

Executive Summary

The Portland Water District (PWD), a quasi-municipal entity, has been providing drinking water to the citizens of Portland since 1869. Over the last 130 years, PWD's service area has expanded from the City of Portland to include Cape Elizabeth, Cumberland, Falmouth, Gorham, Raymond, Scarborough, South Portland, Standish, Windham, and Westbrook. Today, PWD provides an average of about 23 million gallons per day (mgd) to over 140,000 people.

Camp Dresser & McKee Inc. (CDM) was retained by PWD to conduct a water system evaluation to provide a comprehensive assessment of PWD's water system facilities and to develop a Capital Projects List that addresses current and future deficiencies. This evaluation, included as part of the Comprehensive Water System Strategic Plan (CWSSP) focused on the existing water system and ten of the eleven currently served communities (PWD extended a main to Raymond during the course of this project). The Muskie School of Public Service (MSPS) and Planning Decisions Inc. (PDI) were commissioned by PWD as subconsultants to CDM on the Master Planning task to analyze the growth in the region and provide projections to serve as the basis for water master planning analysis.

The assessment of the water system was guided by PWD's desire to meet its Customer Satisfaction Goals (included in Appendix C). These goals identify operational targets for hydraulic sufficiency, reliability, regulatory compliance, and system water quality. The results of the water system evaluation that pertain to the Town have been summarized in this document for use as a planning and coordination tool.

The improvements within the Town of Windham which are included on the District's Capital Projects List are presented graphically in Figure 3-3 of this report. They include the following:

- Install a new 10-inch pressure reducing valve on Route 302 (Priority I, 2003-2010);
- Construct a new storage tank on Route 202 near Swett Road (Priority I, 2003-2010);
- Replace about 2,400 feet of existing 8-inch unlined cast iron main with new 12-inch diameter main on Depot Road from Route 202 to River Road (Priority I, 2003-2010);
- Install approximately 3,700 feet of new 24-inch diameter main along Route 202 from Depot Street to River Street (Priority I, 2003-2010);
- Install approximately 12,800 feet of new 12-inch diameter main on River Road (Route 202) to Park Road (Priority II, 2011-2015);
- Install approximately 2,500 feet of 16-inch diameter main on Mallison Falls Road as a redundant river crossing (Priority II, 2011-2015);

- Install approximately 12,000 feet of 16-inch diameter main on Chadborne Road (Route 35) from Whites Bridge Road in Standish to the distribution system in North Windham near Basin Road (Priority III, 2016- 2020);
- Replace about 6,900 feet of the existing unlined 8-inch diameter cast iron main on Route 302 (Page Road and Harriet Street) with a new 12-inch diameter main (Priority III, 2016-2020);
- Replace the existing 8-inch diameter main on Route 202, from the Windham Center Tank to the Route 202 Rotary, with 4,500 feet of new 12-inch main (Priority III, 2016-2020);
- A new parallel transmission main may be required for future capacity/additional redundancy. This new transmission main would be located within the existing right-of-way that extends through Gorham and Windham and connects to the Rocky Hill Tanks in Westbrook. This improvement is identified as a Priority III and planned for the 2016 to 2020 time frame;
- Install 2,900 feet of new 12-inch main along River Road and Page Road to replace the existing 8-inch main from Route 302 to River Road (Priority IV, 2021-2025); and
- Install approximately 9,000 feet of 16-inch diameter main from Kemp Road in Gorham for an additional River Crossing to supply Windham (Priority IV, 2021-2025).

In addition, the District undertakes water main renewals and replacements on an annual basis. Old unlined cast iron mains are among the most frequent targets of the annual program. Figure 3-2 illustrates the location of unlined cast iron mains in the Town. Decisions on which mains are to be included in the annual water main renewal and rehabilitation program are made each year, and presented in a 5-Year Capital Improvements Program. The District plans to coordinate these programs with its serviced communities each year.

The report is organized into three sections. Sections 1 and 2, conducted by the subconsultants MSPS and PDI, were presented and discussed with the Town earlier in the project. These sections highlight the background on the demographic, housing and economic trends for the Portland suburban region in the last decade, and population projections and water use trends. A description of the existing water distribution system and the proposed future improvements in the Town resulting from the CWSSP analysis are presented in detail in Section 3.

Appendices A and B contain a discussion on the forecasting methodology and detailed statistics by community that served as the basis of results presented in Sections 1 and 2. Appendix C contains a summary of the PWD's Customer Satisfaction Goals that served as the foundation for the development of CWSSP.