

Section 2

USEPA Storm Water Compliance

As of this writing, Concord is under no statutory obligation to comply with the EPA's NPDES Phase II Storm Water Regulations. This section describes the Phase II regulations and the mechanisms by which Concord may become obligated to comply.

As described in Section 1, the City has decided to prepare a Storm Water Master Plan in order to minimize storm water pollution from its system independent of the EPA regulations.

EPA had until December 9, 2002 to designate small MS4s meeting the above criteria or until December 8, 2004, if a watershed plan is in place. EPA did not designate Concord as a regulated MS4 during this period. In the event EPA and NHDES include Concord in a future version of the Phase II program, the Storm Water Master Plan will be suitable to achieve compliance. In the meantime, the Storm Water Master Plan will serve to direct Concord's storm water management and pollution minimization.

An overview of the Phase II Storm Water Program, although not relevant to Concord at this time, is presented in this section. The EPA program can serve as a model of how to develop an effective storm water management plan, and can describe the steps other neighboring communities, such as Manchester, Hooksett, and Portsmouth, are taking towards storm water management. This section may also serve as guidance should Concord be designated in the future.

2.1 USEPA Phase II Storm Water Program

The Environmental Protection Agency (EPA) has finalized the storm water Phase II rule to control storm water runoff from municipal storm sewer systems in urbanized areas and from smaller construction sites. Phase II was signed on October 29, 1999, and published in the Federal Register in November 1999. Phase I of the storm water program, which was promulgated in November 1990, covered municipal storm sewer systems serving populations over 100,000, construction sites above five acres, and industrial activities.

Building on Phase I, Phase II requires Municipal Separate Storm Sewer Systems (MS4s) serving populations under 100,000 that are located in urbanized areas to obtain a National Pollution Discharge Elimination System (NPDES) permit under the Clean Water Act. Operators of construction sites disturbing one to five acres are also required to obtain a NPDES permit under the new rule.

2.2 Designation under the Phase II Program

According to EPA's definition, the City of Concord's Municipal Separate Storm Sewer System (MS4) is classified as a *small MS4*. Many small MS4s across the country were required to submit, before March 2003, a Notice of Intent to comply with EPA's Storm Water Phase II Final Rule. These are called *regulated small MS4s*. The Notice of Intent

must include a Storm Water Management Plan. There are basically two categories of small MS4s that are regulated:

- Automatic Designation
- Potential Designation by the NPDES Permitting Authority (EPA Region I is the NPDES permitting authority in New Hampshire)

2.2.1 Automatic Designation

MS4s located in an *Urbanized Area* (as defined by the Bureau of the Census) are automatically designated as regulated small MS4s and required to comply with the regulations. An urbanized area is

a land area comprising one or more places – central place(s) – and the adjacent densely settled surrounding area – urban fringe – that **together** have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile.

According to the 2000 census, Concord’s population was 40,687. Therefore, Concord was not automatically designated.

2.2.2 Potential Designation

Physically Interconnected

A small MS4 outside of an urban area may be designated as a regulated small MS4 if its discharge contributes substantially to the pollutant loadings of a physically interconnected MS4 regulated by the NPDES storm water program. There is no deadline for designation of small MS4s meeting this criterion. Concord is not physically interconnected with any regulated MS4, so the City was not designated due to physical interconnectivity.

Required Evaluation

A small MS4 outside of an urban area may also be designated as a regulated small MS4 if the NPDES permitting authority (EPA Region I) determines that its discharge causes, or has the potential to cause, an adverse impact on water quality. EPA Region I is required to develop a set of designation criteria and apply them *at a minimum* to all small MS4s that are both located outside of urban areas and serving a jurisdiction with a population of at least 10,000 and a population density of at least 1,000 people per square mile. The recommended designation criteria are:

- Discharges to sensitive waters;
- High population density;
- High growth or growth potential;
- Contiguity to an Urban Area;

- Significant contributor of pollutants to the waters of the United States; and
- Ineffective protection of water quality concerns by other programs.

As mentioned above, EPA had until December 9, 2002 to designate small MS4s meeting the above criteria or until December 8, 2004, if a watershed plan is in place. EPA did not designate Concord as a regulated MS4 during this period.

