



## Graham Groundwater Study

Pierce County Public Works and Utilities Department, Water Programs Division, is conducting a groundwater study in the Graham area.

The goal of this project is to obtain information about groundwater movement in the Graham/Frederickson areas of Pierce County. It was initiated as the result of citizen concerns expressed during the development of the Clover Creek and Muck Creek Basin Plans.

It appears that some localized flooding in the Clover Creek Basin near Frederickson may be caused by groundwater that migrates northwest from the Muck Creek Basin in the Graham area and surfaces in the lower elevations. Water Programs will be monitoring water levels within local wells to obtain information about groundwater movement (water quality will not be addressed during this study).

The study area encompasses approximately 25 square miles in the Graham area of Pierce County. The approximate boundaries are: north to 196<sup>th</sup> Street East, south to 242<sup>nd</sup> Street East, between 70<sup>th</sup> Avenue East and 114<sup>th</sup> Avenue East (Please see *Figure 1* on the reverse side).

Land surface elevation in the study area varies from a little over 900 ft at the top of the Graham hills in the southeast, to a little below 400 ft near in the northwest in the vicinity of Frederickson. Groundwater levels in the same area are estimated to be approximately 700 ft in the southeast to near 400 ft. in the northwest, near the end of the Kirby Channel. The Kirby Channel is a glacial meltwater channel that crosses the northern portion of the study area, meandering from east to west.

In January 2005, Water Programs sent out approximately 730 letters to property owners in the area. The letter requested their

assistance in locating wells that might be available for use in the study. Approximately 220 property owners have responded to date. Of those, approximately 30 responded that they had wells, and were interested in obtaining more information about the project. Water Programs staff will contact those people; *if* they are interested in participating and *if* their wells are suitable for monitoring, they will be used to obtain water level data. Strict protocols will be utilized for monitoring the wells to ensure their protection. Monitoring is anticipated to begin in late March or early April of 2005.

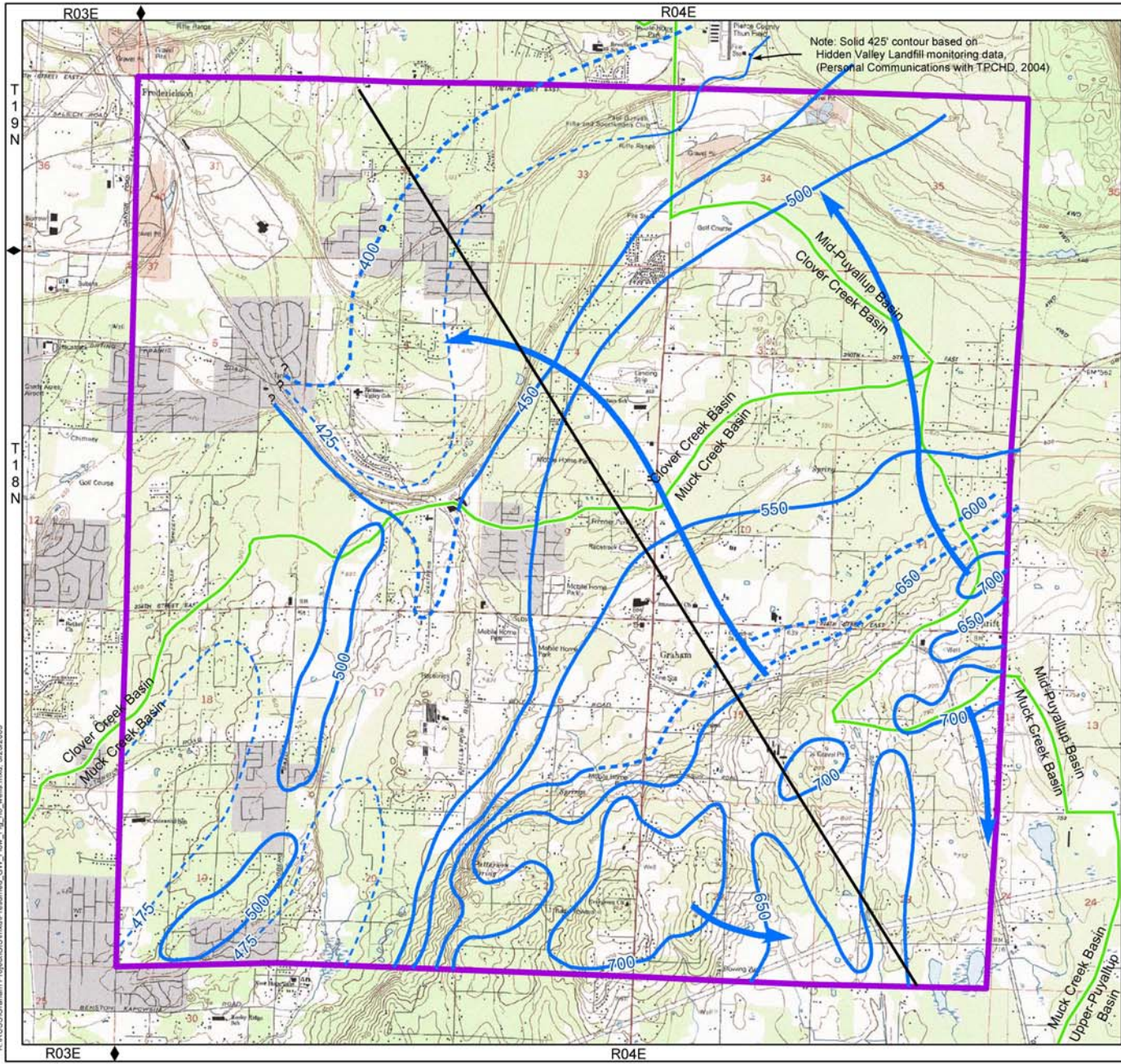
In addition to the wells on private property, Water Programs will be utilizing available data from existing wells that are in, or near the study area. Additional monitoring wells will also be constructed on County owned properties, including some within road "rights-of-way." The additional wells will ensure the collection of sufficient data to support study findings. Water Programs staff will monitor the wells four to six times over a period of approximately one year. A select group of the County-owned wells will be outfitted with monitoring equipment that will automatically collect water level data along a selected flow course. This data will allow an approximate calculation of the rate at which water is pushed through the aquifer.

When monitoring is completed, Water Programs and its consultants (Brown & Caldwell, and Pacific Groundwater Group) will prepare a report regarding the findings.

The results of the study will be presented at a public meeting. Information will also be posted on the Water Programs website: [www.piercecountywa.org/water](http://www.piercecountywa.org/water) under "Important Links" in the "studies" section.

*For more information call Janine Redmond, Senior Planner, at (253) 798-7569.*





**FIGURE 1**  
**PRESUMED GROUNDWATER FLOW**  
**MAP FOR SHALLOW AQUIFER**  
**Graham Study**

**Groundwater Contours**

- 25' Interval     - - - Dashed where Inferred
- 50' Interval
- Groundwater Flow Direction

- Study Area
- Basin Boundaries
- Hydrogeologic Cross-Section

The groundwater elevation contours shown on this map were prepared using depth-to-water data for existing wells. The data were obtained from driller's well logs, available on a Department of Ecology website. Water-level data obtained in this way does not account for seasonal or other time-dependent variations and, for this reason, the map is considered preliminary.

