



DEPARTMENT OF COMMUNITY DEVELOPMENT
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SINGLE-FAMILY RESIDENTIAL DRAINAGE PLANS

On undeveloped land, most rainwater soaks into the ground and flows slowly to nearby lakes and streams through the soil. When land is cleared or covered with impervious surface, the rainwater flows quickly across the site and can result in flooding and erosion. Although single-family homes are typically small sites, the cumulative effect of uncontrolled rainwater from these sites can be significant to downstream property and water bodies. For this reason, all new or remodeled single-family homes in the City of Federal Way that create at least 2,000 square feet of new impervious area are required to provide erosion control and flow control as a condition of the building permit.

The *King County Surface Water Design Manual* (KCSWDM) explains the methods available for single-family flow control. (A copy may be found on King County's website [www.kingcounty.gov].) Infiltration is the preferred method of flow control. It must be used on all lots of less than 22,000 square feet, unless soil or slope conditions preclude its use. A soils infiltration report prepared by a qualified septic designer or geotechnical engineer is required for all lots of less than 22,000 square feet, and for larger lots proposing infiltration to determine infiltration feasibility and rate.

If infiltration is not feasible, other methods include: infiltration trenches and drywells, splash blocks, dispersion trenches, sheet flow dispersion, and tightline connection to a public or private system. In cases where there are known downstream flooding problems or severe site constraints, an engineered detention system may be required. Each method has associated restrictions that may make it inappropriate for certain sites. The applicant is advised to read each method carefully to determine which is most suitable for the site. A combination of methods may be used.

In most cases, the homeowner, contractor, or septic designer may prepare the plans. If the site cannot accommodate any of the methods shown in this handout, has severe site constraints, or could aggravate downstream flooding problems, the city may require that a geotechnical engineer or civil engineer licensed in the State of Washington provide research, analysis, and/or design.

Homeowners and contractors are also responsible for erosion control. During construction, all necessary measures must be taken to prevent sediment from leaving the construction site. Plans must include the location and type of erosion control to be used. Please see the handout, "Single-Family Erosion Control Requirements."