



Phase II National Pollution Discharge Elimination System

General Stormwater Permit (MN R 040000)

Application for Small Municipal Separate Storm Sewer System

# **Storm Water Pollution Prevention Plan (SWPPP)**

Dakota County, Minnesota

June 1, 2006

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## **I. SWPPP INTRODUCTION**

Since the passage and implementation of the Federal Clean Water Act and various Minnesota laws and rules, the quality of our state's waters has improved. However, degraded and impaired waters still exist. A leading source of this impairment is polluted and sediment filled stormwater runoff.

Runoff can change both water quality and quantity affecting our water resources physically, chemically and biologically. Runoff from land modified by human activities changes natural hydrologic patterns, accelerates stream flows, modifies stream channels and destroys aquatic habitat. Polluted runoff containing oil, grease, chemicals, nutrients, metals, litter and pathogens, can severely reduce water quality. If left unmanaged, runoff stresses our streams, ages our lakes, and degrades and eliminates our wetlands.

On March 10, 2003, in accordance with Phase II of the National Pollutant Discharge Elimination System (NPDES), Dakota County obtained authorization to operate a public storm sewer system under the Municipal Separate Storm Sewer System (MS4) general permit program administered by the Minnesota Pollution Control Agency (MPCA). The MS4 general permit coverage was limited to the areas in Dakota County located within the "urbanized area" boundary defined by the 2000 census. (See Figure 1) These systems and facilities within Dakota County MS4 area consisted of several stormwater ponds, public building facilities, and the surface flows from the roadways located within the county road Right-of-Way areas. (See Figure 2) Since much of the Dakota County MS4 area overlays other areas required for several other MS4 owners or operators, such as cities, a definition of MS4 jurisdiction was established as follows: The stormwater systems owned or operated by Dakota County within the urbanized area shall be included within the Dakota County MS4 responsibility. The stormwater systems within the urbanized area owned or operated by others shall be included within the MS4 responsibility of the appropriate owner or operator. In many cases, these systems owned or operated by other MS4s includes the underground stormwater piping and appurtenances that may be located beneath and/or within the county owned Right-of -Way.

In compliance with MS4 general permit requirements, Dakota County carefully and thoughtfully evaluated the storm water discharges within its jurisdiction, and developed a Storm Water Pollution Prevention Plan (SWPPP), and the Best Management Practices (BMPs) within it, to reach the goal of reducing the discharge of pollutants to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act to the Maximum Extent Practicable (MEP).

To address each of the six minimum control measures, the SWPPP provided a description of each BMP, an implementation schedule, measurable goals that determine the success or benefit, and the person responsible for its completion. Dakota County then took actions to create opportunities for collaborative partnerships with other organizations and governmental agencies such as community groups, non-profit organizations, soil and water conservation districts, watershed districts, watershed management organizations, school districts, University of Minnesota Extension, or county, regional, state, and federal government agencies to effectively implement the SWPPP.

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Due to recent revisions made to the MS4 permit requirements by the MPCA, Dakota County is required by law to re-submit a General Stormwater Permit (MN R 040000) application and revised SWPPP to the MPCA by June 1, 2006 for continued authorization to operate its public stormwater conveyance systems under the MS4 general permit program.

It is the intention of Dakota County to fully comply with the terms of the new permit by continuing to implement the SWPPP created for the original 2003 MS4 permit while taking the appropriate measures needed to update our BMPs to meet or exceed the requirements of the new 2006 MS4 permit.

As stated in the rules, the stormwater management program must:

- Reduce the discharge of nonpoint source pollutants to the “maximum extent possible”;
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

Under the general permit, Dakota County is required to implement a stormwater management program that includes the implementation of six minimum control measures. It also requires a process to track and evaluate the program.

The six minimal control measures are as follows:

- Public education and outreach;
- Public participation/Involvement;
- Illicit discharge detection and elimination;
- Construction site runoff control;
- Post-construction runoff control; and
- Pollution prevention/good housekeeping.

Additional information regarding the MS4 permit requirements can be obtained from the MPCA website at: <http://www.pca.state.mn.us/water/stormwater/stormwater-ms4.html>

## **II. MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) SELF ASSESSMENT**

The following sections outlines the process by which Dakota County conducted a self-assessment to develop the foundation for Storm Water Pollution Prevention Program (SWPPP) and Best Management Practices (BMPs) to achieve program goals.

