

Technical Memorandum #12



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Subject: Abbreviated or Simplified Drainage Plans
Project No.: 14505

Introduction

As discussed in Technical Memorandum #5, the county's current NPDES Municipal Stormwater Permit (issued in January 2007) does not exempt the creation of impervious surfaces on agricultural properties. Nor does the permit allow for the outright exemption of existing rural single family lots. Each of these is exempt under Clark County's current stormwater ordinance. This technical memo discusses simplified approaches to stormwater management used by other counties in these situations. The intent is to meet the permit requirements without unduly burdening these types of activities by requiring the services of an engineer or the submittal of full technical documents.

King County Approach

Appendix C of the 2005 King County Surface Water Design Manual (SWDM) provides a simplified alternative to the Full Drainage Review process normally conducted by King County. The simplified review allows the use of alternatives to engineered flow control facilities, and provides a simplified approach to meeting King County's stormwater requirements. The King County Small Project Drainage Requirements are found in Appendix C of the SWDM, which outlines drainage requirements, flow control BMPs, and erosion control measures that can mitigate stormwater impacts without construction of expensive stormwater facilities.

The methodology is applicable to projects that result in 2,000 square feet or more of new impervious surface, replaced impervious surface, or new plus replaced impervious surface, or 7,000 square feet or more of land disturbing activity, and meet one of the following criteria (Draft King County SWDM, February 19, 2008):

- The project will result in no more than 10,000 square feet of total impervious surface added on or after January 8, 2001, no more than 5,000 square feet of new impervious surface, and no more than 35,000 square feet of new pervious surface (for sites zoned as RA, F, or A, the new pervious surface threshold may be increased to 70,000 square feet or to the remaining

portion of the site if 65% or more of the site is preserved in native vegetation by clearing limit, covenant, easement, or tract), OR

- The project will result in no more than 10,000 square feet of total impervious surface added on or after January 8, 2001 and its new pervious surface area will be no more than 35,000 square feet minus 3.25 times the area of new impervious surface being proposed by the project (for sites larger than 22,000 square feet, a factor of 2.25 may be used instead of 3.25, and for sites zoned as RA, F, or A, the allowable amount of new pervious surface calculated herein may be increased by 50% or may be the remaining portion of site if 65% or more of the site is preserved in native vegetation by clearing limit, covenant, easement, or tract), OR
- The project will result in no more than 4% total impervious surface and 15% new pervious surface on a single parcel site zoned as RA or F, or on a single or multiple parcel site zoned as A, AND all impervious surface area, except 10,000 square feet of it, will be set back from its natural location of discharge from the site at least 100 feet for every 10,000 square feet of total impervious area.

Proposed projects that meet these criteria may use flow control BMPs that focus on dispersion, infiltration, or overall reduction of impervious area on the site. Since the Small Project Drainage Requirements also apply to small-scale residential projects, King County provides two sets of BMP requirements. One set applies to “Small Lots” less than 22,000 square feet, and one applies to “Large Lots” greater than or equal to 22,000 square feet.

Section C.1.3.2 of the SWDM requires projects on an individual site/lot greater than or equal to 22,000 square feet to consider BMPs in an order of preference. Full dispersion of all target impervious surface and full infiltration of roof runoff are the top two preferences. For portions of the target impervious surface not addressed by dispersion or infiltration, the third approach is to choose from a list of alternative BMPs, including:

- Limited Infiltration
- Basic Dispersion
- Rain Garden
- Permeable Pavement
- Rainwater Harvesting
- Vegetated Roof
- Reduced Impervious Surface Credit
- Native Growth Retention Credit

Projects that create more than 5,000 square feet of pollution-generating impervious surface must address water quality impacts. Projects exceeding that threshold that cannot use full dispersion must either reduce the area or provide a water quality facility designed by a civil engineer.

The SWDM also provides a similar order of preference for projects that create more than 35,000 square feet of converted pervious surface. King County requires submittal of drainage plans to the Department of Development and Environmental Services (DDES) for review. The submittal must include a flow control BMP site plan, flow control BMP design and maintenance details, a small site erosion control plan, and a written drainage assessment.

Snohomish County

Snohomish County code (SCC 30.63A.610 and 620) lists thresholds and submittal requirements for “minor development” and “minor single family or duplex residential development.” Projects creating less than 5,000 square feet of impervious surface qualify. The county requires a drainage plan demonstrating that Minimum Requirements 1 through 5 of the 2005 Stormwater Management Manual for Western Washington will be met and submittal of a SWPPP for review and approval.

Pierce County

Pierce County requires one of three stormwater plans, depending on the size and complexity of the proposed project. Proponents of small projects may submit an Abbreviated Plan in accordance with Appendix 1-A of the Pierce County Stormwater Management and Site Development Manual. Small projects include those that create less than 5,000 square feet of impervious surface, convert less than 0.75 acres of native vegetation to lawn, convert less than 2.5 acres of native vegetation to pasture, and move less than 250 cubic yards of materials. An Engineer Abbreviated Plan is required for small projects when critical areas are on the site. Projects exceeding those thresholds must submit a Drainage Control Plan. All projects require a sediment and erosion control plan with complexity comparable to the drainage plan required.

Conclusion

Clark County could consider adopting similar simplified submittal and review requirements for stormwater management in rural areas. This approach could allow proponents of small projects in rural areas to reduce or mitigate runoff less expensively and without hiring a civil engineer.

It is important to note that the agencies we reviewed allow abbreviated or simplified plans only when projects fall below the thresholds of 5,000 square feet of new impervious surfaces, 0.75 acres of converted surfaces, and 2.5 acres of native vegetation converted to pasture. Projects exceeding any of those thresholds, regardless of location, are required to submit the standard stormwater plans.