

BACKGROUND INFORMATION ITEM 1.

LU 15-0050

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Draft Lake Oswego Stormwater Management Manual, July 2015.

Use this link to visit the Stormwater Program webpage:

<https://www.ci.oswego.or.us/publicworks/stormwater-program>

Please note that links are located near the bottom of the webpage. The main body of the Manual and Appendices have their own links.

This version of the Manual will be updated prior to the effective date of the new Code. These changes summarized below are in response to modifications of the Code proposed by City staff following the Planning Commission/Development Review Commission work session, along with comments on the Manual from the Stormwater Manual Project Advisory Committee, members of the local design/development community, residents of the City and the City Urban Services Boundary, and City staff since July 31, 2015.

The following revisions are planned to the Lake Oswego Stormwater Management Manual to address City review for consistency with the Stormwater Code. Additional revisions are planned to address comments received from the project advisory committee, the public outreach process, City staff, or consultant review.

Abbreviations and Acronyms will be introduced at the beginning.

Chapter 1. Introduction

The project advisory committee had important comments regarding making a stronger (and less technical) case for why stormwater matters. We will be revising this section to discuss impacts on Endangered Species Act (ESA)-listed species; human uses; issues posed by legacy pollutants, and similar important issues related to stormwater.

The project advisory committee had suggested more, and earlier, discussion of climate change impacts. Discussion will be expanded to address some of the key points from current research (Oregon Climate Change Research Institute 2010; Dalton et. al. 2013; Haggerty, 2015, personal communication), including:

On Runoff:

- Annual rainfall expected to remain similar to current baseline
- Annual rainfall will be more concentrated between mid-October and late April
- Rainfall intensity will increase
- Storm events with a return period of 25 years will become more intense and frequent
- Flooding is likely to become more common.

On Climate Patterns:

- Pacific NW summers will become hotter and drier. Winters will become warmer.
- Year to year variation in temperature and precipitation will increase.

On Vegetation:

- Plant selection will become more challenging. Spatial distribution of species will change by the end of the 21st century. Some vegetation types, including hemlock and cedar forests, will become fragile. Other vegetation types such as oak savanna will be more favored.
- Irrigation for stormwater facilities may become more important.

Adaptations:

- Response to peak runoffs should include development of new storage and retention structures, and will likely change sizing factors for pipes, some stormwater facility types.
- Maintenance and restoration of instream flows should include riparian protection, increasing stream shading and enhancing resiliency.

Chapter 2. Project Planning, Permits, and Stormwater Requirements

Activities that Trigger Stormwater or Permit Requirements

Phased projects will be described as projects that occur over a **3-year** period (not a 5-year period as in the current draft manual) on a single site. This will be consistent with the code.

Project Classification: The small project classification will be changed to apply to projects that create 500 square feet of new impervious surface, rather than projects that create or replace 200 square feet of impervious surface area.

Minimum Project Requirements:

General

- Clarify that stormwater requirements can be applied to an equivalent amount of existing impervious surfaces if it is infeasible to manage stormwater at the location of the new impervious surface.
- The term *effective impervious surface* will not be used.

Small Projects

- Redevelopment will not be subject to stormwater treatment requirements for small projects only.
- Sizing factors will be developed for onsite stormwater management facilities that can be used without a licensed professional or an infiltration test.
- Applicants will have the option of hiring a licensed professional and performing a site-specific infiltration test, in which case they could design a smaller facility than would be needed if they use the sizing factors, if the site has favorable infiltration rates.

Design for Flow Control

- Exemptions for direct discharge to large receiving waters (Willamette River, Tualatin River, or Oswego Lake) will be clarified. If water from a site is piped directly to one of those receiving waters, that project is exempt from flow control requirements.

System Designed by Licensed Professional

- This requirement will be clarified, in terms of which facilities may be designed by a landscape architect instead of a professional engineer.
- A licensed professional will not be required for small projects, except as noted above (when site-specific infiltration testing is performed to support design and try to reduce the facility footprint) or if a proprietary system is proposed or there are special site conditions requiring design professional (e.g., landslide risk).

