



## Computerized Maintenance Management System Database Update



### Problem Statement

The City uses a computerized maintenance management system (CMMS) to track the condition, status, and work orders relating to its public infrastructure, including roads, sanitary sewers, storm sewers, and stormwater facilities.

Although many stream segments are owned by the City and the streams are an important component of the stormwater conveyance infrastructure, the CMMS does not include streams at this time.

## Recommendation

To facilitate the City's customer service responses as well as two Stormwater Master Plan recommendations - the Stormwater Major Maintenance Program and the Capital Improvement Program - a key recommendation is to add stream segments to the CMMS. Include both public and private segments.

Use GIS to define stream segments, and then field-verify a portion of the inventory. Segments should be related to obvious field markers (road crossings, manholes, etc.) and must be easily identifiable in the field by Public Works personnel.

The City will identify the data requirements for the stream asset inventory, such as stream name, segment ID, upstream and downstream extent coordinates, ownership, and other attributes as part of the project.

Other currently available data should then be entered. A recommended early action item is entry of culvert data recently collected as part of the Stormwater Master Plan process.

This will allow stream segments to be managed as assets in the CMMS. Work orders can be assigned, and the cost of service for each stream segment can be tracked.

The City could enhance the asset inventory with a condition assessment of stream segments. Initially, the existing data from the desktop geomorphic assessment developed for the Stormwater Master Plan can be used. Stream condition data for each segment should be collected over time, including geomorphic conditions, water quality, and biological health using various standardized protocols. This information will allow the assessment of stream conditions to change over time.

Most stream assessments are conducted by scientists. One available protocol is the Tualatin River Basin Rapid Stream Assessment Technique developed by Clean Water Services. Another is the Natural Resources Conservation Service Stream Visual Assessment Protocol, which is designed to allow rural riparian landowners to conduct a basic stream health evaluation using only visual indicators.

## Cost Estimate

The cost estimate assumes the asset management update is a one-time effort in two phases, and involves new spending using staff from the Stormwater Division and Public Works Administration.

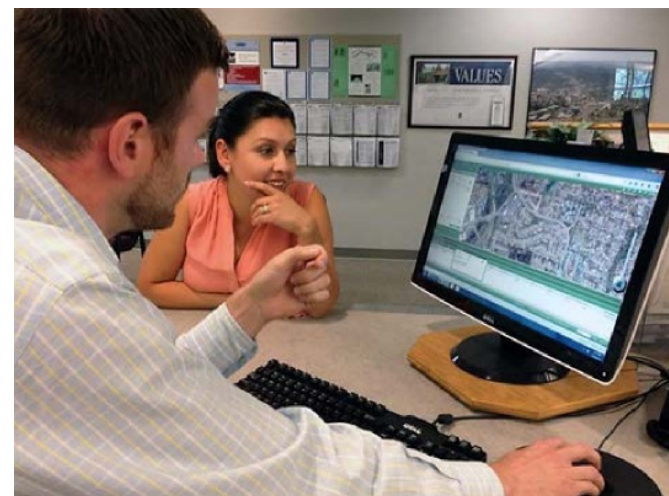
The cost estimate assumes the average annual cost of 1.0 FTE in the Stormwater Division is \$91,000, including salaries and benefits, based on 8.68 FTE in the draft 2017 budget. It assumes the average annual cost of 1.0 FTE in Public Works Administration is \$114,600, including salaries and benefits, based on 9 FTE in the draft 2017 budget.

### Phase I - Asset Management

Items	Qty	Unit	Unit Price	Total
Stormwater Division Staffing	0.2	FTE	\$91,000	\$18,200
Public Works Administration Staffing	0.5	FTE	\$114,600	\$57,300
Project Administration, 15% of Services				\$11,325
<b>Phase I Total (Rounded)</b>				<b>\$90,000</b>

### Phase II - Condition Assessment

Items	Qty	Unit	Unit Price	Total
Stormwater Division Staffing	1.6	FTE	\$91,000	\$227,500
Public Works Administration Staffing	0.4	FTE	\$114,000	\$45,840
Project Administration, 15% of Services				\$41,000
<b>Phase II Total (Rounded)</b>				<b>\$325,000</b>



GIS staff updating Tigard Maps

