



Snohomish County

## North UGAs Drainage Needs Report

Executive Summary

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The North UGAs Drainage Needs Report (DNR) is one of a series of 11 drainage plans completed for most of Snohomish County's Urban Growth Areas (UGAs). The purpose of these plans is to identify flooding and surface water problems and to recommend solutions.

In order to gain a better understanding of the drainage systems, streams, and wetlands within the unincorporated UGAs of Snohomish County, the Snohomish County Council authorized, in 2001, the accelerated development of drainage plans in these areas. These drainage plans are documented in a series of 11 individual reports, known as drainage needs reports (DNRs), as well as in an additional summary report for the entire project. The North UGAs DNR is one of the 11 individual reports that were prepared.

This North UGAs DNR presents information on the type and condition of existing drainage systems in the unincorporated UGAs of Arlington, Darrington, and Granite Falls. These combined areas, with a total area of approximately 9,215 acres, comprise the North UGAs DNR study area.

Due to the small size of this study area and the general lack of historical or known current drainage problems, this DNR focused on describing the existing drainage systems and evaluating whether there are any potential drainage problems. Data were collected from sources including the County's Geographic Information System (GIS), aerial photographs, the Snohomish County Drainage Rehabilitation and Investigation (DRI) program, and results of the Snohomish County Drainage Inventory Mapping.

**Scope of Analyses:** Work for this report was generally qualitative and was based on an assessment of past drainage complaints, a review of the existing drainage infrastructure, and field reconnaissance to supplement existing information and to investigate potential drainage problems. Due to the small size of this study area and the general lack of historical or known current drainage problems, much of the analysis performed for other DNR areas, including hydrologic modeling, and water quality and habitat analysis, was considered unnecessary for this study area.

The key conditions that characterize drainage in this DNR study area are as follows:

- The North UGAs DNR addresses three study areas. The Arlington UGA study area is the largest, with approximately 830 acres. Approximately 40 percent of this study area drains to the Lower Stillaguamish River, 35 percent drains to the South Fork Stillaguamish River, and 25 percent drains to Quilceda Creek. The next largest area is the Darrington UGA study area, covering approximately 780 acres. Approximately 80 percent of the Darrington study area drains to the Sauk River and 20 percent drains to the North Fork Stillaguamish River. The Granite Falls UGA study area is the smallest of the three areas and covers approximately 340 acres. Approximately 82 percent of the Granite Falls study area drains to the Pilchuck River and the remaining area drains to the South Fork Stillaguamish River.
- Because the study areas consist of the unincorporated UGAs for these three cities, the study areas are generally a collection of small, disconnected areas.

- Land uses in the three study areas differ significantly. From field observations and inspection of aerial photos, it is estimated that the Arlington UGA study area is approximately 30 percent developed with residential and agricultural land uses. The Darrington study area is approximately 20 percent developed with residential development. The Granite Falls study area is approximately 20 percent developed with residential, agricultural, industrial, and recreational uses. Residential developments in all three study areas are mainly low and medium density. The Arlington study area also has several newer high-density residential developments.
- Drainage systems within the study areas consist predominately of ditch-culvert systems and creeks. In the Arlington UGA study area, stormwater from newer residential area is typically collected in piped systems and routed through detention ponds. Some portions of the study area have no constructed drainage systems. In these areas, stormwater ponds on the surface and eventually infiltrates into the ground.
- Based on a review of historical drainage complaints registered with the County (which have all been closed), field observations, and discussions with residents, no current drainage problems were identified in any of the three study areas. Consequently, no capital improvement projects are recommended for these areas.