Recorded Operations and Maintenance Plan and Deed Restriction

- Language will be clarified to specify that owners/operators of facilities that manage stormwater from medium and large projects must file a recorded maintenance covenant against the property in the county in which the property or facility is located.

Sensitive Areas Report

- The title of this requirement will be changed to Landslide Hazard and Erosion Risk Areas to avoid confusion with reports concerning development review on parcels with Sensitive Lands (RP and RC) overlays.

2.10. Review Process for Different Types of Projects – This section is being revised with assistance from the Planning Department.

Chapter 3. Site Assessment, Feasibility Analysis, and Stormwater Facility Selection

- Table 3.1 will be updated for consistency with other parts of the manual, in terms of which facility types are appropriate for meeting specific project requirements (e.g., onsite stormwater management).
- Setbacks will be updated based on feedback from Development Review staff. Current setbacks are proposed:
 - Infiltration BMPs shall be a minimum of 7 feet from existing utilities.
 - Infiltration BMPs shall be a minimum of 10 feet from building foundations.
 - There shall be a minimum of 5 feet between the top edge of a flow-through planter and the property line.
- Describe considerations for an “adjustment” or “exception” to stormwater requirements:
 - “Adjustment” consists of use of a non-preferred facility type or strategy that will accomplish the stormwater performance standards.
 - “Exception” consists of an alternative approach when site conditions do not allow practicable conformance with stormwater performance standards. May require mitigation (onsite or offsite) to meet performance standards. Required by permit for large projects.

Chapter 4. Stormwater Facility Design Guidelines

Approved sizing methods will be clarified. The following methods of sizing are allowed:

- Simplified sizing tables for small projects
- Santa Barbara Urban Hydrograph (SBUH) method approved with site-specific infiltration testing, correction factor of 2 applied, and design by a licensed professional
- Sizing through use of equations in each BMP section is allowed.

Additional changes are as follows:

- Planting guidance is being updated to provide recommendations on plant density and spacing.
- Material specifications are being reviewed and may be updated (e.g., mulch).

- Where feasible, material specifications will be included in the manual (rather than referencing AASHTO or ODOT standard specification number).
- Only concrete walls will be permitted for planters.
- Some graphics will be updated for consistency with design guidelines. For example, a sediment trap will be added to the infiltration trench detail. A sump will be added to the drywell detail.
- Drywell setbacks will be updated to restrict the edge of the excavation to be a minimum of 10 feet from building foundations (rather than requiring that the center of the drywell be a minimum of 10 feet from building foundations).
- Update underground injection control (UIC) guidance to match current Department of Environmental Quality (DEQ) requirements. The following will be clarified:
 - Dry wells are UICs that need to be authorized by DEQ.
 - Infiltration trenches that meet any of the following criteria are UICs that need to be authorized by DEQ.
 - Infiltration trenches that are deeper than the largest surface dimension
 - Stormwater can enter the pipe directly (i.e., without percolating through the soil, like is the case with an overflow pipe).
 - The infiltration trench has an underdrain that extends beyond the footprint of the trench.
 - French drains and footing drains are not UICs.
 - Devices that retain or detain stormwater (e.g., Stormchamber infiltration chambers [<http://stormchambers.com/>]) are UICs if the Stormchamber is located on a sand or coarser because they are then infiltrating water into the subsurface.
 - Dry wells that drain roof only runoff from single-family residential properties do not need to be authorized by DEQ.

Chapter 5. Conveyance and Detention Design Standards

- Downstream analysis figure will be clarified to indicate that no further action is required if the project meets flow control requirements.

Appendix A. Submittals

- Submittal templates and forms may be updated to address review comments.
- Example submittals may be provided.

Appendix B. Infiltration Testing Guidance

- Infiltration testing method may be updated to be consistent with Portland's simplified approach. Better references to this infiltration testing method and required correction factors will be included within the main text of the manual.

Appendix H. Approved Plant Lists and Seed Mixes

- Shade and sun tolerance of species on the Lake Oswego (Native) Plant List, is also being developed. This can be used with the more extensive Portland Plant List (and the accompanying moisture tolerance and spacing requirements) to aid in plant selection.

Appendix J. Small Project Requirements

- This will be updated to reflect revised requirements and to incorporate sizing tables.