



Staff Report

TO: City Council
FROM: Thaxton Van Belle, General Manager of Utilities
DATE: February 1, 2022
SUBJECT: Collections System CIP Project Update

Background and Analysis:

During the FY2020 budget process, City Council appropriated funds in the five-year capital Improvement project list for a Wastewater Master Plan (WWMP), improvements to the lift station programmable logic controllers (PLCs) and communications systems, and inflow and infiltration management.

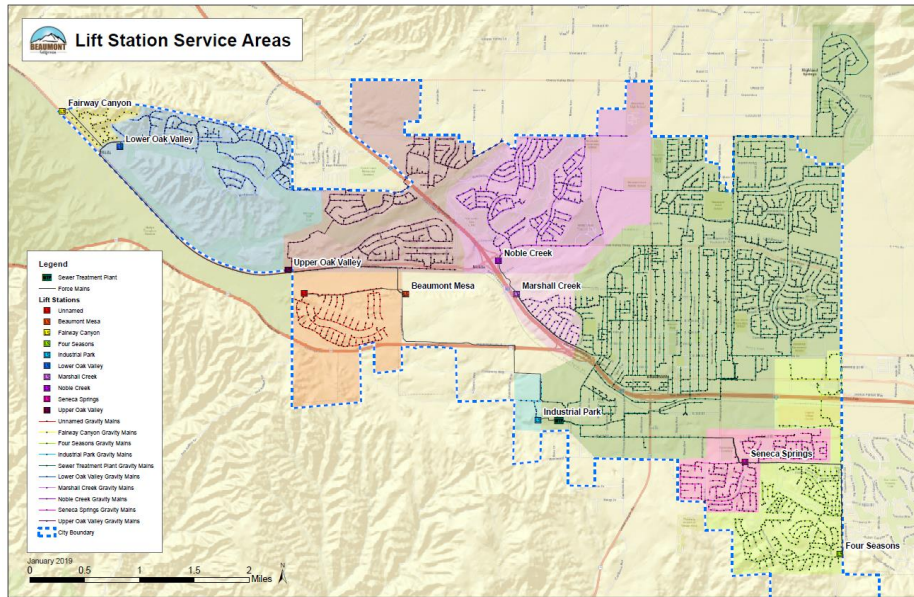
Wastewater Master Plan (WWMP)

A WWMP provides a capacity adequacy assessment of the City's sewer collection system to meet the level of service required by existing customers and to accommodate future growth. The WWMP is a technical planning and budgetary document which establishes the infrastructure needs of the community over time and quantifies costs and financial requirements associated with those needs. City Council was presented with a draft document in a July 2020 workshop. The report has been finalized and is now ready for presentation to the City Council for consideration.

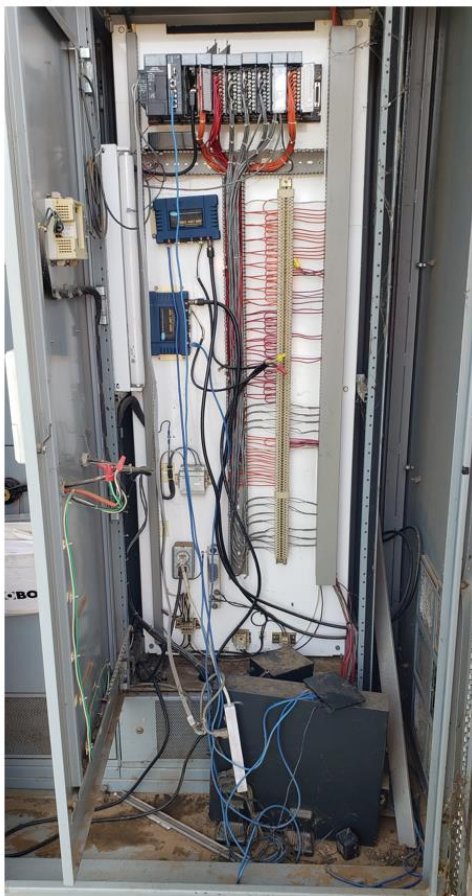
PLC Project

To date, PLC upgrades have been completed at the following lift stations: Four Seasons, Seneca Springs, Fairway Canyon, Lower Oak Valley, Mesa, Marshall Creek, Noble Creek, and Cooper's Creek. The remaining lift station, Upper Oak Valley, is next in the queue. After all lift station PLCs are completed, new cellular-based communication systems will have been installed along with modern radios as a backup system.

