

FOREWORD

This document may be referred to as the Stormwater Notebook. It constitutes Appendix B0D-5 of the Redmond Community Development Guide.

The Stormwater Notebook contains the goals, specifications, and standards for clearing, grading, and stormwater management authorized and required by Chapter 15.24 of the Redmond Municipal Code (RMC). Note that Chapter 15.24 of the RMC is the primary code basis for clearing, grading, and stormwater management and should, therefore, also be reviewed. It is included in Appendix A.

This January 1, 2007 issue is being submitted to the Department of Ecology (DOE) and is subject to revisions based on comments from that agency. Please make sure you have provided your name and mailing or email address to Public Works, Development Services Division at (425)556-2760 or pwgen@redmond.gov to obtain revisions.

How to Get Printed Copies of the Stormwater Notebook

If you would like to receive a CD of the updated manual please stop by the City of Redmond Development Services Center, located on the 2nd floor of City Hall (15670 NE 85th St., Redmond) to pick one up. You can use the CD on your computer to print the sections of the notebook you need. The City has also made the CD available to a local vendor who will print the notebook for the cost of printing. For details on how to get a printed copy, contact Development Services Division at (425)556-2760 or pwgen@redmond.gov, or visit the City's website link noted below.

How to Find the Stormwater Notebook on the Internet

The Stormwater Notebook is available on the City of Redmond's website. The Internet address is:

<http://www.redmond.gov/insidecityhall/publicworks/utilities/stormwater.asp>

How to Find Corrections, Updates, and Additional Information

With a publication of this size and complexity, and with the rapid changes in stormwater management technologies, there may be errors that must be corrected and clarifications that are needed. The City intends to publish corrections, updates, and new technical information on the Stormwater Notebook page referenced above. Minor changes will be documented on the website. Major policy changes will be addressed through publication of a new issue of the Stormwater Notebook. The Development Services Division of the Public Works Department maintains an email list for use in notifying interested parties of changes to the Technical Notebook. To be added to the list, contact pwgen@redmond.gov.

How to Use the Stormwater Notebook

The Stormwater Notebook is a blend of basic information for everyone from the small, single home builder, to the large developer, to the civil engineer supporting them. You can read it from cover to cover or refer to specific sections as needed. For small projects, the Stormwater Notebook should include most of the information you need. For larger projects, or for more detailed information, the project proponent will need a copy of the 2005 Department of Ecology Stormwater Management Manual for Western Washington.

Chapter 1 provides some introductory material to get you started. Chapter 2 describes Redmond-specific differences from the Ecology Manual and a lot of detailed design information. Chapter 3 will help you classify your project as small, medium, or large, so you can move on to the appropriate Chapter 4, 5, or 6. Chapters 7 and 8 provide some design information to help you design your project to meet all of Redmond's requirements. Finally, Chapters 9 and 10 provide information related to erosion control during construction to help you build your project in accordance with water quality requirements.

Overview of Changes from Previous Issue

City of Redmond requirements have been updated to complement the 2005 Department of Ecology Stormwater Management Manual for Western Washington (2005 Ecology Manual). References have been updated to reflect that the City's stormwater code was moved from Redmond Community Development Guide (RCDG) 20E.90 to Redmond Municipal Code (RMC) 15.24.

The Stormwater Notebook has been reorganized and a detailed table of contents has been added to make things easier to find. There are numerous changes throughout the document, to improve consistency and readability.

Key changes in organization include:

- Eliminated "Part" organization.
- New Chapter 1, Introduction added.
- Old Chapter 1 is new Chapter 2.
- Old Chapter 2 is consolidated into new Chapter 8.
- Old Chapter 3 remains as new Chapter 3.
- Old Chapter 4 remains as new Chapter 4.
- Old Chapter 5 and 6 combined as new Chapter 5.
- Old Chapters 7, 8, 9, and 10 combined as new Chapter 6.
- Old Chapter 11 is new Chapter 7.
- Old Chapter 12 is consolidated into new Chapter 8.
- Old Chapters 13 and 14 combined as new Chapter 9.
- Old Chapter 15 is new Chapter 10.
- Appendices reorganized.

