

Memorandum

Date: October 30, 2008

To: Chris Jordan, City Manager

From: Gene Green, Public Works Director

Subject: Resolution 08-44, Adoption of the 2008 Water System Master Plan

Purpose:

To present the 2008 Water System Master Plan for adoption consideration.

Background:

The City's existing Water Master Plan was completed in 1999 and was last updated by staff in 2004. The City's Water Master Plan is a supporting document to the City's Comprehensive Plan, and as such it will serve as a critical tool in formulating future policy decisions, particularly related to the budget. The Plan provides an assessment of the existing water system and specifies the required improvements necessary to meet required levels of service.

The proposed plan differs from the previous plan in two key ways. The fire flow criterion of the State was increased in 2007 from 1,000 gallons per minute (gpm) to 1,500 gpm. This criterion change results in the need to upsize several pipes in the distribution network which were not identified in the previous plan. Additionally, and of a policy nature, the method of evaluating the City's water system was changed. In the previous plan the system was evaluated on examination of three types of storage: emergency, fire, and equalization. This approach focused attention on reservoir capacity and did not fully even acknowledge other components of the system. The new methodology, as recommended by the consultant and supported by the Staff, analyzes the system and acknowledges the benefits of zonal interconnects, backup power at pumping stations, the intertie with Lake Oswego, etc. The whole system approach recognizes and gives credit to improvements and redundancies the City has invested in its water system.

This whole system approach results in an overall reduced cost to maintain adequate levels of service. It has enabled the City to demonstrate that with attention to strategically identified improvements, the City can continue to serve both our existing customers with their domestic and emergency water needs at professionally specified standards and adequately address the needs of anticipated future build out growth within the currently defined Urban Growth Boundary surrounding this community.

On February 27, 2007, the contract to prepare the plan was awarded to Murray, Smith & Associates. During the intervening months, the consultant has met with the Utility Advisory Board (UAB) seven times and the board is supportive of the plan, recommending approval of the document to the City

Council. Additionally, the consultant has presented progress updates and deliverables to the City Council on two occasions. On September 15, 2008, the consultant presented the draft final plan to a joint worksession of the City Council and Planning Commission. A public open house was held on September 24, 2008 at the West Linn Library. Nine citizens attended and general opinion was support for the plan but concern if the City had funds to implement the capital improvement (CIP) and capital maintenance (CMP) plans. Finally, the plan was presented to the Planning Commission on October 15th, one person testified and the commission voted unanimously to recommend adoption of the plan to the City Council.

The Planning Commission did present two concerns that are discussed briefly as follows:

What is the percentage of gross revenue that is budgeted for the Capital Maintenance Plan?

During the last three years, only one pipe replacement project has been funded, Buck Street waterline for \$65,000, and was done on an emergency basis as water quality and flow volume had become severe. In years previous, some pipe replacement had been funded but that was predominantly by spending down the Water Fund's contingency which ultimately resulted in non-compliance with bond covenants. The 2009 Budget contains \$4,222,622 in Water Fund total requirements, of which \$500,000 (11.8%) is for capital outlay (e.g. vehicles, master plan, telemetry) and \$155,000 (3.7%) is for routine maintenance and repair. The routine maintenance and repair includes Pressure Reducing Valve (PRV) maintenance, fire hydrant maintenance, water main maintenance, pump station and reservoir maintenance and rebuilds, etc. These maintenance efforts and associated costs are not included in the CMP as shown in the Water System Master Plan document.

The proposed WMP recommends \$550K/year for the first five years and \$410K/year for the subsequent fifteen years for funding the CMP.

What is the benefit of doing preventative maintenance versus just replacing as infrastructure fails?

There are many benefits from a planned, pro-active, and disciplined preventative maintenance program to replace aging infrastructure. Some of the positive results are:

- Reduced instances of loss of service.
- Reduced instances of costly emergency repairs. The typical leak costs an average of \$2,600.
- Reduced liability of the City's for damages to private property resulting from broken lines.
- Less risk of water quality issues. If a water main has a leak of which we are unaware and experience a loss of pressure due to a fire or other main break, contaminated ground water can enter the pipe resulting in an extensive system flushing and sanitizing effort.
- If we waited until our system failed, system component replacement in an emergency raises costs for doing in-house or arranging for an emergency contract for repairs. Additionally, parts may not be readily available and be more expensive in small quantities rather than a project scope quantity.
- Reduced risk of failure of large portions of the system of approximately the same age and deteriorated condition may occur simultaneously. For example, the City has 12.5 miles of AC pipe; once it starts to fail, it will likely all start failing due extensive similarities of age and conditions.
- We are very diligent in coordinating other utility needs when timing our CMP projects in order to minimize disruption and also have joint ventures to help keep costs to a minimum. For example, it would be tragic for a water line in need of replacement to break and require replacement under a recently repaved street.

Since the Planning Commission reviewed and recommended the document for approval, the Executive Summary has been added. During staff review of the Executive Summary, staff noted that a percentage of the City's waterlines were categorized as "Other". Staff requested the consultant to include all known pipe lengths and materials (i.e. polybutylene, PVC, and Ameron) that exist in the City's system. This information has been included in the Executive Summary and additionally has been added to, thus revising, Sections 2 and 4. With the identification of these pipe materials, the consultant also provided a recommendation, based on industry standards, that replacement of these waterlines comprising a minor portion of the City's system is anticipated to be beyond the twenty year scope of this master plan; however, staff should monitor these pipes as well and replace as warranted. Finally, minor numerical corrections have been made to the evaluation of the City's existing system as described on Page 4-4 (in Section 4). The Executive Summary and revised Sections 2 and 4 are attached to this staff report.

Staff Evaluation:

- The new water system master plan is required to bring the system into compliance with new state-approved fire flow requirements
- The new plan system performance methodology provides a more comprehensive analysis of the City's system, which provides credit for system redundancies and other non-storage solutions that improve the capacity and reliability of the water system.
- The new plans project CIP and CMP lists will enable the City to quantify needed funding through the next twenty years.
- The new plan contains clear recommendations on needed improvements and prioritization of those improvements.
- The new plan will become the basis for a new water rate study and SDC update.

Summary:

The new plan has been given significant public exposure, been reviewed in-depth by the UAB, received support from the UAB, and was unanimously recommended for City Council approval by the Planning Commission. The plan is ready for adoption.

Options:

1) Approve Resolution 08-44 adopting the 2008 Water System Master Plan as a supporting document to the City's Comprehensive Plan.

Advantages: The document provides and implementation plan to bring the City into compliance with state fire flow requirements. It presents budgetary information to responsibly maintain and improve the City's water system.

Disadvantages: It contains significant costs for CMP and CIP projects for the next twenty years.

2) Not adopt the 2008 Water System Master Plan as a supporting document to the City's Comprehensive Plan.

Advantages: Not commit City to large capital project undertakings.

Disadvantages: Remain out of compliance with state fire flow requirements.

3) Return the plan for re-work with the consultant and City staff.

Advantages: None.

Disadvantages: Continued non-compliance. Additional costs of consultant contract.

Recommendation:

- Staff recommends Option #1.