Fact Sheet #2

2016 DRAINAGE DESIGN AND EROSION CONTROL MANUAL FOR THURSTON COUNTY

What is in the 2016 Drainage Manual?

Overview

The 2016 Drainage Design and Erosion Control Manual (Drainage Manual) is composed of five volumes as follows:

Volume I:	Minimum Technical Requirements and Site Planning
Volume II:	Construction Stormwater Pollution Prevention Planning
Volume III:	Hydrologic Analysis and Stormwater Conveyance
Volume IV:	Source Control
Volume V:	Stormwater Best Management Practices (BMPs)

Description of Contents

The content of each volume is summarized below.

Volume I: ***Minimum Technical Requirements and Site Planning***

Volume I guides the project applicant to the information needed to know what requirements apply to their project, what submittals must be made, and provides procedures for selecting best management practices for managing stormwater for the project.

If a project is not exempt from submittal requirements and depending on the type of project and the amount of land disturbing activity, impervious surface, and grading, the applicant will be required to meet one or more of eleven core requirements. The 11 core requirements are:

#1: Preparation of Stormwater Site Plans
#2: Construction Stormwater Pollution Prevention
#3: Source Control of Pollution
#4: Preservation of Natural Drainage Systems and Outfalls
#5: On-site Stormwater Management
#6: Runoff Treatment
#7: Flow Control
#8: Wetlands Protection

#9: Operation and Maintenance
#10: Financial Liability
#11: Off-Site Analysis and Mitigation

Volume I also includes a chapter for the selection of stormwater best management practices depending on which core requirements apply to the project. The best management selection process starts with the use of Low Impact Development BMPs before proceeding into more traditional infiltration, detention, and water quality facility selection menus.

Volume II: *Construction Stormwater Pollution Prevention*

Volume II provides detailed guidance on meeting Core Requirement #2, *Construction Stormwater Pollution Prevention.* It includes the required content of a Construction Stormwater Pollution Prevention Plan (SWPPP) and provides detailed information on BMPs related to construction site stormwater management. The content of a SWPPP includes Temporary Erosion and Sediment Control (TESC) drawings and a Narrative that addresses the following twelve elements:

1. Mark clearing limits
2. Establish construction access
3. Control flow rates
4. Install sediment controls
5. Stabilize soils
6. Protect slopes
7. Protect drain inlets
8. Stabilize channels and outlets
9. Control pollutants
10. Control dewatering
11. Maintain BMPs
12. Manage the project
13. Protect Low Impact Development BMPs

Volume III: *Hydrologic Analysis and Stormwater Conveyance*

Volume III describes hydrologic analysis methods for stormwater Best Management Practices and stormwater conveyance systems (pipes, ditches, swales, etc.). It also describes requirements for soils work associated with the design of infiltration systems.

Design of stormwater best management practices now requires the use of a continuous simulation model such as the Western Washington Hydrologic Model developed by the Department of Ecology. This computer model looks at the history of rainfall data over an extended period of time and uses that data to evaluate stormwater facilities. This type of model replaces the single-event model used previously to size Best Management Practices that was based on a single 24-hour storm event of a given size (Santa Barbara Urban Hydrograph or SCS Method). The single event model is still required for sizing of conveyance facilities since it is more conservative for flow rates and is consistent with historical sizing methods.

For infiltration of stormwater, an applicant must test site soils in the location of the facility and use either a detailed or simple method to estimate infiltration rates. Adjustment factors are then applied by the applicant to obtain a design infiltration rate. If certain circumstances exist such as shallow depth to groundwater, additional requirements apply. They include characterization of the soils beneath the facility to the depth of groundwater and a mounding analysis that evaluates what impact the concentrated infiltration from a new facility will have on the groundwater levels beneath the facility.

Volume IV: *Source Control*

Volume IV provides guidance on the development of a source control plan for those projects that meet the minimum thresholds for Core Requirement #3, *Source Control of Pollution.* The Volume includes Best Management Practices for commercial, industrial and residential projects.

Source control Best Management Practices include Operational source control measures and Structural source control measures. Operational measures are activities such as training, preventative maintenance, and recordkeeping. Structural source control measures are mechanical devices or facilities to prevent pollutants from entering stormwater. These measures might include providing containment areas, covering pollutant sources with awnings, etc.

Volume V: *Best Management Practices (BMPs)*

Volume V provides information on design, operation, and maintenance of Best Management Practices for Flow Control and Runoff Treatment. Best Management Practices are selected using the procedures and flow charts contained in Volume I and the requirements for design provided in Volume V.

Volume V Best Management Practices are grouped by type as follows:

- LID Stormwater Management BMPs
- Infiltration BMPs
- Detention BMPs
- Biofiltration BMPs
- Wetpool BMPs
- Media Filtration BMPS
- Oil and Water Separation BMPs.

For More Information:

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