The key changes that may impact project designs include:

Permitting

- Threshold Discharge Areas, as used in the Ecology Manual are now accepted in Redmond (Chapter 2).
- Project classification information is updated along with descriptions of the permit process for small, medium, and large projects (Chapters 3, 4, 5, and 6).
- Guidance regarding other associated permits is expanded (Chapter 1).
- Drainage report outline is included (Chapter 2).
- Plan review checklist is updated (Appendix F).
- Project submittal data for stormwater facilities is updated (Chapter 6).

Low Impact Development

- Low Impact Development is encouraged and accommodated. LID BMPs approved in the Ecology Manual are permitted in Redmond under suitable site conditions. New section on LID in Redmond is added (Chapter 8).
- Ecology Manual guidance for modeling low impact development is used.
- Use Redmond-specific guidance for modeling compost-amended soil (Chapter 2).
- Apply maintenance standards for low impact development (Appendix P).
- Follow guidance for use of compost-amended soil (Appendix Q).

Wellhead Protection

- Infiltration of clean water is encouraged in Redmond (Chapter 2).
- Infiltration of stormwater is encouraged (with treatment) in Wellhead Protection Zone 4, but is restricted in Wellhead Protection Zones 1, 2, and 3 (Chapter 2).
- Infiltration from pollution generating impervious surfaces (PGIS) following enhanced treatment is permitted in Wellhead Protection Zone 3 (Chapter 2).
- Infiltration from non-pollution generating impervious surfaces that are demonstrated to be clean, is permitted in Wellhead Protection Zones 1, 2, and 3 (Chapter 2).
- To make site design without infiltration from PGIS feasible, in Wellhead Protection Zones 1, 2, or 3, outwash soils may be considered to be fill for the purpose of detention pond sizing (Chapter 2).

Stormwater Flow Control

- Modified flow control standard allows some sites that discharge to stormwater pipes that drain directly to the river or lake to release the 50-year developed peak at the 10-year developed peak (Chapter 2).
- In Wellhead Protection Zones 1, 2, or 3, outwash soils may be considered to be fill for the purpose of detention pond sizing (Chapter 2).
- Direct discharge conveyance capacity requirement reduced from 100-year to 50-year storm (Chapter 2).
- Projects with less than 0.1 cfs increase of the 100-year flood frequency may be exempt from flow control (Chapter 2).
- Contribution in lieu of detention is updated to reflect new City program for Regional Facilities (Chapter 8).
- Map of historical land cover is added (Appendix N).

Stormwater Quality Treatment

- Emerging technologies may be considered for use in Redmond (Chapter 2).
- Biofiltration swale design was changed in the Ecology Manual to be more like the 1992 manual's design standard (Chapter 2).
- Contribution in lieu of stormwater quality treatment is updated to reflect new City program for Regional Facilities (Chapter 8).
- Water quality facility types permitted in Ecology manual are allowed in Redmond, although some are preferred over others (Chapter 2).

Regional Facilities Plan

- The City has identified proposed locations for many new regional stormwater facilities that will be designed to meet the flow control or stormwater quality requirements of new development throughout the City (Chapter 8).
- Contribution toward construction of regional flow control or stormwater quality treatment facilities is mandatory in regional surcharge areas and optional in watersheds where proposed regional facilities have been identified. The project proponent is responsible for preparing a Contribution in Lieu proposal that evaluates potential impacts from the project (Chapter 8).
- Fee in lieu of compensatory flood storage has been removed from the Notebook.

Stormwater Conveyance and Facility Specifications

- PVC, ductile iron, or fusion-welded HDPE pipe are preferred for stormwater conveyance systems (Chapter 8).
- Freeboard standards for conveyance design updated (Chapter 8).
- Manhole spacing updated (Chapter 8).
- Catch basin and area drain maximum depths specified (Chapter 8).
- Vertical clearance from utilities updated (Chapter 8).
- Shear gates are now permitted (Chapter 2).
- Stormwater ponds shall be signed (Chapter 2).
- Installation of groundwater monitoring wells shall be coordinated with the City's wellhead protection program (Chapter 2).
- Guidance for pumping stormwater added (Chapter 8).
- Stormwater pipe inspection protocol requires enhanced inspection of all new pipe (Appendix R).

Temporary Erosion and Sedimentation Control

- Reference Ecology manual for guidance (Chapter 9).
- Added reference to NPDES permit for construction stormwater discharge (Chapter 9).
- No changes to Rainy Season Guidelines (Chapter 10).