Before beginning to select BMPs and Measurable Goals to address the six minimum control measures, a multi-department team was formed to conduct a self-assessment. The Dakota County MS4 Team includes representatives from:

- Parks Department
- Capital Planning
- Facilities Management
- Planning
- Soil and Water Conservation District
- Transportation Department
- Environmental Management Department
- Water Resources Office

The Dakota County MS4 Team undertook a self-assessment of our county's stormwater system. This was an evaluation of our county's conditions, needs, and practices within the urbanized area. The objective of this process was to provide a knowledge base upon which to structure our SWPPP in order to meet the Permit's Maximum Extent Practicable standard.

The self-assessment was guided by materials included in the League of Minnesota Cities NPDES Phase II MS4 Guide Plan. This self-assessment process had two major components:

- The first workshop session organized as part of the LMC Guide Plan project included a self-assessment component led by Pat Collins of AMEC Earth & Environmental. This included:
  - discussion of physical and socio-political watershed and organizational conditions and issues that should guide the selection of BMPs and Measurable Goals
  - review of two examples of cities with different characteristics to demonstrate how local conditions should shape the selection of BMPs and Measurable Goals
  - a series of exercises in which our city staff considered the local conditions for our community and how they should guide our selection of BMPs and Measurable Goals.
- After the workshop session, we worked with the NPDES Phase II Program Assessment Questionnaire that was included in the LMC Guide Plan notebook. This was a twelve-page document with a comprehensive list of questions that we used to guide us through a self-assessment activity, including consideration of a wide range of stormwater approaches.

Based on this self-assessment process, our staff has considered the following factors in order to meet the Maximum Extent Practicable standard set forth in the Permit:

- sources of pollutants
- potentially polluting activities being conducted in the watershed
- sensitivity of receiving waters
- uses of receiving waters
- specific local concerns
- the size of our community
- climate
- implementation schedules
- current ability to finance stormwater programs
- Authority to regulate program
- hydrology
- geology
- capacity to perform operation & maintenance
- local land uses
- rate and type of development
- characteristics of our watershed
- organizational characteristics of our county.

In addition to the self-assessment process discussed above, our staff has also considered the following non-stormwater discharges to determine whether they should be identified as significant contributors of pollutants to our stormwater system:

- water line flushing
  - landscape irrigation
  - diverted stream flows
  - rising ground waters
  - uncontaminated ground water infiltration
  - uncontaminated pumped ground water
  - discharges from potable water sources
  - foundation drains
  - air conditioning condensation
  - irrigation water
  - springs
  - water from crawl space pumps
  - footing drains
  - lawn watering
  - individual residential car washing
- 
- flows from riparian habitats and wetland

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- dechlorinated swimming pool discharges
- street wash water
- discharge or flows from fire fighting activities.

By considering the results of the self-assessment process and a review of the current MS4 conditions, the Dakota County MS4 Team preparing the permit application concluded that:

1. The Team did not find any of the additional referenced non-stormwater discharges listed above to be significant contributors of pollutants to the Dakota MS4 stormwater system.
2. The Team did not find Dakota MS4 stormwater discharges into Prohibited Waters or into waters with restricted discharge.
3. The Team did not find Dakota MS4 stormwater discharges that may affect source water protection.
4. The Team did not find Dakota County to be listed for nondegradation for Selected MS4s.
5. The Team did find that Trout Waters existed within the MS4 area.

The Team also noted that many of the SWPPP BMPs mandated for implementation within the MS4 urbanized area would also serve to better protect Dakota County water resources that are located outside of the urbanized area boundary defined by the MS4 General Permit. The Team recommended that, independently of the MS4 permit requirements, the appropriate BMPs contained within the SWPPP should be voluntarily integrated into as many Dakota County programs and operations as practicable for the storm sewer systems the county owns or operates in areas located outside the required MS4 urbanized area.

