2012 Western Washington Hydrology Model Training

Spring 2013
Background

- Municipal Stormwater NPDES Permits
  - 6 Phase I municipalities & WSDOT
  - 85 Phase II municipalities in West. Wash.
  - 28 Secondary permittees in WW

- Municipalities must regulate stormwater entering and leaving their municipal separate storm sewer system (MS4)
Municipal Stormwater Programs

- Legal authority
- System mapping
- Coordination within depts & among munis
- Public involvement & participation
- Control runoff from new & redev & construction sites
- Structural controls
- Source controls on existing development
- Illicit discharge detection & elimination
- O & M
- Education & outreach
New & Redevelopment & Construction Sites

- Phase I permit: S5.C.5.a.i.
- Phase II permit: S5.C.4.a.i.
- Adopt what is in Appendix 1 of the permits or equivalent
- Appendix 1 includes:
  - Definitions
  - Thresholds
  - Minimum Requirements (1 – 9)
  - Adjustments and Variances
New & Redevelopment & Construction Sites

- Phase I permit: S5.C.5.a.ii.
- Phase II permit: S5.C.4.a.ii.
- Adopt requirements for these subjects
  - Site Planning
  - BMP selection, design and infeasibility criteria
  - LID competing needs criteria

- Use SWMMWW, or document how an alternative requirement meets fed & state laws
Deadlines

- Phase I: SW Code – 6/30/15
  Development codes - 6/30/15

- Phase II: SW Code – 12/31/16*
  Development Codes – 12/31/16*

  * Centralia, Kelso, Longview, Cowlitz Co. – 6/30/17
    Aberdeen – 6/30/18
Minimum Requirement #6
Treatment

- Need Continuous Runoff Model for Sizing
- WWHM or MGS Flood
  - WQ Design Flow Rate
    - On-line
    - Off-line
  - WQ Design Storm Volume
  - Both are intended to achieve effective treatment for 91% of the runoff
  - Determine amount of water treated by LID BMPs
Minimum Requirement #7
Flow Control

- Match discharge durations to pre-developed durations for the range of pre-developed flow rates from 50% of the 2-year flow through the 50-year flow for the site

- Need WWHM or MGS Flood for design

- WWHM3 meets need; WWHM2012 improves design
Minimum Requirement #5
On-site Stormwater Management

- Small projects: Use LID BMPs on List #1 to extent feasible

- Large projects:
  - Inside UGA: Use BMPs on List #2 to extent feasible, or meet LID performance standard
  - Outside UGA:
    - If parcel > 5 acres, meet LID performance standard
    - If parcel < 5 acres, List #2 or LID performance standard
Minimum Requirement #5
On-site Stormwater Management

- Need WWHM or MGS Flood
  - To estimate effectiveness of LID BMPs at reducing runoff
  - To determine compliance with LID Performance Standard
LID Performance Standard

- Match discharge durations to pre-developed durations for the range of pre-developed rates from 8% of the 2-year flow through 50% of the 2-year flow for the site
LID Performance Standard

- Need WWHM or MGS Flood to determine compliance

- WWHM3 meets need – but WWHM 2012 easier

- To determine benefit of LID BMPs before sizing any additional treatment or flow control facilities
Minimum Requirement #8
Wetlands Protection

- Intent unchanged – maintain hydroperiod
- Appendix I-D: Guidance changed
- Guide Sheet 3B
  - Maintain daily water volume inputs within $\pm 20\%$ of pre-project volume
  - Maintain monthly water volume inputs within $\pm 15\%$ of pre-project volume

- New WWHM capability to track inputs
This session: Assumes familiarity with WWHM

Ongoing training:
- Morning: WWHM basics
- Afternoon: WWHM advanced
Who Will Use WWHM 2012

- Consultants
  - Design
  - Submittal documentation

- Municipal Staff
  - Submittal requirements
  - Design reviews
Questions?