DATE: July 16, 2019

TO: Mayor and City Council

FROM: Director of Public Works

SUBJECT: Adopt a Resolution Approving Plans and Specifications and Call for Bids for the Sewer Line Replacement Project

RECOMMENDATION

That Council adopts a resolution (Attachment II) approving the plans and specifications for the Sewer Line Replacement Project, Project 07694, and calling for construction bids to be received by August 20, 2019.

SUMMARY

The Utilities Division of the Department of Public Works & Utilities replaces the City's undersized or structurally damaged sewer mains through annual capital improvement projects. This project will replace approximately 5,000 linear feet of 6-inch or 8-inch clay pipe with 8-inch polyvinyl chloride (PVC) or polyethylene (PE) pipe. Approximately 4,000 linear feet will be replaced by traditional open-cut method, and another approximately 1,000 linear feet will be replaced by a trenchless technology used to upsize existing underground pipeline.

BACKGROUND

The City's current Capital Improvement Program includes funding to replace the City's undersized or structurally damaged sewer mains through annual sewer line replacement projects. The City's sanitary sewer collection system was mostly constructed after World War II. Among its 325 miles of sewer pipelines, approximately 9% of the sewer mains are four or six inches in diameter. As the City grew over several decades, sewer flows have increased and as a result, a majority of these small size sewer mains are now undersized. Industry experience has shown that these small diameter pipes are more likely to cause overflows and blockages in the system than 8-inch pipes. Therefore, the City has adopted a standard minimum sanitary sewer main size of eight inches.

The Utilities Division staff also performs regular sewer main cleaning and has an ongoing program to monitor and inspect the condition of the City's sanitary sewer collection system using closed circuit television (CCTV) technology. The inspection is performed by placing a camera, mounted on tracks, inside a sewer pipe and remotely guiding it through the length of the pipe. As the camera moves forward, it sends back video to a TV monitor which enables the staff to inspect the pipe in real time. The video recording of the inspection is stored on a computer and can be retrieved and viewed at a later time. These inspections are used to identify structurally damaged sewer mains for repair or replacement.

DISCUSSION

This project includes replacement of approximately 5,000 linear feet of existing 6-inch or 8-inch sewer clay pipe with 8-inch pipe.

Approximately 4,000 linear feet of existing pipe will be replaced with 8-inch polyvinyl chloride (PVC) pipe by traditional open-cut method. Traditional open-cut sewer repair involves excavating a trench of approximately two to four feet in width and to the depth of the damaged or undersized pipe. Once the sewer main is exposed, the damaged or undersized section is removed and replaced with new PVC pipe. When the repair is complete, the opened trench is backfilled, compacted, and paved to match the original pavement section. The locations of open-cut replacement are on E Street, 1st Street, Armstrong Street, Main Street, Vallejo Street, and Fletcher Lane.

The remaining 1,000 linear feet will be replaced by a trenchless pipe replacement technique, known as reaming, that uses a horizontal directional drilling (HDD) machine. As the drill head rotates and simultaneously pulls through the existing pipe, the old pipe is ground up and replaced with new polyethylene (PE) pipe. The old pipe is removed by mixing the ground up material with the drilling fluid and transferring it to an exit point for removal via a vacuum truck. This more costly method will be employed in easements and areas of heavy traffic; specifically, in easements on Redbud Lane and Rockaway Lane, as well as at the intersection of Foothill Boulevard and Main Street.

This project also includes installation of new manholes in areas where there is a distance of more than 350 feet between manholes to facilitate future maintenance, as hydro cleaning and CCTV equipment operate best within a range of 350 feet.

ECONOMIC IMPACT

Construction of this project would be subject to the requirements of the Community Workforce Agreement, which provides potential local economic benefits, such as the hiring of Hayward residents.

FISCAL IMPACT

The estimated costs for the Sewer Line Replacement Project are as follows:

Construction Contract	$1,330,000
Administrative Construction Contingency (ACO)	$100,000
Pipe Reaming Specialty Consultant	$11,000
Construction Administration	$20,000
Permit Fees, Inspection & Testing	$50,000
Total	$1,511,000

The adopted FY 2020 Capital Improvement Program (CIP) includes $2,620,000 for the Sewer Line Replacement Project, Project No. 07694. The appropriations for this CIP project are approximately $1 million higher than the estimated project costs because the sewer line replacements planned on Rose Street, Peralta Street, Montgomery Street, and a segment of Main Street (from Rose Street to Hazel Avenue) have been deferred to later years due to a street moratorium in effect for these recently paved streets. This project would have no impact on the General Fund.

STRATEGIC INITIATIVES
This agenda item is a routine operational and maintenance item and does not directly relate to one of the Council's Strategic Initiatives.

SUSTAINABILITY 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.

Where appropriate, the use of reaming to replace undersized sewer main reduces the amount of equipment used and disturbance to the ground, as compared to the open-cut method, which reduces air emissions and particulates.

PUBLIC CONTACT

This project is statutorily exempt from environmental review under the California Environmental Quality Act (CEQA) Section 15282(k), which allows for the repair and restoration of an existing subsurface pipeline, provided the project does not exceed one mile in length.

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.

NEXT STEPS

If Council approves the plans and specifications, staff will advertise the construction project for public bidding. Staff will return to Council for the award of the construction contract after construction bids have been received and reviewed.

The following schedule has been developed for this project:

Receive Bids	August 20, 2019
Award Construction Contract	September 10, 2019
Notice to Proceed	October 11, 2019
Construction Completion	January 31, 2020

Prepared by: Jimmy Chen, Senior Utilities Engineer

Recommended by: Alex Ameri, Director of Public Works

Approved by:

Kelly McAdoo, City Manager