



Staff Report

Operations – Water & Wastewater Services

Report To: COW-Operations_Planning_and_Development_Services
Meeting Date: August 27, 2024
Report Number: CSOPS.24.052
Title: Single Source for Inline Watermain Leak Detection
Prepared by: Allison Kershaw, Manager of Water & Wastewater Services

A. Recommendations

THAT Council receive Staff Report CSOPS.24.052, entitled “Single Source for Inline Watermain Leak Detection”;

AND THAT Council approve the single source procurement of Pure Technologies Limited for in-service watermain leak detection.

B. Overview

This report seeks Council approval to procure the services of Pure Technologies Limited to assist the Town with in-service watermain leak detection in the transmission watermain between the Thornbury Reservoir and the Arrowhead Booster Station.

C. Background

The Town has been grappling with significant water loss issues in its water distribution system. These losses not only result in financial losses but also have a negative impact on water conservation efforts and the overall sustainability goals of the Town. Addressing these water loss challenges requires specialized assistance.

The Town owns and operates 150 km of watermain, reaching from the west end of Lora Bay to border of Collingwood on the eastern border of the Town. Much of the water system runs along the shoreline, within 3kms of shore. The Town’s real water loss peaked in 2020 at 27.3% and staff have been taking aggressive actions to reduce this loss, including acoustic correlation leak detection, water meter replacement program, area mass balancing review, and on-going monitoring of the system to identify leaks. With the shoreline being so close to the watermains, water leaks often can go undetected, making their way to the bay and not surfacing. The real water loss for 2023 was 24.2%. Town staff have been researching other means of identifying water leaks to reduce its water loss.

D. Analysis

Town Water staff have been focused on options to reduce the real water losses from the water distribution system. The Town has a single sixteen-inch (16") transmission watermain between Thornbury and Camperdown, that reduces to a fourteen-inch (14") transmission watermain from Camperdown to the Arrowhead Booster Station, located at Arrowhead Road and Highway 26. This is a critical watermain, as it provides water to the eastern end of the Town, including the Village at Blue, Craigleith area and Swiss Meadows. Considering there is limited storage in the eastern end, being the 5000 m³ Happy Valley Reservoir, this watermain is vital for both drinking water and firefighting. The transmission watermain is deep in places and runs very close to the shoreline and in some locations, within Highway 26 right of way. There is good chance that any leaks in the transmission watermain would not surface, therefore hampering the ability to detect these leaks. A significant leak or watermain break in the transmission could result in a catastrophic situation.

Pure Technologies Limited can conduct an inline inspection of a watermain while still in service, utilizing a Smartball™. The Smartball™ inspection tool is a free-swimming, nondestructive inline inspection technology that detects acoustic activity associated with leaks and pockets of trapped air in pressurized pipelines. A photo of the Smartball™ can be seen in Attachment #1. Inline leak detection is a great solution for detecting leaks in transmission mains as it brings the leak detection sensor directly to the source of the leak, providing greater sensitivity and accuracy and covering long distances in a single deployment. Conducting the analysis will provide the Town with a better understanding of the condition of the watermain, as well as identifying any leaks that are affecting the Town's real water loss. Pure Technologies Limited will provide the Town with a fulsome report at the completion of the work.

Purchasing Policy POL.COR.07.05 notes:

Single Sourcing is a method of procurement whereby there is more than one vendor able to supply and a purchase order is issued or contract awarded without a competitive bidding process. Single Sourcing will be permitted if one or more of the following circumstances apply:

8. where a good is purchased for testing or trial use and there is a clearly established deadline for the testing or trial period that does not exceed 12 months

The use of Sole and Single Sourcing with a particular vendor exceeding \$25,000 must be approved by Council. In order for a division to sole or single source for goods or services exceeding \$25,000, an operating strategy must be presented with Purchasing input and approved by Council, outlining the rationale. Input must be sought from the Manager of Purchasing to ensure the purchasing principles in the Town's Procedures are taken into consideration and risk to the Town is minimized.

E. Strategic Priorities

1. Communication and Engagement

We will enhance communications and engagement between Town Staff, Town residents and stakeholders

2. Organizational Excellence

We will continually seek out ways to improve the internal organization of Town Staff and the management of Town assets.

3. Community

We will protect and enhance the community feel and the character of the Town, while ensuring the responsible use of resources and restoration of nature.

4. Quality of Life

We will foster a high quality of life for full-time and part-time residents of all ages and stages, while welcoming visitors.

F. Environmental Impacts

Identifying and repairing leaks reduces water loss and assists with ensuring the availability of clean water for both current and future generations. The treatment and distribution of water require significant energy inputs. When water is lost, the energy used for its extraction, treatment and transportation is wasted. By reducing water loss, the Town can conserve energy resources, lower greenhouse gas emissions associated with energy production, and contribute to overall energy efficiency. Water loss can contribute to infrastructure damage, such as sinkholes or compromised foundations, due to underground leaks. By addressing water loss, the Town can reduce the need for costly repairs, minimize disruptions, and extend the lifespan of water distribution infrastructure.

G. Financial Impacts

The approved 2024 Capital Budget included \$180,000 for inline leak detection. The proposal from Pure Technologies Limited for the inspection of the watermain between Thornbury Reservoir and Arrowhead is \$110,000, Staff are recommending to single source procurement Pure Technologies Limited for \$126,500 which includes a small contingency allowance, only to be used at the discretion of the Town.

H. In Consultation With

Serena Wilgress, Manager of Purchasing and Risk Management

Michael Switzer, Deputy Treasurer/Manager of Accounting and Budgets

Rob Gilchrist, Water Supervisor

I. Public Engagement

The topic of this Staff Report has not been the subject of a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. However, any comments regarding this report should be submitted to Allison Kershaw, Manager of Water & Wastewater Services managerwww@thebluemountains.ca .

J. Attached

1. Attachment 1 Photos of the Pure Technologies Smart Ball™

Respectfully submitted,

Allison Kershaw,
Manager of Water & Wastewater Services

Alan Pacheco
Director of Operations

For more information, please contact:
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Report Approval Details

Document Title:	CSOPS.24.052 Single Source for Inline Watermain Leak Detection.docx
Attachments:	- Attachment 1 Photos of the Pure Technologies SmartballTM.pdf
Final Approval Date:	Jul 23, 2024

This report and all of its attachments were approved and signed as outlined below:

Allison Kershaw - Jul 18, 2024 - 3:13 PM

Alan Pacheco - Jul 23, 2024 - 8:51 AM