2.2.3 Watershed Plan

NHDES Watershed Management Bureau administers the New Hampshire Rivers Management and Protection Program (RMPP). This program was established in 1988 with the passage of RSA 483 to recognize and designate rivers to be protected for their outstanding natural and cultural resources. Once designated, a management plan is developed and implemented by a volunteer local river advisory committee that also coordinates activities affecting the river on a regional basis.



The Upper Merrimack River is “designated” under the RMPP.

The Upper Merrimack River, from the confluence of the Winnepesaukee and Pemigewasset Rivers in Franklin to Garvins Falls in Bow, was identified as a

“designated” river effective 6/26/90. This span includes the municipalities of Franklin, Northfield, Boscawen, Canterbury, Concord, and Bow. A plan has been developed and is available from the New Hampshire Department of Environmental Services website at: <http://www.des.state.nh.us/rivers/plans/merrplan.htm>

The EPA may consider this management plan to be a watershed plan. Recommendations in the plan include BMP installation, storm water management at construction sites, new construction storm water management, and land use management—recommendations typical of watershed plans. Subsequently, EPA Region I may have chosen to designate Concord before December 2002 (required evaluation) or may have taken until December 2004 (required evaluation, watershed plan noted). As of December 2007, the EPA has not designated Concord as a regulated MS4.

2.3 Overview of Phase II

If Concord was designated as a regulated MS4, the City would be subject to the new rule. Waivers are available for MS4 discharges that have been determined not to

cause, or have the potential to cause, water quality problems. These waivers are based upon the system serving less than 1,000 people; the system being physically interconnected to and contributing non-substantial flow to another regulated MS4; or a “total maximum daily load” (TMDL) assessment or equivalent showing that storm water controls are not needed. If designated, it is unlikely that Concord will be granted a waiver.

2.3.1 Requirements

Under the Phase II rule operators of regulated small MS4s are required to:

- Apply for NPDES permit coverage (EPA general permits will be issued November 2002, and coverage will need to be obtained by March 2003);
- Develop a storm water management program which includes “six minimum controls” (listed below);
- Implement the storm water management program using appropriate storm water management controls or “best management practices” (BMPs), by the end of their first permit term (typically 5 years, or about March 2008);
- Develop measurable goals for the program; and
- Periodically evaluate the effectiveness of the program.

2.3.2 Schedule

The Schedule for the Phase II Rule was as follows:

- December 8, 1999 – The Phase II Final Rule is published in the *Federal Register* (64 FR 68722).
- December 9, 2002 – NPDES permitting authority is required to designate small MS4s meeting the “required evaluation” criteria (if no watershed plan is in place).
- December 9, 2002 – NPDES permitting authority to issue general permits for Phase II-designated small MS4s and small construction activity.
- March 9, 2003 – Operators of Phase II “automatically” designated regulated small MS4s and small construction activities must obtain permit coverage (within 90 days of permit issuance – expected on 12/9/02).
- After March 9, 2003 – The NPDES permitting authority may phase-in coverage for small MS4s serving jurisdictions with a population under 10,000. MS4s phased in under this option will have until March 8, 2007 to obtain permit coverage.
- December 8, 2004 – NPDES permitting authority is required to designate small MS4s meeting the “required evaluation” criteria (if a watershed plan is in place).

- March 9, 2008 or the end of the first permit term – Operators of regulated small MS4s must fully implement their storm water management program (by the end of the first permit term, typically a 5-year period).

2.4 Storm Water Management Program

Acceptable small MS4 operator's storm water management programs are designed to:

- Reduce the discharge of pollutants from its system to the "maximum extent practicable" (successful implementation of approved BMPs is considered compliance with the technical standard); and
- Protect water quality.

These goals are achieved through BMPs addressing each of the six minimum controls and measurable results associated with each of the selected BMPs.

Documents to assist municipalities with setting up and running storm water management programs are available from the EPA website assistance pages, such as: <http://www.epa.gov/ebtpages/watestormwater.html>

2.4.1 Six Minimum Controls

The "six minimum controls" are required storm water management program elements that, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving waterbodies. These controls are:

1. Public Education and Outreach – about the impacts polluted storm water discharges can have on water quality.
2. Public Participation/Involvement – in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives to serve on a storm water management panel.
3. Illicit Discharge Detection and Elimination – including developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste.
4. Construction Site Runoff – developing, implementing and enforcing an erosion and sediment control program for construction activities disturbing 1 or more acres of land (controls could include for example, silt fences and temporary storm water detention ponds).
5. Post-Construction Runoff Control – developing, implementing and enforcing a program to address discharges of post-construction storm water runoff from new development and re-development areas (controls could include

preventative actions such as protecting sensitive areas, e.g. wetlands, or the use of structural BMPs, e.g. grassed swales or porous pavement).