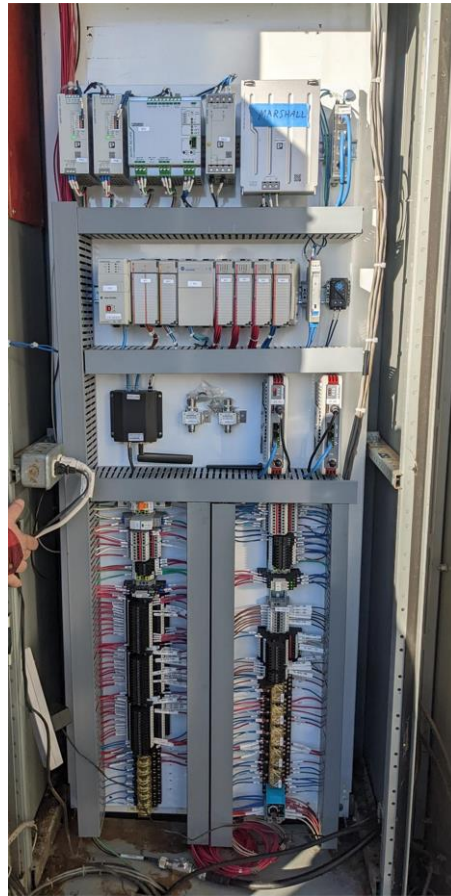
Lift Station Service Areas



Marshall Creek PLC BEFORE



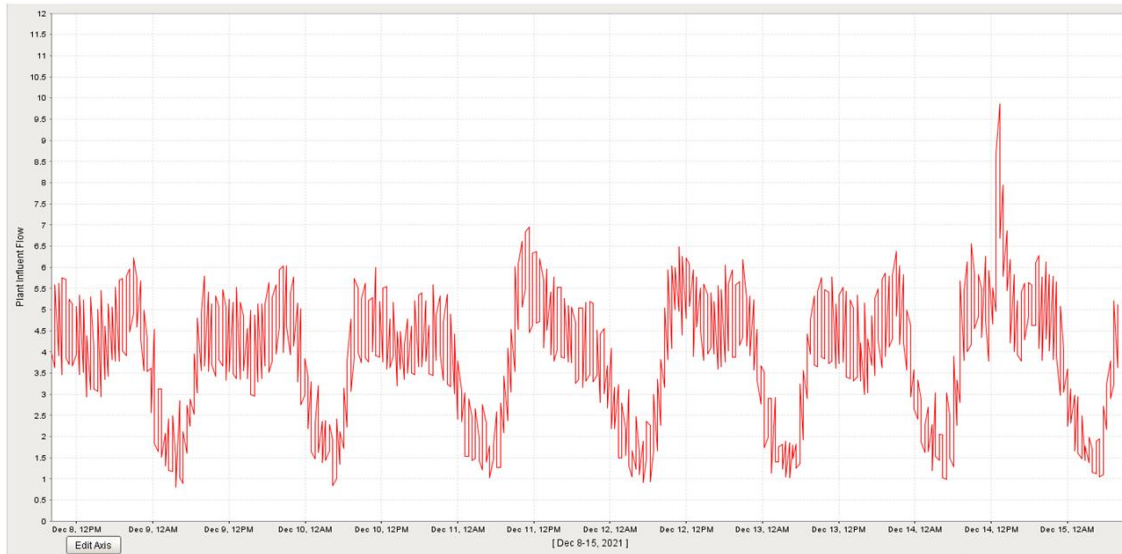
Marshall Creek PLC AFTER



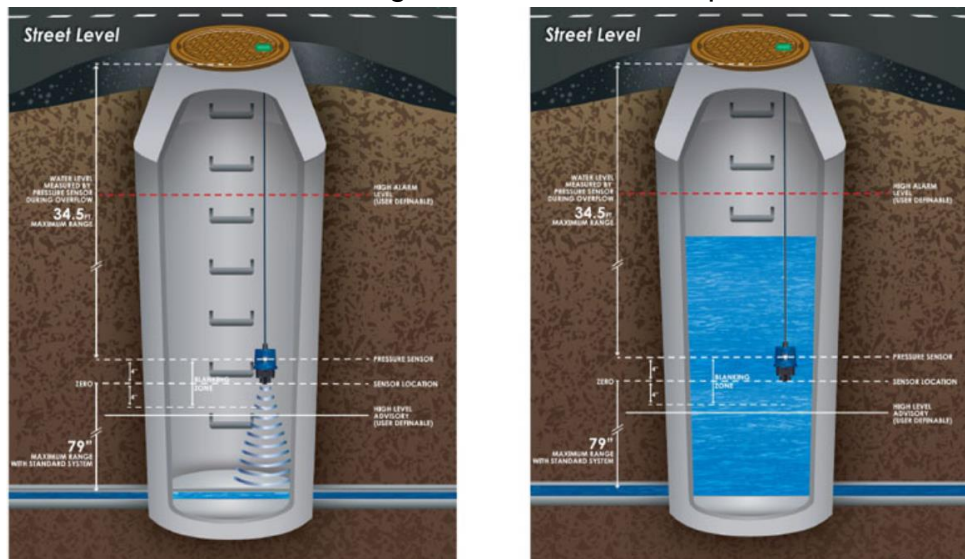
Inflow and Infiltration

Monitoring manhole covers are being deployed in the collection system that utilize ultrasonic technology to measure the liquid depth of the sewer and report the level via satellite to a computer or mobile device. For the initial rollout, eight locations were selected that represent the main gravity trunks which flow back to the plant in addition to areas previously identified as hotspots. To date, four of the eight covers have been installed, with the remaining four installations to resume upon completion of the PLC project. Furthermore, flow meter replacements at the lift stations are under consideration as part of the inflow and infiltration management.

Influent Flow Graph Demonstrating Inflow and Infiltration



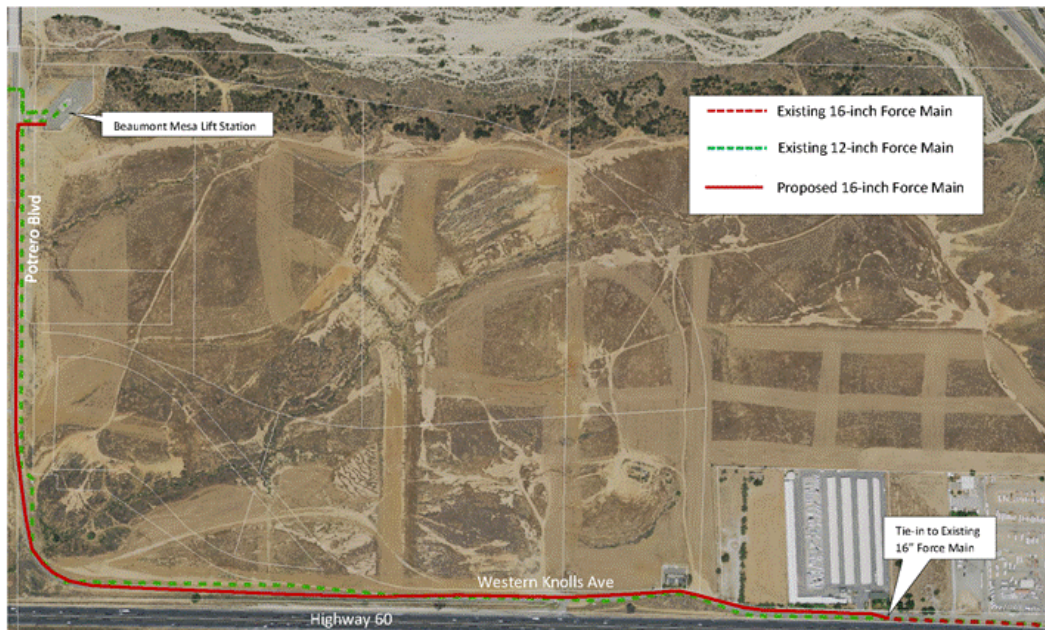
Monitoring Manhole Cover Setup



Mesa Lift Station and Force Main RFP

The Mesa Lift Station functions as a regional lift station that conveys flows from five other lift stations. The previously referenced WWMP identified some immediate needs in the collections system, including deficiencies at the Mesa Lift Station. An RFP was issued in November 2021 for engineering services related to lift station improvements as well as the completion of a 16" force main parallel to the existing 12" line. Interviews with the top scoring respondents took place during the last week of January and a contract for design is anticipated to go before City Council on March 1, 2022.

Project Location and Proposed Alignment



Future Items

Rate study collaboration with the Beaumont Finance Department and a GIS-based collections system maintenance tracking software.

Fiscal Impact:

The cost associated with the preparation of this staff report is estimated to be \$400.

Recommended Action:

Receive and file the Collection System CIP Project Update.