



City of Arts & Innovation

City Council Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL DATE: APRIL 18, 2017

FROM: PUBLIC WORKS DEPARTMENT WARD: 4

SUBJECT: TRAUTWEIN AND ALESSANDRO SEWER FORCE MAIN EMERGENCY REPAIR AND REHABILITATION – RESOLUTION DECLARING THE REPAIR AND REHABILITATION AN URGENT NECESSITY FOR PRESERVATION OF LIFE, HEALTH, AND PROPERTY; AUTHORIZE A CONTRACT WITH CP CONSTRUCTION IN THE AMOUNT OF \$57,145.52 FOR THE SPOT REPAIR OF THE FORCE MAIN; AND AUTHORIZE A SOLE SOURCE DESIGN/BUILD CONTRACT TO A QUALIFIED, EXPERIENCED AND AVAILABLE CONTRACTOR TO COMPLETE AN IMMEDIATE REHABILITATION OF THE ENTIRE SEWER FORCE MAIN FOR AN ESTIMATED COST OF \$2,500,000 TO \$3,500,000

ISSUES:

Adopt a Resolution declaring the sewer force main repair at Trautwein and Alessandro is an urgent necessity for the preservation of life, health and property and waiver of the formal bidding requirements of section 1109 of the City Charter; authorize a contract in the amount of \$57,145.45 with CP Construction for the force main spot repair; authorize a sole source design/build contract to a qualified, experienced and available contractor to complete an immediate rehabilitation of the entire sewer force main estimated to cost in the range of \$2,500,000 to \$3,500,000.

RECOMMENDATIONS:

That the City Council:

1. Adopt the attached Resolution waiving the formal bidding requirements and declaring the sewer force main repair an urgent necessity for the preservation of life, health and property, in accordance with the City Charter section 1109;
2. Approve a contract in the amount of \$57,145.52 with CP Construction for the March 18, 2017, force main spot repair;
3. Authorize the City Manager, or his designee, to execute the contract with CP Construction;
4. Authorize a sole source design/build contract to a qualified, experienced and available

contractor to complete an immediate rehabilitation of the entire sewer force main estimated to cost in the range of \$2,500,000 to \$3,500,000 depending on the determined method; and

5. Authorize the City Manager, or his or his designee, to execute the design build contract for the rehabilitation work.

BACKGROUND:

The Wood Road Sewer Pump Station and Sewer Force Main Improvement Project was constructed in 1987. This station is the largest in the City with an average wastewater flow of two million gallons per day and provides wastewater service to approximately 13,000 residents (Attachment 1). The project included the installation of approximately 8,200 linear feet of low pressure sewer force main pipeline (Force Main). The force main pipeline is necessary to convey wastewater uphill from the Wood Road Sewer Pump Station near Trautwein Road to E. Alessandro Blvd and up to the Barton Street intersection. At Barton Street the sewer pipeline transitions to gravity as the wastewater flows downhill from this point to the Regional Water Quality Control Plant.

DISCUSSION:

On Saturday, March 18, 2017 at approximately 12:30 pm the force main experienced a rupture on Trautwein Road near the Berry Street intersection. The rupture caused a sewer spill and staff responded to address the situation and make arrangements for immediate repair. An emergency requisition was issued and staff contacted CP Construction to complete the repair work. CP Construction completed the repair by approximately 4:30 pm that afternoon when the sewer force main line was returned to normal operation. The total sewer spill volume is calculated at 605,000 gallons. The City response and remediation was good with 72% of the spill being recovered and returned to the sewer system using pump trucks.

A similar rupture on the same line occurred four months earlier on Sunday December 4, 2016 (Attachment 2). This resulted in another large sewer spill of 1.5 million gallons of which 79% was recovered and returned to the sewer system. As required under our Riverside Water Quality Control Plant NPDES regulatory permit, both events have been reported to the Santa Ana Regional Water Quality Control Board.

Both ruptures were the result of lateral cracks on the top (crown) of the 16" ductile iron cement lined force main pipeline. The force main pipeline is 30 years old, or about at one-half of its expected service life and such a failure is not expected. Because of the similarity of the failures at different locations on the pipeline staff retained the services of Carollo Engineers to complete an evaluation of the situation and provide recommendations on a pipeline remediation plan, if necessary.

On March 30, 2017, staff received the Attached memo from Carollo Engineers that the Trautwein and Alessandro sewer force main is in overall poor condition and is in grave danger of imminent failure based on their initial assessment. They are advising we move quickly for emergency rehabilitation. Staff concurs with Carollo Engineer's assessment and recommendation. Considering the overall condition of the line is poor and may fail at any time, the fact that we

have had two recent failures which resulted in large sewer spills, the situation has resulted in a public health and environmental risk where escalating regulatory fines could occur with more failures.

There are two rehabilitation methods that may be considered by the selected contractor. The first, is the installation of a cure-in place liner that basically creates a “pipe within a pipe” that adds structural integrity to eliminate future ruptures. The second, is a pipe burst method which pulls a new line in place of the existing line. As the new line is pulled through it “bursts apart” the existing line leaving a new line in its place. An advantage of both methods is that the existing force main alignment can be utilized and only minor excavation pits would be required for access to the force main. In comparison, a new line would be much more expensive, take significantly more time and would require extensive street trenching and result in major road impacts.

To support the force main rehabilitation work, an above ground bypass system will need to be installed for the Wood Road Sewer Pump Station in order to maintain wastewater service. The contractor will be responsible to submit a bypass plan for approval and for operation of the system during the rehabilitation work.

The Assistant City Manager, Chief Financial Officer/Treasurer, and the Purchasing Services Manager have reviewed this report and concur with the above.

FISCAL IMPACT:

There is no impact to the General Fund. There is sufficient funding in the Sewer Enterprise Fund Collections Maintenance and Repair budget (account 4125100-424220) to cover the \$57,145.52 cost for the emergency sport repair work. Funding for the Rehabilitation project estimated to cost in the range of \$2,500,000 to \$3,500,000 will be appropriated from the Sewer Enterprise Fund balance.

Prepared by: Kris Martinez, Public Works Director
Certified as to
Availability of funds: Scott G. Miller PhD, Chief Financial Officer/City Treasurer
Approved by: Al Zelinka, FAICP, Assistant City Manager
Approved as to form: Gary G. Geuss, City Attorney

Attachments:

1. Trautwein and Alessandro sewer force main service area map
2. Trautwein and Alessandro sewer spill map
3. Carollo Engineers recommendation for emergency rehabilitation
4. Resolution