



## Frequently Asked Questions #5



# Stormwater Management Standards

## What is stormwater management?

A change in the use or management of a piece of land directly impacts how fast or how much water might be moving off the site during or after a rain. Rainfall that collects and moves off a site is called stormwater. The impacts can be controlled through an evaluation using specific design conditions (modeled storms) and designing elements to slow, store, treat, or eliminate (infiltrate or evaporate) the stormwater. Stormwater management provides runoff rate and volume control as well as water quality treatment.

## When do requirements for stormwater management apply?

Any land-disturbing activity requires some form of stormwater management. Projects require permits from the Minnesota Pollution Control Agency (MPCA) with significant provisions for managing stormwater both during and after construction if greater than 1 acre of land is disturbed. Complex projects generally require the services of qualified engineering and inspection staff for the review, design, and installation oversight required to assure compliance.

## What are the criteria?

The VRWJPO Stormwater Management Standards are organized into four categories: Post Construction Water Quality, Runoff Temperature Control, Peak Runoff Rate Control, and Runoff Volume Control. A brief description follows.

### Post Construction Water Quality

Post construction runoff discharged from a site must meet water quality standards established by the MPCA. Infiltration/filtration options described under Runoff Volume Control Criteria are the preferred approach to satisfying the water quality treatment in areas that drain to the trout stream where such areas do not first drain to a waterbody with 10 or more acres of open water. Permanent wet ponds may fulfill the water quality requirements in areas tributary to designated trout streams, with specified restrictions. Water quality volumes satisfied using infiltration or filtration technologies (filtration only in Type C and D soils) can count toward the Volume Control requirements. Redevelopment projects are required to incorporate water quality best management practices (BMPs) to the extent practical.

### Runoff Temperature Control

Temperature increases that occur due to land use changes that increase runoff from heated surfaces (pavement, parking lots, or flat roofs) can be controlled by establishing buffers (see Buffer Standard), using temperature sensitive BMPs (such as infiltration), designing temperature sensitive wet ponds, and controlling runoff volume increases with the Runoff Volume Control Criteria.



Where can I find the current Standards?  
The standards are in Appendix B of the plan on the Vermillion River Watershed website: [www.vermillionriverwatershed.org](http://www.vermillionriverwatershed.org), under "Plans/Reports."

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#### Vermillion River Watershed Joint Powers Organization

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The Vermillion River Watershed encompasses an area of approximately 335 square miles, including portions of two counties and all or portions of 20 cities, towns, and townships. The main stem of the river begins in southeastern Scott County in New Market Township flowing east through central Dakota County, passing over a waterfall in the City of Hastings, and then discharging to the Mississippi River both through a northerly flowing outlet near the City of Hastings as well as through a southerly flowing outlet near the City of Red Wing, Minnesota.

### Peak Runoff Rate Control

A hydrograph (graph of the water level or rate of flow as a function of time) method must be used to analyze runoff for design flows and water levels. 2005 land cover conditions will be applied. Peak runoff rate controls will keep flows from a 100-year, 4-day rain event from exceeding existing condition levels. Numerical flow standards must be adopted at intercommunity boundaries (where stormwater flows into a community from an upstream community).

### Runoff Volume Control

Development that creates one acre or more of new impervious surface (rooftops, driveways, pavement, and other features that impede the infiltration of rainfall) must include methods to control the increase in runoff volume above 2005 conditions for a 2-year, 24-hour storm event. Local government units (LGUs) may choose to plan necessary management of stormwater volume on a regional scale (large area, multiple planned developments) or calculate the need on a site-by-site basis for individual proposals.

Runoff volume reducing practices built into site design are the preferred method for meeting volume control. These practices should be considered before designing infiltration or filtration facilities. Practices applying the Minnesota Minimal Impact Design Standards (MIDS) are allowed. The applicant must apply for the credit and provide calculations showing the practice meets the standard.

Specific design requirements for infiltration facilities shall be calculated using appropriate site information and applying design criteria from the Minnesota Stormwater Manual. The function of infiltration facilities is dependent on the ability of soils and underlying materials to allow water to move into the ground (permeability). Constructed infiltration facilities, such as basins and trenches, have several additional requirements.

All stormwater management structures and facilities must be maintained to ensure that they function as originally designed. The responsibility for maintenance is assumed by the LGU with jurisdiction over the facilities or by the applicant in a compliance agreement with the LGU.

### Are there exceptions?

Some exceptions may apply and criteria may be waived if an LGU can meet requirements set forth in the standards.

### Local City/Township Controls

Local ordinances of LGUs may require permits for smaller land disturbing activities and may have stricter controls. Local ordinances may also have specific rate and volume control requirements for redevelopment projects (not solely projects that create new impervious surfaces).