



Snohomish County
Planning and Development
Services

Visit us at :

2nd Floor Robert J. Drewel Bldg.
3000 Rockefeller Avenue
Everett, WA 98201

425-388-3311
1-800-562-4367, ext. 3311



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Appointment
425.388.3311
Ext. 2790



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Preparing a Small Project Stormwater Pollution Prevention Plan (SWPPP)

Assistance Bulletin

#91

For projects vested on or after 9/30/10

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Introduction

Erosion and stormwater control is important on every building site regardless of lot size and is regulated under Chapter 30.63A SCC (Drainage). Applicants proposing small projects that meet the criteria set forth in SCC 30.63A.810 may prepare an abbreviated Stormwater Pollution Prevention Plan (SWPPP) to comply with Minimum Requirement (MR) 2 in SCC 30.63A.400 through 30.63A.510. MR 2 requires control of soil and sediment on new development and redevelopment to prevent stormwater pollution. Erosion and sediment control best management practices (BMPs) required for small projects do not require the stamp of a licensed civil engineer. Applicants for small projects may submit an abbreviated SWPPP consistent with Volume 1, Appendix I-F of the Snohomish County Drainage Manual. Applicants must be able to meet all requirements of Minimum Requirement 2 by using BMPs that do not require engineering.

What projects qualify to do a small project SWPPP?

Pursuant to SCC30.63A.810, small projects must meet the following criteria:

- The area of disturbance is less than one acre in size and is not part of a common plan of development.
- Creates, adds or replaces, or any combination thereof, impervious surface area in an amount less than 2,000 square feet.
- Moves less than 100 cubic yards of material graded on site or 500 cubic yards of material under the foundation of a building that will be built pursuant to an approved building permit.
- Causes less than 7,000 square feet of land disturbing activity.
- Is located outside of a floodplain or shoreline designation.
- Will not adversely impact a wetland, stream or water of the state or change a natural drainage course.
- Does not require engineering to comply with this chapter.

Contents

This assistance document contains the following sections:

- Overview of the purpose and contents of a SWPPP
- A list of the 12 elements of Minimum Requirement 2, and the erosion control BMPs allowable for small projects
- General requirements for Small Project SWPPPs (BMP C180)
- Small Project Stormwater Pollution Prevention Plan submittal requirements
- Required sequence of BMP implementation

This bulletin is intended only as an information guide. The information may not be complete and is subject to change. For complete legal information, refer to Snohomish County Code.

What is a Stormwater Pollution Prevention Plan?

The SWPPP is a document that describes the potential for pollution problems on a construction project. The SWPPP explains and illustrates the measures to be taken on the construction site to control those problems. The SWPPP can be a distinct part of the overall plans and specifications for a project, or it can be a separate document. The SWPPP must be located on the construction site or within reasonable access to the site for construction and inspection personnel, although a copy of the drawings must be kept on the construction site at all times. As site work progresses, the SWPPP may be required to be modified to reflect changing site conditions.

Elements of Minimum Requirement 2 and Allowable Erosion Control BMPS

A small project SWPPP must consider all twelve elements of the construction SWPPP described in SCC 30.63A.450 through SCC 30.63A.510 as described in volume1, Appendix I-F. Best management practices for each applicable element must be described in the SWPPP Narrative and shown in drawing form on the Small Project Stormwater Pollution Prevention Plan (SWPPP).

- Mark clearing limits
- Establish construction access
- Control flow rates
- Install sediment controls
- Stabilize soils
- Protect slopes
- Protect drain inlets
- Stabilize channels and outlets
- Control pollutants
- Control dewatering
- Maintain BMPs
- Manage the project

BMP C180: Small Project Construction Stormwater Pollution Prevention

The purpose of a Small project SWPPP is to prevent the discharge of sediment and other pollutants to the maximum extent practicable from small construction projects. Projects that meet the requirements of SCC 30.63A.810 should use the following guidelines when developing a SWPPP for their proposal:

