

## Ecology Proposes Revisions to the Stormwater Management Manual for Western Washington

The Washington Department of Ecology (Ecology) released the draft 2012 Stormwater Management Manual for Western Washington (Manual) for a 90-day public comment period from Nov. 4, 2011, through Feb. 3, 2012.

The Manual provides guidance on the measures necessary to control the quality and quantity of polluted stormwater. Local municipalities use the Manual to set stormwater requirements for new development and redevelopment projects. Land developers and engineers use the Manual to help design site plans, create construction stormwater site plans, and to design stormwater infrastructure. Businesses use the Manual to help design their stormwater pollution prevention plans.

The draft Manual represents years of work and learning about new science and new [best management practices](#) (BMPs). It also reflects changes in several National Pollutant Discharge Elimination System (NPDES) stormwater general permits.

NPDES general permits that reference the manual in their requirements include the:

- Municipal Stormwater General Permits.
- Construction Stormwater General Permit.
- Industrial Stormwater General Permit.
- Sand & Gravel General Permit.
- Boatyard General Permit.

Ecology invites public comment on the draft Manual until 5 p.m. on Feb. 3, 2012. Ecology will hold five public workshops to answer questions about the draft Manual. Ecology will consider all public comments for the 2012 Stormwater Management Manual for Western Washington. Ecology expects to issue the final 2012 Manual in the summer of 2012, along with a general response to comments.

### MORE INFORMATION

Download the Manual here:

[www.ecy.wa.gov/programs/wq/stormwater/wwstormwatermanual/2012draft/2012draftSWMMWW.html](http://www.ecy.wa.gov/programs/wq/stormwater/wwstormwatermanual/2012draft/2012draftSWMMWW.html)

Attend a workshop in 2012

#### Vancouver

January 11, 10 a.m. – 3 p.m.  
2214 East 13th Street

#### Lacey

January 12, 10 a.m. – 3 p.m.  
300 Desmond Drive SE

#### Mt. Vernon

January 18, 9 a.m. – 1p.m.  
105 East Kincaid Street

#### Poulsbo

January 20, 10 a.m. – 3 p.m.  
200 NE Moe Street

#### Renton

January 25, 10 a.m. – 3 p.m.  
1715 Maple Valley Hwy

Submit a comment

[wwwswmancmnts@ecy.wa.gov](mailto:wwwswmancmnts@ecy.wa.gov)

Department of Ecology  
Water Quality Program  
PO Box 47696  
Olympia, WA 98504-7696

Contact Ecology

Carrie Graul

360-407-7221

[carrie.graul@ecy.wa.gov](mailto:carrie.graul@ecy.wa.gov)

Special accommodations

To ask about the availability of this document in a format for the visually impaired, call the Water Quality Program at 360-407-6600.

Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

## Areas of change in draft manual

Ecology last revised the Manual in 2005. The draft Manual proposes revisions in the following areas:

- Low impact development (LID) requirements for new development and redevelopment.
- Revised guidance on determining infiltration rates.
- New and revised stormwater source control and treatment BMPs.
- New and revised construction BMPs.
- Western Washington Hydrology Model (WWHM) update and modeling guidance.

To help reviewers understand these changes and the other proposed Manual changes, Ecology compiled a spreadsheet listing the locations, changes, and reasons for the changes in each chapter, section, or BMP ([www.ecy.wa.gov/programs/wq/stormwater/wwstormwatermanual/2012draft/DraftChanges2SWMMWW.pdf](http://www.ecy.wa.gov/programs/wq/stormwater/wwstormwatermanual/2012draft/DraftChanges2SWMMWW.pdf)). Ecology also indicated if the change was tied directly to language from one of the NPDES general permits.

## Low impact development

Ecology primarily revised the Manual to include low impact development (LID) stormwater techniques in new development and redevelopment.

LID stormwater designs mimic the natural drainage processes by using stormwater site design and best management practices that retain vegetation, limit impervious surfaces, and infiltrate runoff on-site.

Ecology drafted the requirements to set goals and standards with flexible and variable tools to meet them, including a hydrologic performance standard and a menu of approved LID best management practices to meet the standard. All sites are subject to feasibility criteria that can reduce LID requirements; such as, where soils are too poor to infiltrate the runoff.

A majority of the changes made to the manual for LID requirements are found in Volume I, Chapter 2. However, Ecology also proposes changes within the other Volumes for LID concepts.

## New, revised construction BMPs

Volume II of the Manual is devoted to stormwater effects and controls associated with construction activities. Ecology primarily revised Volume II of the Manual to match language in the Construction Stormwater General Permit.

