

## CHAPTER 6

# WELLHEAD PROTECTION PROGRAM

### INTRODUCTION

Water from underground aquifers, commonly referred to as groundwater, forms the primary source of drinking water for an estimated 65 percent of Washington State residents. The City relies on multiple groundwater sources to meet its water supply needs. In order to protect groundwater resources, the Environmental Protection Agency (EPA) and the Washington State Department of Health (DOH) require public water utilities to develop a wellhead protection program as a component of a water system comprehensive plan. The purpose of a wellhead protection program is to provide local utilities with a proactive program for preventing groundwater contamination. A successful program consists of a number of elements that must be developed before the plan can be fully implemented, including a susceptibility assessment, identification of wellhead protection areas, contaminant source inventory, spill response plan, and contingency plan. These elements are described below and will form the basis of the City's Wellhead Protection Program (WHPP).

- ***Susceptibility Assessment:*** Assessment of each well source as to its vulnerability to contamination.
- ***Wellhead Protection Area Identification:*** Delineation of wellhead protection areas based on all reasonable available hydrogeologic information, including the susceptibility assessment.
- ***Contaminant Source Inventory:*** Inventory of potential sources of contamination within each wellhead protection area.
- ***Spill Response Plan:*** A spill response plan for each wellhead protection area containing documentation for coordination with local first responders.
- ***Contingency Plan:*** A contingency plan providing alternate sources of drinking water in the event that contamination does occur and management recommendations to reduce the likelihood those potential contamination sources would pollute the City's drinking water supply.

This WHPP is developed to meet the minimum requirements as specified in Department of Health WAC 246-290-135.

Robinson & Noble, Inc. completed a Wellhead Protection Plan for the City in 2001 that largely fulfills this requirement. A copy of the Wellhead Protection Plan is included in Appendix M. It was completed prior to completion of Well No. 12; however, the analysis for Well Nos. 6, 7, and 10 also applies to Well No. 12 since they share a shallow aquifer. Similarly, the Corridor Wells have since been upgraded, but the analysis of the old Corridor Well aquifer and wellhead protection area still applies. The Wellhead Protection Plan contains the following required elements: wellhead protection area identification, contaminant source inventory, spill response and contingency planning. It also includes detailed hydrogeology, management strategies and an implementation task list. Much of this plan remains up to date; however an updated contaminant source inventory is also included in Appendix M. Notification letters will be sent to all new businesses identified in the updated contaminant source inventory informing them of their location with in the wellhead zones.

A susceptibility assessment is missing from the Wellhead Protection Plan. The following section has been included below to complete the requirements for the program.

**SUSCEPTIBILITY ASSESSMENT**

Drinking water supplies vary in their susceptibility to contaminants discharged at the surface. Wells that have been poorly constructed or have been improperly cased are highly susceptible to contaminants. Groundwater aquifers with no confining layer (layer of low permeability), termed unconfined aquifers, have greater susceptibility than confined aquifers deep below the ground surface. Susceptibility assessments can be used to ascertain the vulnerability of the individual wells. Copies of these assessments can be found in Appendix N.

The Washington State Department of Health developed a susceptibility rating for each of the City’s wells. The City’s wells were designated by DOH as either “low, “moderate” or “high” risk. These results are summarized below in Table 6-1.

**TABLE 6-1**

**Susceptibility Ratings**

Source Name	Source Number	Susceptibility Rating
Well No. 3	S01	High
Well No. 5	S02	Low
Well No. 7	S03	Moderate
Well No. 10	S04	Moderate
Well No. 12	S06	Moderate
Corridor Well No. 1	S07	Moderate
Corridor Well No. 2	S08	Moderate