Design and Installation Specifications

- Plan and implement proper clearing and grading of the site. It is most important only to clear the areas needed, thus keeping exposed areas to a minimum. Phase clearing so that only those areas that are actively being worked are uncovered. *Note: Clearing limits should be flagged in the lot or area prior to initiating clearing.*
- Soil shall be managed in a manner that does not permanently compact or deteriorate the final soil and landscape system. If disturbance and/or compaction occur the impact must be corrected at the end of the construction activity. This shall include restoration of soil depth, soil quality, permeability, and percent organic matter. Construction practices must not cause damage to or compromise the design of permanent landscape or infiltration areas.
- Locate excavated basement soil a reasonable distance behind the curb, such as in the backyard or side yard area. This will increase the distance eroded soil must travel to reach the storm sewer system. Soil piles should be covered until the soil is either used or removed. Piles should be situated so that sediment does not run into the street or adjoining yards.
- Backfill basement walls as soon as possible and rough grade the lot. This will eliminate large soil mounds, which are highly erodible, and prepares the lot for temporary cover, which will further reduce erosion potential.

- Remove excess soil from the site as soon as possible after backfilling. This will eliminate any sediment loss from surplus fill.
- If a lot has a soil bank higher than the curb, a trench or berm should be installed moving the bank several feet behind the curb. This will reduce the occurrence of gully and rill erosion while providing a storage and settling area for stormwater.
- The construction entrance should be stabilized where traffic will be leaving the construction site and traveling on paved roads or other paved areas within 1,000 feet of the site.
- Provide for periodic street cleaning to remove any sediment that may have been tracked out. Sediment should be removed by shoveling or sweeping and carefully removed to a suitable disposal area where it will not be re-eroded.
- Utility trenches that run up and down slopes must be backfilled within seven days. Cross-slope trenches may remain open throughout construction to provide runoff interception and sediment trapping, provided that they do not convey turbid runoff off site.

General Principles

The following general principles should be applied to the development of the SWPPP:

- The duff layer, native topsoil, and natural vegetation should be retained in an undisturbed state to the maximum extent practicable.
- Prevent pollutant release. Select source control BMPs as a first line of defense. Prevent erosion rather than treat turbid runoff.
- Select BMPs depending on site characteristics (topography, drainage, soil type, ground cover, and critical areas) and the construction plan.
- Divert runoff away from exposed areas wherever possible. Keep clean water clean.
- Limit the extent of clearing operations and phase construction operations.
- Before reseeding a disturbed soil area, amend all soils with compost wherever topsoil has been removed.
- Incorporate natural drainage features whenever possible, using adequate buffers and protecting areas where flow enters the drainage system.
- Minimize slope length and steepness.
- Reduce runoff velocities to prevent channel erosion.
- Prevent the tracking of sediment off-site.
- Select appropriate BMPs for the control of pollutants other than sediment.
- Be realistic about the limitations of controls that you specify and the operation and maintenance of those controls. Anticipate what can go wrong, how you can prevent it from happening, and what will need to be done to fix it.

Small Project Stormwater Pollution Prevention Plan (SWPPP) Submittal Requirements

The applicant shall submit a Small Project Stormwater Pollution Prevention Plan (SWPPP) submittal form. This form includes instructions for completing the SWPPP narrative and attaching a SWPPP site plan. A SWPPP map may be a separate document or required SWPPP elements may be shown on the project site plan provided that all information is shown clearly.

Stormwater Pollution Prevention Plans for Small Projects Selecting Soil Erosion Control BMPs

Volume II, Appendix I-F of the Snohomish County Drainage Manual contains standards and specifications for small project BMPs. Wherever any of these BMPs are to be employed on a site, the specific title and number of the BMP should be clearly referenced in the narrative and marked on the SWPPP.

The applicant shall review the Small Project BMPs in Volume I, Appendix I-F and select the small project BMPs required to control soil erosion and sediment for their project. Upon review and site inspection, the department may condition approval of the Small Project SWPPP and associated permit to require the use of additional BMPs listed below to ensure that soil erosion and sediment control are adequate to meet the drainage requirements in Chapter 30.63A SCC (Drainage).

Best Management Practices for the Twelve SWPPP Elements

SWPPP Element 1: Preserve Vegetation/Mark Clearing Limits

Minimize removal of existing trees and disturbance and compaction of native soils, except as needed for building purposes. The duff layer, native top soil, and natural vegetation shall be retained in an undisturbed state to the maximum degree practicable. Prior to beginning land disturbing activities, delineate or mark the following areas and features on the site:

- (a) Clearing limits;
- (b) All critical areas and their setbacks and buffers;
- (c) Erosion or landslide hazard areas and their setbacks;
- (c) Easements;
- (d) Required open space, landscaping, and tree retention and replacement areas;
- (e) Other areas on the site required to be preserved or protected including, but not limited to, drainage courses.

