

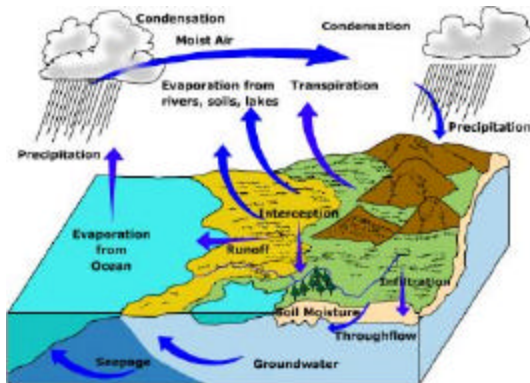
Cleaning and Protecting Wisconsin's Waters:

Infiltration standards: Preventing urban runoff by retaining natural water cycles



The purpose of the natural water, or hydrologic, cycle

Water infiltration is an essential link in the process of recharging our groundwater supplies and preventing excessive runoff from damaging our lakes and streams.



Used with permission from Michael Ritter, 2001.

In a naturally functioning system, some rainwater returns to lakes, rivers, and streams through runoff while other rainwater filters into the ground and remains stored in aquifers or slowly makes its way back into rivers, lakes, and oceans.

The infiltration process helps prevent flooding, serves to remove pollutants from the water before it reaches water bodies, and recharges groundwater supplies.

When impermeable surfaces, like parking lots, streets, or rooftops, prevent water from infiltrating...

- Aquatic life is threatened;
- Vegetation can be uprooted by flooding;
- Pollutants are washed into streams, lakes, and estuaries;
- Nutrients overload and create harmful algae growth; and
- Sediments are deposited into water bodies and can smother bottom dwelling organisms and fish eggs.

Pervious surfaces, like landscaped areas and porous pavement, are essential for allowing water to infiltrate.

Traditional design of built landscape

Most residential and commercial properties are designed to channel rainwater as quickly as possible into the concrete storm drain system instead of allowing the water to percolate naturally into the ground.

This increases the amount and pace of runoff that reaches water bodies. Greater runoff, moving at faster speeds, means that sediment, fertilizers, pesticides, metals, oil, and grease are transported into and down the stream. Furthermore, the lack of infiltration can lead to

For more information, please contact Steph Adams, Clean Water Coalition coordinator.
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intensified flooding and destruction of stream channels.

Returning to the idea of water storage

As ever-increasing amounts of Wisconsin land are converted from a rural, more permeable character to an urban impermeable environment, communities have seen the quality of their water resources decline. This lesson has prompted the invention of new development designs and engineering practices that enable water to be stored and filtered, while preventing the flooding of residential and commercial properties.

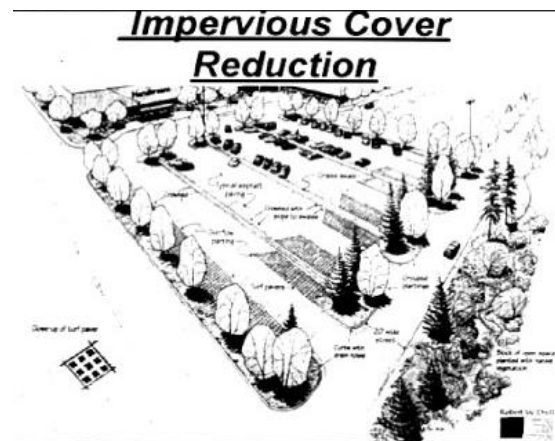
What would the rules do?

The proposed rules would require new construction and redevelopment projects to write and implement a plan to reduce polluted runoff. Best management practices would be implemented with the goal of infiltrating runoff to the "maximum extent practicable."

New projects would be required to design sites that meet infiltration standards. Where groundwater contamination is likely, highly polluted runoff would be pretreated before infiltrating.

Infiltration practices include minimizing the amount of paved surface, directing runoff from rooftops and parking areas, using rain gardens, filter strips, grassed lawns or swales, or directing water to

basins or trenches when space is limited.



Example of a parking lot redesigned with more landscaped area and less impervious surface to allow for greater infiltration. Source: Center for Watershed Protection.

“Better site design”

The practices outlined in the rules are part of a larger concept called “conservation design.” Conventional site development treats water as a waste product, to be swept away as quickly as possible. Conservation design seeks to preserve the natural functions of the landscape through project designs that create opportunities for water infiltration.

What can you do to help?

Please write a letter to the Natural Resources Board encouraging them to keep the infiltration standards in the proposed polluted runoff control rules.

Natural Resources Board
Trygve Solberg, Chair
P.O. Box 7921
Madison, WI 53707

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