6. Pollution Prevention/Good Housekeeping – developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch basin cleaning).

2.4.2 Selection of BMPs

A regulated MS4 operator will select BMPs (and/or acceptable existing programs) to address each of the six minimum controls. The EPA has provided a list or “menu” of BMPs to serve as guidance for the regulated small MS4 operators when developing their program. The menu is currently available on the Internet at <http://www.epa.gov/npdes/menuofbmps/menu.htm>.

The BMPs and measurable goals selected by the municipality for each of the minimum control measures would become the required program. However, the NPDES permitting authority (EPA Region I) could require changes in the mix of selected BMPs and measurable goals if some or all of them are found to be inconsistent with the provisions of the Phase II rule. Likewise, the permittee could change their mix of selected BMPs if they determine that their program is not as effective as it could be.

2.4.3 Reference to Existing Programs

In the Phase II rule, the NPDES permitting authority will have the flexibility to “reference” an existing State, Tribal, or local program in the permit for regulated small MS4s. If the permit “references” an existing program for one or more of the minimum control measures, it means that the permittee is to follow the requirements of the referenced program (rather than any new permit requirements) for that particular measure or measures. The existing program needs to be at least as stringent as the minimum control it replaces. In short, this means that on-going non-profit, institutional, or public programs that meet one or more of the six minimum controls can be made to count towards compliance.

2.4.4 Measurable Goals

Phase II assumes the use of narrative, rather than numeric, effluent limitations in the form of measurable goals for each of the six minimum controls. A goal of “reduce metals in storm water by 50%” would be difficult to monitor, due to the number of outfalls a municipality may have, and may be difficult to achieve, given the non-point source nature of storm water. Therefore narrative, measurable goals will be used in the Phase II permitting process. Examples of potential BMPs and associated goals are presented below. Additional examples are found on EPA’s website at <http://www.epa.gov/npdes/stormwater/measurablegoals/index.htm>

<p>BMP: Improve pet waste management in City parks by installing "pet waste stations" with waste receptacles, a supply of disposal waste collection bags, and scoops or shovels.</p>
<p>Measurable Goal: Reduce the amount of pet waste entering surface water bodies by 50 gallons during the 1st year.</p>
<p>Justification: When pet waste is not properly disposed of, it can wash into nearby waterbodies or can be carried by runoff into storm drains. Since storm drains do not connect to treatment facilities, but rather drain directly into lakes and streams, untreated animal feces can become a significant source of runoff pollution. Having designated places to dispose of the feces makes proper disposal more convenient for dog owners, and measuring the goal possible.</p>

Example 1

Minimum Control – Public Education and Outreach

<p>BMP: Incorporate the use of road salt alternatives for roadway deicing.</p>
<p>Measurable Goals: During the 1st year, reduce the amount of road salt applied to roadways by 50% through the use of less-toxic alternatives, such as liquid calcium magnesium acetate (CMA).</p>
<p>Justification: CMA is just as effective as road salt at deicing, but it appears to be much less harmful to the environment and is less corrosive, causing less damage to roadways and vehicles.</p>

Example 2

Minimum Control - Pollution Prevention/Good Housekeeping

2.4.5 Applying for a Permit

To obtain a permit, a municipality can either submit a Notice of Intent (NOI) for a general permit, or apply for an individual permit. The NOI serves as an application for a general permit, and is encouraged by the EPA for the Phase II small MS4 program. The general permit establishes one set of requirements for all applicable permittees. An individual permit requires an application that is more comprehensive than the NOI, and establishes specific requirements tailored to the permittee. Either permit requires BMPs and measurable goals be listed for each of the six minimum control measures not covered by recognized existing programs. If an on-going program is referenced in the permit,



Alternative deicers may be just as effective as road salt, but more in-line with Good Housekeeping measures.

the City will be required to follow the program's work plan, but not to list the minimum control measures to be implemented. The City will have the flexibility to choose the BMPs and measurable goals that are best suited for them. Implementation of approved BMPs and/or referenced, approved programs will constitute compliance.