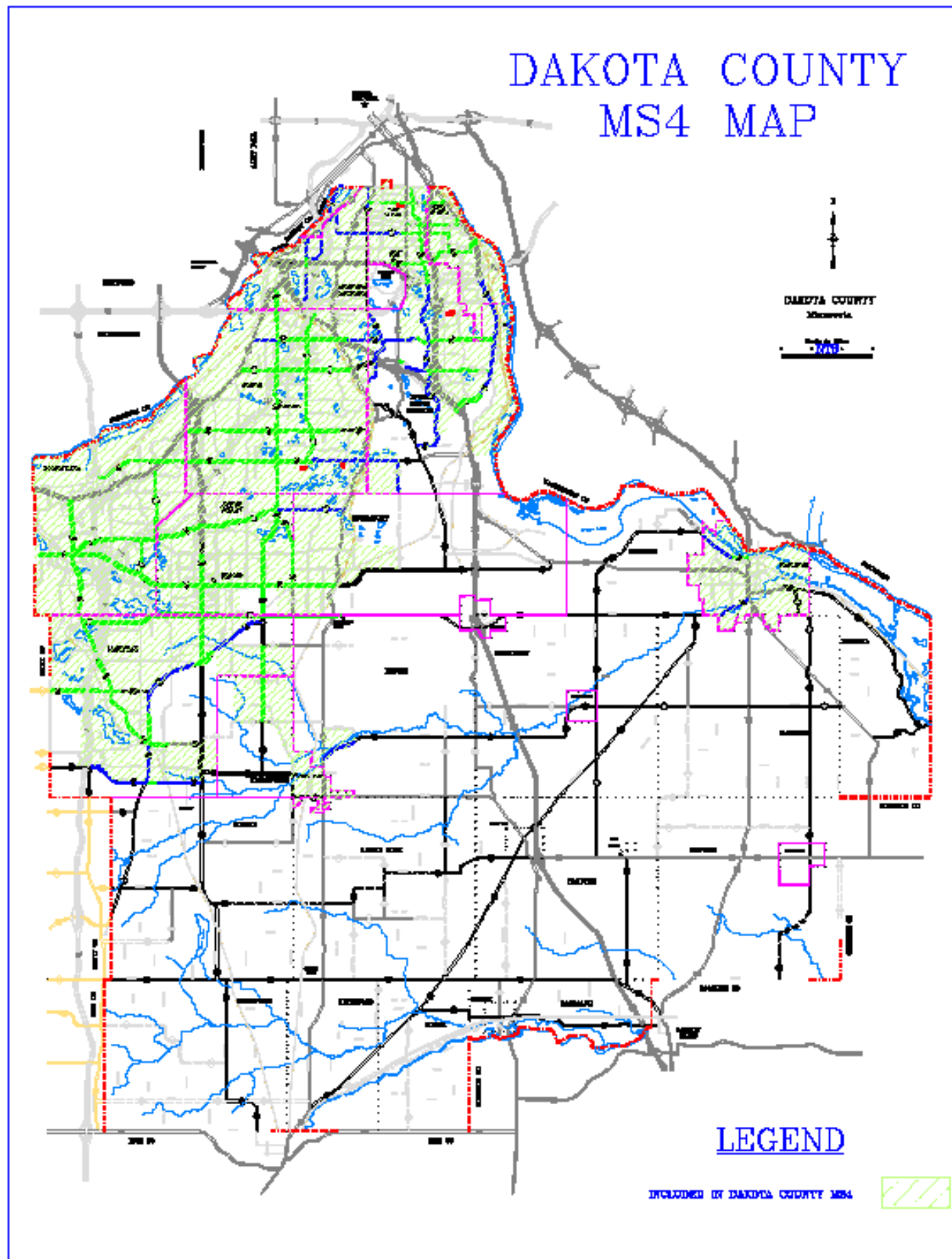


Figure 1

