



**DATE:** January 18, 2022

**TO:** Mayor and City Council

**FROM:** Director of Public Works

**SUBJECT:**

Adopt a Resolution Authorizing the City Manager to Execute Amendment No. 1 to the Professional Services Agreement with HydroScience Engineers, Inc., Increasing Project Design and Engineering Services for the Sewer and Water Line Improvements Project by \$175,000 for a Total Not-to-Exceed Contract Amount of \$1,642,865

#### **RECOMMENDATION**

That the Council adopts a resolution (Attachment II) authorizing the City Manager to execute Amendment No. 1 to the professional services agreement (PSA) for project design and engineering services with HydroScience Engineers, Inc., (HydroScience) in an amount not-to-exceed \$175,000, resulting in a total contract amount of \$1,642,865 for the Sewer and Water Line Improvements Project (Project).

#### **SUMMARY**

The project design for the Project started in September 2020. Design for the Water portion of the Project has been completed and was approved by Council with bids to be received on January 11, 2022. Design for the Sewer portion of the Project is anticipated to be completed by February 2022. The scope of work for the sewer portion has increased due to unanticipated changes in site conditions, additional services requested by the City, incomplete data from the City's database, and additional efforts required to adjust incorrect existing data. As a result, the PSA requires an additional authorization amendment of \$175,000 for a total not-to-exceed contract amount of \$1,642,865.

#### **BACKGROUND**

The water portion of the Project includes replacing approximately 26,600 linear feet of existing 4, 6, 8, and 12-inch cast iron, ductile iron, and asbestos cement pipes throughout the City. The sewer portion of the Project includes replacing approximately 18,500 linear feet of existing 6, 8, 10 and 12-inch sanitary sewer vitrified clay, asbestos cement, and high-density polyethylene pipes.

On September 15, 2020<sup>1</sup>, Council approved Resolution No. 20-141, authorizing the City Manager to enter into a PSA with HydroScience for design services and technical support, during construction in an amount not-to-exceed \$1,467,865.

On December 7, 2021<sup>2</sup>, Council approved Resolution No. 21-631, adopting an Initial Study/Mitigated Negative Declaration, approving the Plans and Specifications, and calling for bids to be received on January 11, 2022 for the Water Line Improvements Project.

## **DISCUSSION**

During the design of the Sewer Project, HydroScience provided additional design and engineering services which were not anticipated at the time of the original contract negotiation and incurred costs that exceeded the budgeted amount. An amendment to the PSA is needed due to the following:

1) BART Crossing Permit at Torrano Ave. – The PSA anticipated preparing permit applications for two Union Pacific Railroad crossings, but no application for crossing the BART track at the end of Torrano Ave. This required revising the design to meet BART's pipeline crossing requirements and the preparation of a third permit application.

The cost for this effort is \$5,470.

2) Alternate alignments for the sewer line at Torrano Ave. – At the same Torrano Ave. location, it was discovered that an existing storm drain line was conflicting with the new sewer alignment. This conflict was not apparent until after survey elevation and record drawings were obtained. HydroScience met with staff multiple times to discuss alternate approaches and solutions. Four alternate alignments were developed. This required extensive record research, alignment selection, flow modeling, and conferring with the City.

The cost for this effort is \$16,200.

3) Flood Control channel modifications at Torrano Ave. – Out of the four alternative alignments mentioned above, the alignment selected by the City requires constructing the new sewer main through the bottom of the Alameda County Flood Control storm channel. This will require modification of the County's flood control channel wall to install the new sewer pipeline, encase the pipeline in concrete, and restore the channel walls to original condition. This approach required structural engineering assistance and preparation of details for the construction and restoration of the channel wall.

The cost for this effort is \$10,010.

