today... But?



Poor Practice Examples

- All this dirt washed into the street before they prevented the erosion



Good BMP Examples

- Seeding, Mulch, and Bioroll



Good BMP Examples

- Hydro-seeding includes seed and mulch together



Good BMP Examples

- Good hydro-seeding example



Good BMP Examples

- Bioroll used near the riverbank



Good BMP Examples

- Bioroll used above gabion baskets



Good BMP Examples

- Good example of storm sewer inlet protection



Good BMP Examples

- Stormwater pond seeded and mulched



Good BMP Examples

- Stormwater pond with erosion blankets



We hope things are done better today than yesterday...



Questions/Comments/Input?

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