

Oregon City 2015 Stormwater and Grading Design Standards

The following presents a summary of the proposed modifications to Oregon City's Stormwater and Grading Design Standards. A side by side comparison between the current (adopted in 1999) design manual and the proposed manual update is included in the accompanying table.

Summary of Proposed Modifications

- Consolidated to a single set of thresholds for water quality and flow control requirements:
 - o 5,000 SF of new or replaced impervious surface;
 - o 500 SF of new or 1,000 SF of replaced impervious surface within a WQRA
- Retained flow control exemptions for discharges to the Willamette River, Clackamas River, and Abernethy Creek.
- Emphasis on low impact development (LID) systems
 - o Surface infiltration facilities required when site conditions allow;
 - o Surface infiltration facilities can be used to meet flow control requirements.
 - o Allowable BMPs include stormwater planters, rain gardens, vegetated swales, porous pavement, and green roofs.
- Water quality facilities must be sized for a 1.0 inch design storm.
- Flow control facilities must match duration and rate of flow for range of flows: 42% of the 2-year through the 10-year design event.
- BMP Sizing Tool provided, with standardized inputs, outputs, and report generated for easy submittal.
- Site Assessment and Planning submittal required during with land use applications.
- O&M Plans and maintenance covenants required for stormwater management facilities.
- New information provided:
 - o Map of pre-developed land use conditions for engineers/developers to use in sizing flow control facilities
 - o Design guidance figures for preferred stormwater management facilities
 - o Maintenance inspection checklists
 - o Facility planting guidance with sample landscape schematics and plant selection tables

Comparison of 1999 to 2015 Proposed Stormwater and Grading Design Standards		
Topic	1999 Oregon City Public Works Stormwater and Grading Design Standards	2015 PROPOSED Stormwater and Grading Design Standards
Development Thresholds that Require Stormwater Management	Water Quality • 2,000 SF of new impervious surface • 5,000 SF of replaced impervious surface • 500 SF of new or 1,000 SF of replaced impervious surface within a WQRA Flow Control • Construction of 4 or more single family residences • 8,000 SF of new impervious surface for non-residential projects • 500 SF of new or 1,000 SF of replaced impervious surface within a WQRA	Water Quality and Flow Control • 5,000 SF of new or replaced impervious surface • 500 SF of new or 1,000 SF of replaced impervious surface within a WQRA
Exempt Water bodies	• No flow control required for projects within 10 vertical feet of the 100-year flood elevation with direct discharge to the Willamette River, Clackamas River, or Abernethy Creek.	• No change
Infiltration	• Not a preferred strategy • Infiltration facilities must infiltrate 150% of the 100-year design storm volume.	• Use of infiltration is required when site conditions allow. • Infiltration testing is required.
Facility BMPs included	• Detention Ponds • Parking Lot Ponds • Detention Tanks and Vaults • Wetponds and Settling Basins • Stormwater Filters • Infiltration Facilities • Constructed Wetlands	Focus on LID facilities: • Stormwater Planters • Rain Gardens • Vegetated Swales • Detention Ponds • Infiltration Trenches (roofs) • Manufactured Treatment • Porous Pavement • Green Roofs
Water Quality Facility Design Criteria	• Design storm is 1/3 of the 2-year, 24-hour design storm, approximately 0.87 inches.	• Capture and treat 80% of average annual runoff • Size facilities for the 1.0 inch, 24-hour design storm
Flow Control Facility Design Criteria	• Match post-development to pre-development peak flows: 2-year post to ½ of 2-year pre; 2-year post to 5-year pre; 25-year post to 10-year pre • New definition for current land use	• Match post-development to pre-development peak flows and flow durations for 42% of the 2-year through 10-year flows • Infiltration can be used to meet flow control requirements. • Predevelopment land use is now classified as prior to urbanization.
Calculations/ Sizing Methods	• List of six sizing methodologies with applicable project types • Engineers chose a software program or create spreadsheets to conduct the calculations	• BMP Sizing Tool with standardized inputs, outputs, and report generated for easy submittal • Engineered Method allowed for complex submittals • Rational Method and SBUH for conveyance system sizing
Conveyance Standards	• Size pipes for the 10-year, 25-year, or 50-year design storm, depending on contributing area	• No change to standards • Standard drawings removed (see Public Works Standard Plans website).

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Topic	1999 Oregon City Public Works Stormwater and Grading Design Standards	2015 PROPOSED Stormwater and Grading Design Standards
Site Planning	Not included.	Site Assessment and Planning submittal required during with land use applications.
Grading Standards	Includes standards for grading, fill, and excavations.	No change
Submittal Guidelines	Requirements for grading plans, engineered drainage plans, and drainage reports.	- Clarified submittal requirements. - Standard plan notes removed from manual (see Public Works Engineering Policies).
Erosion and Sediment Control	Included in separate manual.	- Added informational chapter with reference to separate manual. - Erosion and Sediment Control submittal required for 1,000 SF or more land disturbance.
Maintenance	Limited information included.	- O&M Plans and maintenance covenants required for stormwater management facilities. - Facilities that serve multiple properties must be constructed on tract dedicated to the City.
New Information	N/A	- Map of pre-developed condition land use - Design guidance figures for preferred stormwater management facilities. - Maintenance inspection checklists - Facility planting guidance with sample landscape schematics and plant selection tables.