

Summary of WWHM2012 Updates



1. New Low Impact Development (LID) features

The last generation of the Western Washington Hydrology Model (WWHM3) does not have any Low Impact Development (LID) elements to explicitly model LID features/facilities.

The WWHM2012 version now offers explicit elements representing:

- Bioretention
- Green Roofs
- Pervious Pavement
- Compost Amended Vegetative Filter Strip (CAVFS)

2. New LID interface and report table

This interface allows tracking of infiltration volumes through the various LIDs. This tracking feature helps users identify how different LIDs are affecting compliance with the LID standard.

3. New modeling calculations for meeting wetland criteria

WWHM3 did not provide an explicit method for ensuring compliance with wetland criteria. WWHM2012 adds the capability to determine compliance with Minimum Requirement #8 in the 2012 Stormwater Management Manual for Western Washington (SWMMWW).

4. Compatible with Windows 7 operating system

WWHM3 was designed in 2005 to run on the Microsoft Windows XP operating system. WWHM2012 has software code that is compliant with Windows 7 file management requirements.

This code will take advantage of Windows 7 64-bit computing features. It will also make it possible to run WWHM on a computer network. The updated WWHM will allow for larger file names consistent with the filename length allowed by Windows.

5. Hourly precipitation data available through water year 2009

WWHM3 currently includes long-term National Weather Service hourly precipitation data through water year 1998 (September 1998) at 16 precipitation stations in Western Washington. Data are now available to extend these records through water year 2009 (September 2009).

6. Hourly precipitation data updated to 15-minute data increments

WWHM3 currently models runoff at an hourly time step. WWHM2012 includes 15-minute precipitation obtained from local jurisdictions in Western Washington.

Existing WWHM hourly precipitation records have been converted to 15-minute data. If 15-minute data were not available from the existing rain gauge, a similar nearby gauge with 15-minute data was selected.

7. Water Quality Design Flow calculations updated to 15-minute precipitation data

WWHM3 uses hourly precipitation data and an internal equation to calculate and the 15-minute design flow rates for Water Quality facilities/BMPs. Since Item 6 provides 15-minute precipitation time series for all gauges in WWHM2012, the Water Quality Design Flow calculation no longer defaults to hourly precipitation data to calculate the 15-minute design flow rate.

8. Autopond algorithm faster and incorporates 15-minute time step

Extending the precipitation record to 2009 (see item five above) and creating 15-minute precipitation data instead of hourly (see item six above), significantly slows down runoff computations using the WWHM3 Autopond algorithm.

WWHM2012 has a more flexible algorithm within that enables Autopond to complete the pond optimization in less time.

9. Updated user manual and help menu

The user manual has been updated to provide helpful instructions for operating WWHM2012. In addition, WWHM2012 menu bar includes a “Help” feature that provides helpful information on the various features of WWHM2012.