DATE: February 15, 2022

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT Adopt a Resolution Approving Addendum No. 1, Awarding a Contract to Ranger Pipelines, Inc., for the Water Line Improvements Project, Project No. 07093, in an Amount Not-to-Exceed $12,488,057, and Appropriating Additional Funds in an Amount of $3,734,000

RECOMMENDATION

That Council adopts a resolution (Attachment II):

1. Approving Addendum No. 1, providing minor revisions to the project specifications;
2. Awarding the construction contract to Ranger Pipelines, Inc., (Ranger) in an amount not-to-exceed $12,488,057; and
3. Appropriating additional funds in the amount of $3,734,000.

SUMMARY

The Utilities Division of the Department of Public Works & Utilities replaces the City's water mains to improve supply reliability and fire flow through annual water line replacement projects**.** This project will improve water supply reliability by replacing approximately 26,600 linear feet of existing cast iron, ductile iron (DIP), and asbestos cement (ACP) pipes ranging from 4 to 12-inch with new 6, 8, or 12-inch polyvinyl chloride (PVC), ductile iron (DIP), or earthquake resistant ductile iron (ERDIP) pipes at fourteen locations throughout the City (Attachment III). Approximately 26,000 linear feet will be replaced by traditional open-cut method, and another approximately 600 linear feet will be replaced by trenchless technology used to cross under obstructions that prohibit open-cut installation.

On January 18, 2022, five (5) bids were received. The low bid was $11,352,779 which is $114,779, or 1%, above the Engineer's estimate of $11,238,000. Staff is requesting Council's approval of Addendum No. 1, which provided minor revisions to clarify the specifications, and awarding the contract to the lowest bidder, Ranger, in the amount not-to-exceed $12,488,057, including a contingency for Administrative Change Orders.

BACKGROUND

The City's current Capital Improvement Program (CIP) includes funding to replace the City's water mains to improve supply reliability and fire flow through annual water line

replacement projects. The City has approximately 375 miles of water distribution pipeline, of which approximately 67% consists of asbestos cement pipe and a majority of the existing pipelines are 6 inches in diameter. Staff selected the water line locations for a variety of reasons including being undersized, having exceeded service life, frequency of breaks, and/or upgrades needed for supply reliability and fire flow improvements.

As shown in Attachment III, the water main improvements include replacing approximately 26,600 linear feet of existing 4, 6, 8, and 12-inch cast iron, ductile iron, and asbestos cement pipes at fourteen locations throughout the City. These segments have been selected based on performance and maintenance data over the past several years. Recommended projects from the 2014 Water System Master Plan, including upsizing undersized water mains and installing new water lines, were also incorporated to address capacity deficiencies within the existing water distribution system, satisfy future capacity requirements, and provide sufficient fire flow.

Approximately 26,000 linear feet of water main will be replaced by traditional open-cut method constructed in segments to minimize the impact to customers and traffic. The work generally involves excavating a trench two to three feet in width and four to six feet deep, parallel to the water main to be replaced, typically eight feet or more away from the existing water main. After a segment of new water main has been installed and tested, service connections are expeditiously transferred from the old water main to the new one such that water service is typically restored within two hours. After all services have been transferred to the new water main, the remaining portions of the old water main are abandoned in place.

The remaining 600 linear feet will be replaced by trenchless pipe replacement techniques including bore and jack, and micro tunneling where open-cut installation is impossible. The bore and jack method generally utilizes a boring head that is driven into the ground together with a protective steel casing using jacking equipment. The boring head cuts through and extracts the soil and the steel casing allows installation of new water mains crossing under obstructions such as railroad tracks, storm culverts, and flood channels. The micro tunneling method is a newer technology similar to bore and jack and is used to install larger diameter or longer pipe runs.

DISCUSSION

On December 7, 2021[1], Council approved the plans and specifications for the project and called for bids to be received on January 11, 2022. Addendum No. 1 postponed the bid opening to January 18, 2022, due to requests from contractors.

On January 18, 2022, the City received five (5) bids for the project, ranging from $11,352,779 to $14,832,023. Ranger Pipelines, Inc., submitted the low bid in the amount of $11,352,779, which is approximately 1% above the Engineer's estimate of $11,238,000.

[1] https://hayward.legistar.com/LegislationDetail.aspx?ID=5347829&GUID=B1C01790-44AD-4D1E-A005-CD3DADA51E29&Options=ID|Text|&Search=07093

The average of the five (5) bids received was $13,079,234, which is approximately 15% above the Engineer's estimate. An additional $1,135,278 (or 10% of the contract amount) is included as a contingency for administrative change orders in the event additional funds are needed for unforeseen conditions and changes during construction.

ECONOMIC IMPACT

The community will enjoy the benefits of the project, including the continued operability and serviceability of the water distribution system. Furthermore, a robust and reliable water infrastructure can help foster economic development and viability in the City.

Replacing the water mains and appurtenances are part of an effort to, pursuant to Council direction, modernize and upgrade existing infrastructure. The project will reduce operations and maintenance costs associated with servicing the undersized and aging water mains. In addition, staff time attending to issues related to high frequency maintenance and system breaks will be reduced.

FISCAL IMPACT

The estimated costs for the Water Line Improvements Project are as follows:

Construction Contract	$11,352,779
Administrative Construction Contingency	$1,135,278
Professional Engineering Services – Consultant	$733,933
Inspection & Testing & Permitting (Estimated)	$650,000
Construction Administration – City Staff (Estimated)	$400,000
Total	$14,271,990

Appropriation of Additional Funds

The adopted FY22 CIP includes $10,538,000 for the Water Line Improvements Project in the Water System Capital Improvement Fund. As shown above, the current total estimated cost to construct the project exceeds this amount. The original estimate was based on a preliminary conceptual design. These costs are typically developed when project definition is at the planning stage. Expected accuracy for a planning stage estimate typically ranges from 50% below or above the actual cost. Furthermore, the accuracy of the previous estimates is now becoming increasingly unattainable due to the recent COVID-19 pandemic related global supply chain disruptions. Staff requests that Council appropriate additional funds in the amount of $3,734,000 from the Water System Improvement Fund (604) to fully fund the project in FY22. Adequate fund balance is available to cover the necessary appropriation.

STRATEGIC ROADMAP

This agenda item supports the Strategic Roadmap, which includes Improve Infrastructure as one of the strategic priorities. Specifically, this item relates to the implementation of the following project:

Project 13b: Replace 4-6 miles of water pipelines annually.

SUSTAINABILITY FEATURES

The repair and replacement of deteriorating water lines would reduce potable water and energy losses.

PUBLIC CONTACT

Prior to and during construction, notices will be provided to affected residents, property, and business owners to inform them of the nature and purpose of the work, potential impacts, work schedule, and City contact for additional information. In addition, staff will separately contact any large employers and schools that may be affected by the project and coordinate work to minimize impact.

NEXT STEPS

The following schedule has been developed for this project:

Award Construction Contract	February 15, 2022
Notice to Proceed	March, 2022
Construction Completion	March, 2023

Prepared by: Sammy Lo, Acting Senior Civil Engineer

Reviewed by: Tay Nguyen, Senior Utilities Engineer

Recommended by: Alex Ameri, Director of Public Works

Approved by:

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Kelly McAdoo, City Manager