DENVER BOARD OF WATER COMMISSIONERS

Meeting Date: May 13, 2015 Board Item: II-A-7

Agreement with Pure Technologies U.S., Inc. for Water Line Leak Detection of Conduit No. 12 Agreement 15959A

□ Action by Consent □ Action □ Information

Summary:
On April 10, 2015, a sole-source proposal was received for the Water Line Leak Detection of Conduit No. 12 (C 12). The purpose of the project is to conduct a leak detection analysis, using Smart Ball technology, on approximately 7.3 miles of 66-inch reinforced concrete and 54-inch steel portions of C 12 starting at the Marston Treatment Plant and ending at the intersection of West 6th Avenue frontage road and North Hooker Street in Denver, Colorado.

The reason for the project is C 12 has exhibited increased reported leak activity in recent years, resulting in unplanned system outages for repairs. Eight leaks have been reported on C 12 since 1986, with three of the leaks occurring over the last three years. As part of Denver Water's Conduit Improvement Program, representatives from Engineering, Planning, and the Operations and Maintenance Divisions have conducted workshops focused on condition assessment and asset management of the existing conduit system. As a result, C 12 was selected as a primary candidate for further evaluation considering its age, material, system criticality, consequence of failure, and recent leak activity.

Smart Ball is an internal free-swimming acoustic leak detection tool suited for large diameter pipelines. It is composed of a water tight, aluminum core that contains a power source and electronic components for data collection. The Smart Ball is deployed into the water flow of a pipeline, travels the pipeline propelled by the hydraulic flow, and is captured at a designated point downstream. Smart Ball is the preferred technology for leak detection on large diameter pipelines over long distances. A key advantage of Smart Ball testing is that the sensor is brought to the leak site via the interior of the pipeline, allowing for greater accuracy in determining the leak location and magnitude.

Budget Information:
The 2015 Capital Improvement Plan (MPC 2DD0094) includes sufficient funds for this project.

2015 Budget	$	1,000,000.00
Amount Requested This Item	$	122,600.00
YTD Expenditures	$	332,430.77
Dollars Budgeted for Future Years	$	0.00
Revised Estimate	$	1,000,000.00
Budget Adjustment	$	

Selection of Business Partner:
Leak detection technologies are proprietary systems, therefore, in 2008 Denver Water Engineering performed a head to head comparison of the Smart Ball (Free Swimming) and Sahara (Tethered) in line leak detection technologies on Conduit No. 13 to determine the system that would best meet Denver Water's needs. While both technologies demonstrated sufficient accuracy in detecting pipeline leaks, Smart Ball proved to be the preferred technology to utilize over long distances. The tethered system required multiple deployments which entailed additional coordination, time, and cost to conduct testing. Leak detection methods utilizing correlators were also considered, however, correlators were found to be less accurate and better suited for small diameter metallic pipelines.

A sole source solicitation is necessary for this work because the firm utilizes proprietary inspection and monitoring equipment. An agreement has been negotiated with Pure Technologies U.S., Inc. in the amount of $122,600.00.

No Minority and Women Business Enterprise (MWBE) goal was established for this work due to its specialized nature.

Recommendation:
It is recommended that the Board approve Agreement 15959A with Pure Technologies U.S. Inc. for Water Line Leak Detection of Conduit No. 12 for the contract period May 13, 2015 through August 31, 2015 for a total contract amount not to exceed $122,600.00.

Approvals:

Robert J. Mahoney
Director of Engineering

Respectfully submitted,

James S. Lochhead
CEO/Manager

Patti Wells
General Counsel

Terri Bryant
Controller