Ecology also revised several construction stormwater BMPs for clarity, removed BMPs that were not working in the field, and added several new construction BMPs. Ecology made these revisions based on field experience and comments received during an informal survey.

## Revised guidance on determining infiltration rates

When it rains, stormwater soaks into the ground. The soil infiltration rate tells stormwater system designers just how much, and how quickly, the ground will soak up stormwater. From this information stormwater designers know how big to build stormwater facilities.

Volume III of the manual describes the methods that designers may use to determine infiltration rates. In the 2005 Manual there were several methods of determining infiltration rates that often resulted in different infiltration rates for the same soil.

Since, the infiltration rate is so critical in determining the size and function of stormwater facilities, Ecology proposes revisions in Volume III to limit the different methods used for determining infiltration rates. Ecology proposed the revisions in Volume III after meeting with a panel of experts. The proposed changes in Volume III should help bring consistency to infiltration rate determinations and ensure that stormwater facilities will be built correctly.

### **New and revised stormwater source control and treatment BMPs**

BMPs are the method by which the Manual controls the adverse impacts from quality and quantity of polluted stormwater. Source control BMPs attempt to prevent pollutants from entering stormwater. Treatment BMPs attempt to remove pollutants from stormwater.

Volume IV of the Manual primarily focuses on source control BMPs and how businesses can prevent stormwater from becoming polluted. Ecology proposes revisions in Volume IV to clarify several BMPs and to coordinate with the Industrial Stormwater General Permit.

Volume V of the Manual contains runoff treatment BMPs. Ecology proposes revisions to this volume to clarify BMPs and to remove

BMPs that lacked clear design criteria. Ecology also added guidance for treatment BMPs, especially BMPs used for LID, such as bioretention and dispersion BMPs.

Volume V also discusses emerging technologies within the stormwater field. Ecology added guidance in Volume V so readers may learn about Ecology's role approving new stormwater technologies and how to submit new technologies for Ecology to review.

### **WWHM update and modeling guidance**

Designers and engineers use the Western Washington Hydrology Model (WWHM) to design stormwater systems throughout western Washington.

Ecology is planning to update the WWHM in 2012. Ecology expects that this update will add modeling capability for LID techniques. The 2012 updates to WWHM will allow users of the program to design LIDs and demonstrate compliance with the new LID standard.

The update will also add modeling capability for the revised wetlands protection guidance in Volume I, and make WWHM compatible with the Windows 7, 64-bit version operating system.

In anticipation of the update to WWHM, Ecology added modeling guidance in Volume III and Volume V to describe modeling LID BMPs in the upgraded WWHM.

**The relationship to the NPDES stormwater general permits**

Stormwater Management Manual for Western Washington is a guidance document. By itself it is not a legally enforceable document. However, several of the NPDES Stormwater General Permits do require the use of the Manual.

The changes proposed to the Manual will affect Western Washington permittees under the different NPDES Stormwater General Permits at different times. This table shows when Ecology expects these changes to take effect after the issuance of the final Manual in the summer of 2012.

<b>Western Washington permittees covered under the following permits will be affected:</b>	<b>When the 2012 Manual takes effect for each permit:</b>
Municipal Stormwater Permits	According to proposed implementation schedules of each permit.
Industrial Stormwater General Permit (ISGP)	Permittees have the option to continue using the 2005 Manual or the final 2012 Manual.
Construction Stormwater General Permit (CSWGP)	Permittees have the option to continue using the 2005 Manual or the final 2012 Manual.
Sand and Gravel General Permit	Possibly on the next issuance of the Sand and Gravel General Permit.
Boatyard General Permit	Possibly on the next issuance of the Boatyard General Permit.

Western Washington municipalities not covered under a general stormwater permit often use the Manual. Check with your city or county to find out if they use the Manual and for possible adoption dates.

**For more information**

To view the draft Manual or for more information on the workshops go to:  
[www.ecy.wa.gov/programs/wq/stormwater/wwstormwatermanual/2012draft/2012draftSWMMWW.html](http://www.ecy.wa.gov/programs/wq/stormwater/wwstormwatermanual/2012draft/2012draftSWMMWW.html)

If you have questions on the draft Manual, you may:

- Send comments to [wwwswmancmnts@ecy.wa.gov](mailto:wwwswmancmnts@ecy.wa.gov), or
- Contact Carrie Graul at [carrie.graul@ecy.wa.gov](mailto:carrie.graul@ecy.wa.gov) or 360-407-7221.