Relevant BMPs

- BMP C101: Preserving Natural Vegetation
- BMP C102: Buffer Zones
- BMP C103: High Visibility Plastic or Metal Fence or
- BMP C104: Stake and Wire Fence

SWPPP Element 2: Establish Construction Access

A stabilized construction entrance will be installed prior to any vehicles entering the site, at the location shown on the SWPPP plan. Construction vehicle ingress and egress shall be limited to one route if possible. A stabilized construction entrance or other equivalent BMP shall be installed to prevent sediment transport onto roads. Streets shall be cleaned at the end of each day during dry weather and more frequently during wet weather. Street washing is only allowed after sediment is removed by shoveling or pick-up sweeping and transported to a controlled disposal area. Street wash wastewater shall be controlled by pumping it back on site or otherwise preventing its discharge into systems tributary to the waters of the state or waters that would otherwise require enhanced treatment.

Relevant BMPs

- BMP C105: Stabilized Construction Entrance
- BMP C107: Construction Road/Parking Area Stabilization

SWPPP Element 3: Control Flow Rates

Small projects shall meet this requirement by appropriate use of BMPs related to SWPPP element 4.

SWPPP Element 4: Install Sediment Controls

Remove sediment from construction site runoff by using appropriate sediment removal BMPs. Runoff from fully stabilized areas may be discharged without a sediment removal BMP.

Relevant BMPs

- BMP C230: Straw Bale Barrier
- BMP C231: Brush Barrier
- BMP C232: Gravel Filter Berm
- BMP C233: Silt Fence (or preserve natural vegetation – see Element 1)
- BMP C234: Vegetated Strip
- BMP C235: Straw Wattles

SWPPP Element 5: Stabilize Soils

Exposed and unworked soils and soil stockpiles shall be stabilized. Soil stockpiles shall be located away from storm drain inlets, drainage channels and other waters.

Mandatory: The time period of soil exposure allowed depends on the season. No soils shall remain exposed and unworked for more than seven days during the dry season, May 1 through September 30, or two days during the wet season, October 1 through April 30, unless the County places other restrictions on the project.

Relevant BMPs

- BMP C120: Temporary and Permanent Seeding
- BMP C121: Mulching
- BMP C122: Nets and Blankets
- BMP C123: Plastic Covering
- BMP C124: Sodding
- BMP C125: Topsoiling (to be used for soil stabilization only, not soil amendment)
- BMP C131: Gradient Terraces
- BMP C140: Dust Control

SWPPP Element 6: Protect Slopes

Cut and fill slopes may require engineering, which would disqualify the project for submittal as a small project under SCC 30.63A.810. In addition, most of the BMPs related to this SWPPP element require engineering. No projects that include a cut with a slope over 4 feet high (will exceed 2 feet horizontal to 1 foot vertical), and no fill slope over 4 feet high that will exceed 3 feet horizontal to 1 foot vertical will be considered small projects.

Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion and comply with applicable critical area regulations in Chapters 30.62 and 30.62A SCC. Cut and fill slopes shall be protected from erosive flows and concentrated flows until permanent cover and drainage conveyance systems are in place. Excavated material shall be placed on the uphill side of trenches, consistent with safety and space considerations.

Relevant BMPs

- BMP C120: Temporary and Permanent Seeding
- BMP C208: Triangular Silt Dike (Geotextile-Encased Check Dam)
- BMPs C 122 and C 123 for nets and blankets and plastic covering.

SWPPP Element 7: Protect Permanent Drain Inlets.

All permanent storm drain inlets require protection from sediment and silt-laden water. Permanent storm drain inlets operable on the site during construction shall be protected so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment. Inlet protection devices shall be cleaned or removed and replaced when sediment has filled one-third of the available storage or as specified by the product manufacturer. They may be removed once the site is stabilized.

