Project Name: Elk Vale Reservoir Water Level Investigation

Description:

Project is being driven by the need to determine whether the water distribution system performance of maintaining the Elk Vale Reservoir level is performing as intended, and if not, what is preventing the system from performing as intended. The project will consist of review, analysis, field testing and reporting necessary.

5/20/19-CC approved Prof Serv Agreement with FMG in the amount of $41,254.00
2/20/20-Carryover Water 933 $38,849
3/21- Carryover Water 933 $12,360
4/5/21-CC approved amendment 2 with FMG. No cost. Time extension to 6/30/21
06232021 Pending amendment 3 requesting $16000 and time extension to November 2021 on July 19, 2021 Council

Justification:

The City has been struggling during peak demand season to keep the Elk Vale Reservoir in a state of keeping up with the other two Signal Hill Low Level Reservoirs. The current solution for the last two years is for operations to crack a North Rapid Pressure Zone Separation Valve to "backfeed" the low zone near Mall Drive and Lacrosse Street. This is not a sustainable solution. The following is a brief summary below of history.

History: Operations has approached Engineering identifying that Operations was having trouble keeping Elk Vale Reservoir level "up" to track along with the two low level Signal Hill Reservoirs. There have been multiple theories as to why this is the case as follows: Some have theorized it is a "demand" issue. Others have identified that it is a system valve operations issue When the valves were closed years ago by accident, it is my understanding that multiple water main breaks occurred in the distribution system. Thus, Water Operations and Utility Maintenance were hesitant to operate the valves again. The hypothesis of why the water mains were breaking when the valves were closing was that there was a closed valve in the system preventing a clear route to the Elk Vale Reservoir. Another theory has been that there are closed valves: Utility Maintenance has reported that they have gone out on multiple occasions to check the valves on the large transmission mains headed east as well as at specifically selected locations (see SPT Memo 2018-attached). Aside from a couple "buried valves" which Chip affirmed were open, all valves were checked as positioned as intended ("no closed valves that should not be closed". The City is need of a consultant to spearhead plan development, field execution, and documentation of findings.

Expenditures:

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<th>Design Professional Services</th>
<th>2019</th>
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Total: 42,000

Funding Sources:

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<th>933 - Water Repl/Impr</th>
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Total: 42,000

Budget Impact/Other:

This amount is actually 41,254

Requesting $13,745 in 2021 add for pending amendment 3 (933)