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<sup>1</sup> <https://hayward.legistar.com/LegislationDetail.aspx?ID=4640098&GUID=DAAB6C51-8A86-47A4-B5D0-35F45982BD1F&Options=&Search=>

<sup>2</sup> <https://hayward.legistar.com/LegislationDetail.aspx?ID=5347829&GUID=B1C01790-44AD-4D1E-A005-CD3DADA51E29&Options=ID|Text|&Search=>

4) Additional sewer line replacement at Meek Ave. – The City requested to extend the new 12” sewer line replacement by another 570 linear feet. This additional replacement section is being added to the project late into the design process. As a result, HydroScience will expedite their design efforts to meet the delivery timeline.

The cost for this effort is \$36,740.

5) CCTV procurement effort and lateral locations from alternate sources – Closed-circuit television (CCTV) is used to inspect the interior conditions of the City’s sewer collection system. Due to the proprietary software used by the City, HydroScience was unable to review much of the video information. Multiple attempts were made to visit the City’s facilities for in-person viewing but only a portion of the project’s footage was obtained. New COVID restrictions at the time added new and unfamiliar challenges to visiting City facilities. HydroScience resorted to reviewing record drawings to identify sewer lateral connections in preparation of the project drawings.

The cost related to this is \$18,300.

6) Update GIS mapping – When budgeting this project, HydroScience expected to utilize the topographic information contained in the City’s Geographic Information System (GIS) for preparation of the base mapping for the sewer project. However, the City’s GIS data was found to be inconsistent with field-surveyed data. Pipeline invert information was incomplete and what was available was found to be incorrect. As a result, a substantial amount of time was spent on additional surveying and adjustment of the base maps.

The cost related to this is \$78,000.

The total cost of the extra work is \$164,720 plus \$10,280 for contingencies for a total of \$175,000. This additional amount is needed for the services by HydroScience for the completion of Sewer Project design and engineering.

## **ECONOMIC IMPACT**

Replacing the sewer mains, water mains, manholes, 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 high frequency, undersized, and structurally defective sewer mains, water mains, and structures. In addition, staff time attending to issues related to high frequency maintenance, sanitary sewer overflows, and system breaks will be reduced. The community will enjoy the benefits of the Project, including the continued operability and serviceability of the sewer collection and water distribution system. Furthermore, robust, and reliable water and sewer infrastructure can help foster economic development and viability in the City.

## **FISCAL IMPACT**

The estimated project cost are as follows:

<u>Total Project Cost</u>	
Engineering Services (Consultant)	\$ 1,642,865
Design and Construction Management – City Staff (Estimated)	\$600,000
Construction Contract (Estimated)	\$19,029,120
Inspection and Testing (Estimated)	\$300,000
Total	<hr/> \$21,571,985

The adopted FY22 CIP includes \$10,538,000 for the Water Line Improvements Project, Project No. 07093, and \$11,117,000 for the Sewer Line Improvements Project, Project No. 07761. The construction cost is an engineer's estimate. Given the current construction bidding climate, the Project needs to go through the bidding process to determine what the budget needs will be. At that time staff would return to Council to request whether additional funds need to be appropriated to cover the total cost of the project.

## **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 projects:

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

Project 15: Upgrade sewer collection system by replacing 3-4 miles of sewer lines annually.

## **STAINABILITY FEATURES**

The repair and replacement of deteriorating sewer lines reduces the risk of sewer overflows, which can cause untreated wastewater to flow into public waterways. Furthermore, the repair and replacement of deteriorating water lines reduces potable water and energy losses.

## **PUBLIC CONTACT**

There is no public contact needed for this item.

## **NEXT STEPS**

If Council approves the resolution to amend the contract with HydroScience, staff will route the amendment to be executed by the City Manager, allowing the firm to continue to provide design and engineering services.

*Prepared by:* Sammy Lo, Associate Civil Engineer

*Reviewed by:* Tay Nguyen, Senior Utilities Engineer  
Kathy Garcia, Deputy Director of Public Works

*Recommended by:* Alex Ameri, Director of Public Works

*Approved by:*

A handwritten signature in black ink, appearing to read 'K. McAdoo', written in a cursive style.

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Kelly McAdoo, City Manager