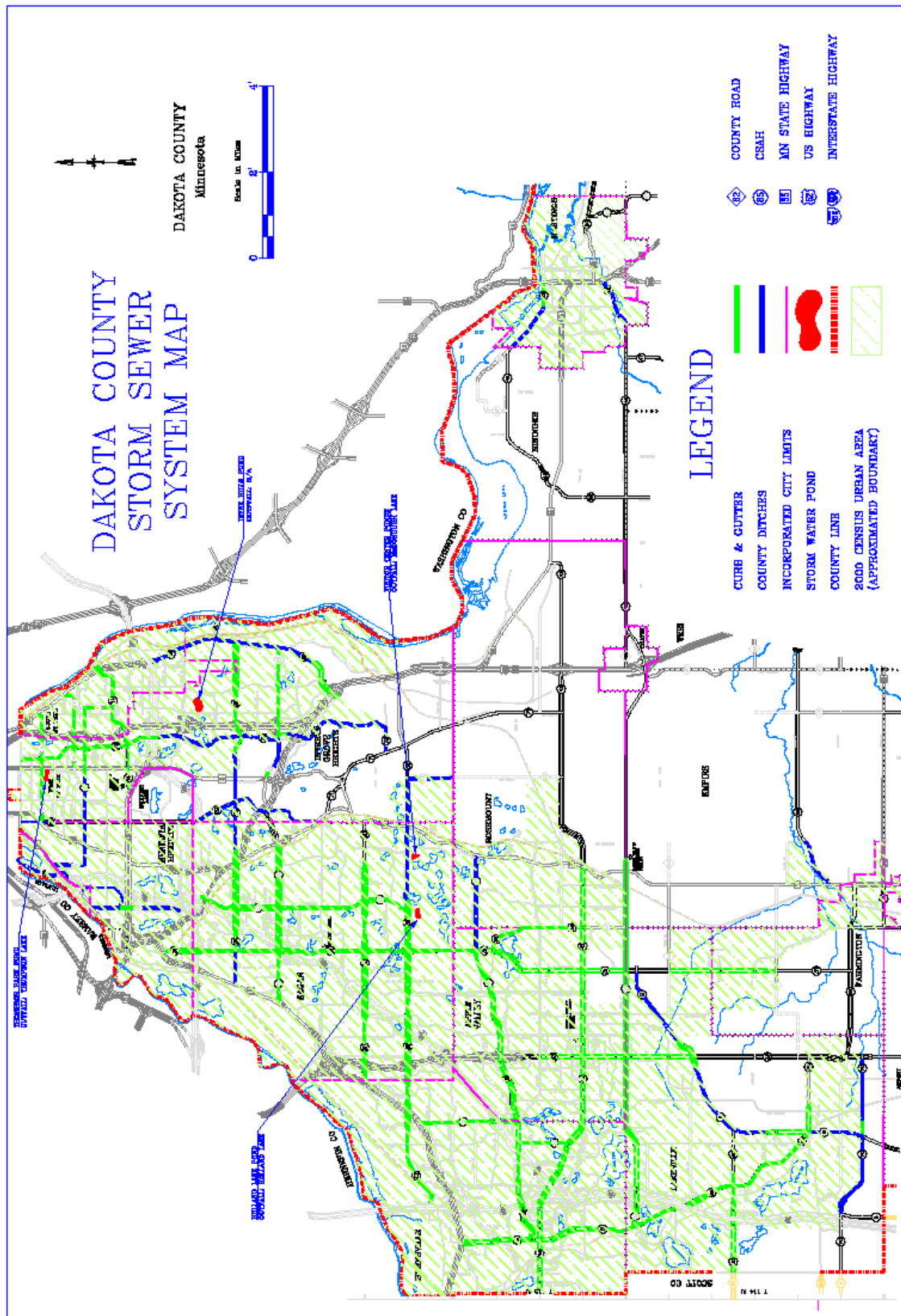
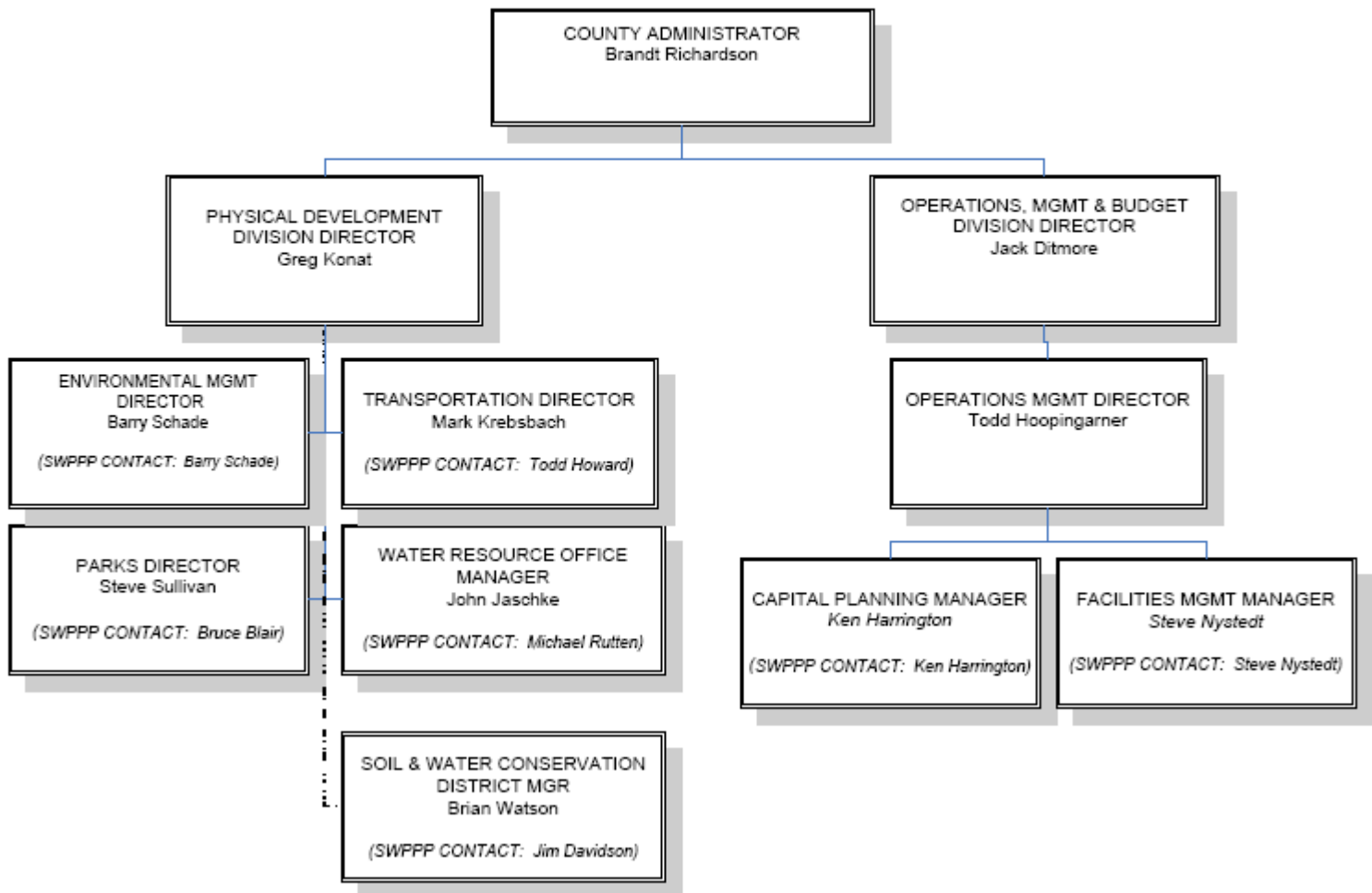