Relevant BMPs

BMP C220: Storm Drain Inlet Protection

SWPPP Element 8: Stabilize Channels and Outlets

The channel and outlet stabilization measures proposed herein are intended for protection of preexisting drainage systems on the project site. Design and construction of stormwater conveyance systems (pipes or ditches, etc.) requires an engineer per SCC 30.63A.405(3)(d). In addition, the BMPs related to this SWPPP element require engineering. If a project affects channels or requires outlet protection, it would not be eligible as a small project SWPPP. **The project applicant should verify that the project meets the small project criteria.**

Temporary and permanent conveyance systems shall be stabilized to prevent erosion during and after construction. Stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes and downstream reaches shall be provided at the outlets of all conveyance systems.

Relevant BMPs

BMP C202: Channel Lining

BMP C209: Outlet Protection

SWPPP Element 9: Control Pollutants

Appropriate pollution source control measures shall be implemented as applicable in areas of: construction equipment maintenance or fueling; handling or storage of waste materials, construction debris, fertilizers, chemicals; and other activities that may contribute pollutants to stormwater. The following specific requirements apply:

- Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment.
- On-site fueling tanks shall include secondary containment.
- Maintenance, fueling and repair of heavy equipment and vehicles shall be conducted using spill prevention and control measures consistent with Volume IV, Chapters 2 and 3.
- Contaminated surfaces shall be cleaned immediately following any spill incident.
- Application of fertilizers and pesticides shall be conducted in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Manufacturers' label requirements for application rates and procedures shall be followed.
- BMPs shall be used to prevent contamination of stormwater runoff by pH modifying sources. These sources include, but are not limited to, bulk cement, cement kiln dust, fly ash, new concrete washing approved treatment, curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete pumping and mixer washout waters.

Relevant BMPs

BMP C151: Concrete Handling

BMP C152: Sawcutting and Surfacing Pollution Prevention

BMP C 153: Material Storage, Delivery, and Containment

Also see Snohomish County Drainage Manual Volume IV.

SWPPP Element 10: Control Dewatering

Many of the BMPs related to this SWPPP element require engineering and would disqualify a project from small project SWPPP review. Most single-family residences or small project stormwater runoff will be dispersed on-site and this BMP may not be applicable. De-watering BMPs may only be necessary if a foundation will be subjected to holding water during construction.

Highly turbid or contaminated dewatering water shall be handled separately from stormwater, and shall be collected for off-site disposal in a legal manner, or discharged to a sanitary sewer contingent on local sewer district approval. Run-off that must be de-watered may not be discharged to a sanitary sewer system without the permission from the purveyor. Uncontaminated or slightly turbid water from dewatering systems for trenches, vaults and foundations may be disposed by on-site infiltration (dispersion to natural vegetation) or use of a catch basin insert or with outfall to a ditch or swale for small volumes of dewatering water.

Relevant BMPs

BMP C220 - Storm Drain Inlet Protection

SWPPP Element 11: Maintain Best Management Practices.

BMPs shall be inspected by the property owner and contractors and maintained during construction and removed within 30 days after the County determines that the site is stabilized, provided that temporary BMPs may be removed when they are no longer needed.

SWPPP Element 12: Manage the Project.

The SWPPP shall be fully implemented at all times. It shall be modified whenever there is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to waters of the state.

Determine the Sequence of BMP Implementation

The SWPPP must provide the sequence of BMP implementation
Erosion control BMPs should be implemented in the following sequence:

- 1) Delineate or mark the following areas and features on the site:
 - (a) Clearing limits
 - (b) Critical areas and their buffers
 - (c) Erosion or landslide hazard areas and their setbacks
 - (d) Easements
 - (e) Required landscaping, and tree retention and replacement areas
 - (f) Other areas on the site required to be preserved or protected including, but not limited to, drainage courses
- 2) Install stabilized construction entrance and parking area stabilization.
- 3) Protect existing drainage systems on site.
- 4) Establish areas for storage and handling of polluted materials at which pollution source control BMPs will be implemented.
- 5) Install sediment controls.
- 6) Implement stabilization measures for disturbed areas, slopes, and material stockpiles.
- 7) Maintain BMPs until final site stabilization.

Q: What if I have other questions?

A: Call (425) 388-3311 or submit questions online at AskPermitTech@snoco.org.

For more information please see the following bulletins:

Bulletin # 90 Stormwater Pollution Prevention Plan for Small Projects