Figure 2

## Dakota County 2006



**Figure 3**

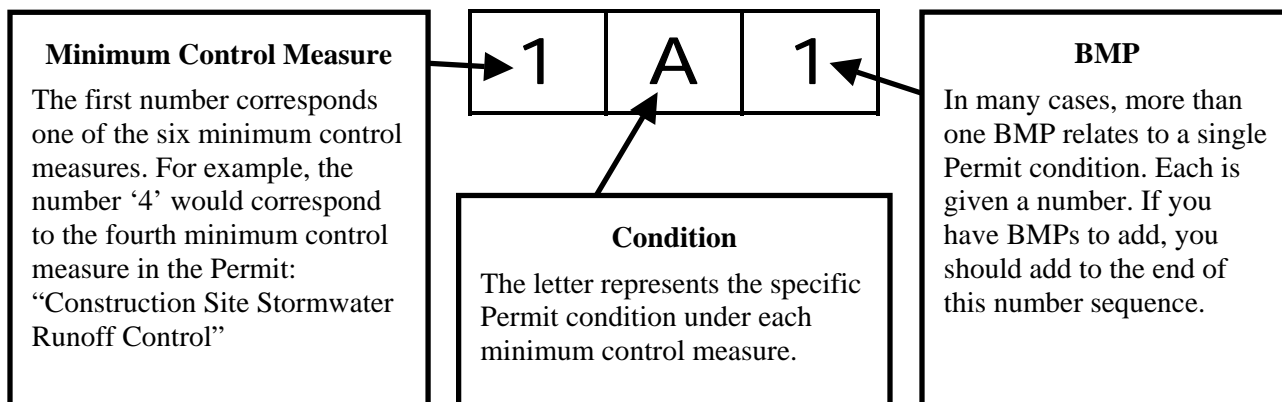
### III. SWPPP AND BEST MANAGEMENT PRACTICES SUMMARY SHEETS

Based on the results of the self-assessment, the Dakota County MS4 Team developed BMPs to meet the program objectives. The compilation of BMPs sheets and appendices becomes the SWPPP.

SWPPP tracking and evaluation are critical components of a successful program. Accordingly, Dakota County, in partnership with the Dakota SWCD, will develop and implement an efficient database tracking system. This system will be used to evaluate the BMPs to determine if Measurable Goals are being achieved. Reports will be submitted to the MPCA as required.

*For recordkeeping purposes, the Dakota MS4 team developed an Annual Worksheet to track activities and evaluate the progress made towards achieving the program goals. Each team member is responsible to update the worksheet to accurately represent the status of the BMP implementation. The worksheet is used as part of the Annual MS4 Report and is available for public viewing on request. The numbering system used on the Annual Worksheet correlates to the numbering system used on the attached BMP Description Sheets.*

#### BMP Unique Identification Numbers



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## **Appendix A**

# **Educational Strategy – Dakota County Storm Water Pollution Prevention Plan V 2.1**

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## **Appendix B**

# **Dakota County Municipal Separate Storm Sewer System (MS4) Stormwater Management Retrofit Review and Recommendations – 2005 Update**