

Project Title: **Holly Drive Tank, Phase II**

Total Budget: **\$527,000**

Engineering: \$50,000

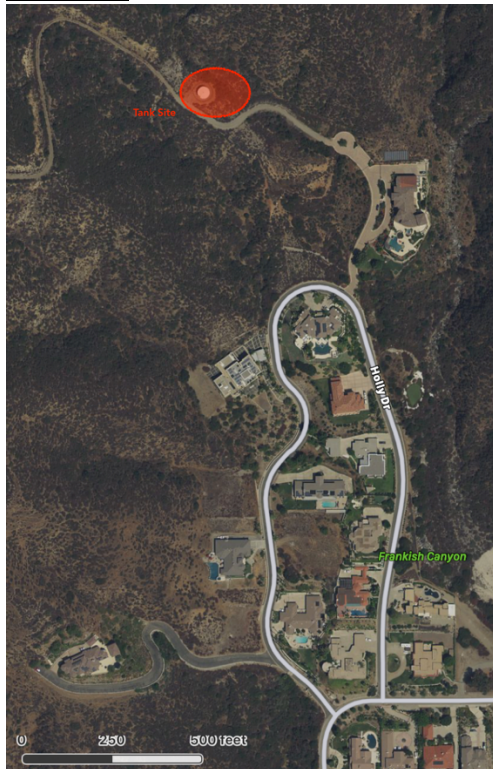
Construction: \$477,000

Schedule:

Bidding: February-March 2020

Construction: April-August 2020

Location:



Justification: Provide an additional 170,000-gallon storage capacity to meet operational storage, emergency storage and fire flow requirements. Install two inline system control valves.

Project Title: **Glendale Road between Mountain and Park**

Total Budget: **\$42,000**

Engineering: \$8,000

Construction: \$34,000

Schedule:

Engineering: January - March 2020

Construction: June – July 2020

Location:



Justification: There are currently two pipelines in Glendale Road; an old 2" and a new 6". This project abandons the small diameter pipeline between Mountain Avenue and Park Boulevard. Connect existing 3 service laterals to existing 6" pipeline. Identified in the 2017 Master Plan as a high priority project.

Project Title: **Cliff near Euclid Crescent and Cliff**

Total Budget: **\$280,000**

Engineering: \$56,000

Construction: \$224,000

Schedule:

Engineering: January – March 2020

Bidding: March-April 2020

Construction: May – August 2020

Location:



Justification: Upgrade small diameter pipeline in Cliff Road, from 25th Street to Euclid Crescent. Install new laterals to five homes on Cliff Drive, connecting them to the new upper zone pipeline. The existing FH does not meet available fire flow. Pipeline has exceeded its useful life. Identified in the 2017 Master Plan as a medium priority project.

Project Title: **Primrose, north of 25th**

Total Budget: **\$105,000**

Engineering: \$18,000

Construction: \$87,000

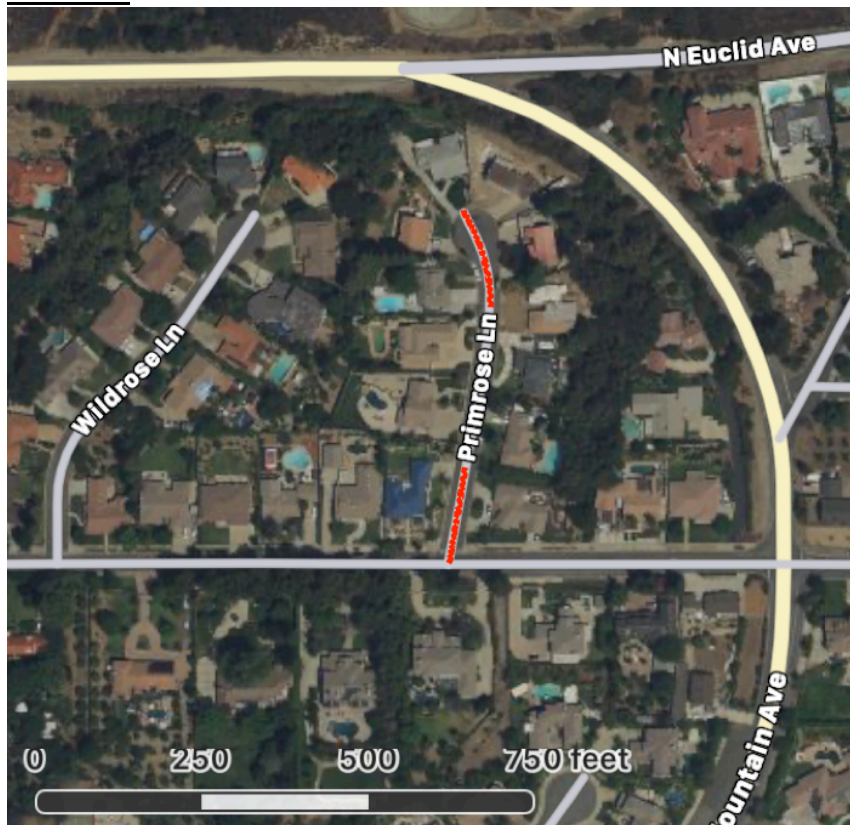
Schedule:

Engineering: February - March 2020

Bidding: District Forces

Construction: May 2020

Location:



Justification: Replace pipeline on Primrose Lane, north of West 25th Street. The pipeline was installed before 1976 and has exceeded its useful life. Also will relocate one service lateral from a backyard run into Mountain Avenue. Identified in the 2017 Master Plan as a low priority project.

Project Title: **Linda, North of 24th**

Total Budget: **\$134,000**

Engineering: \$22,000

Construction: \$112,000

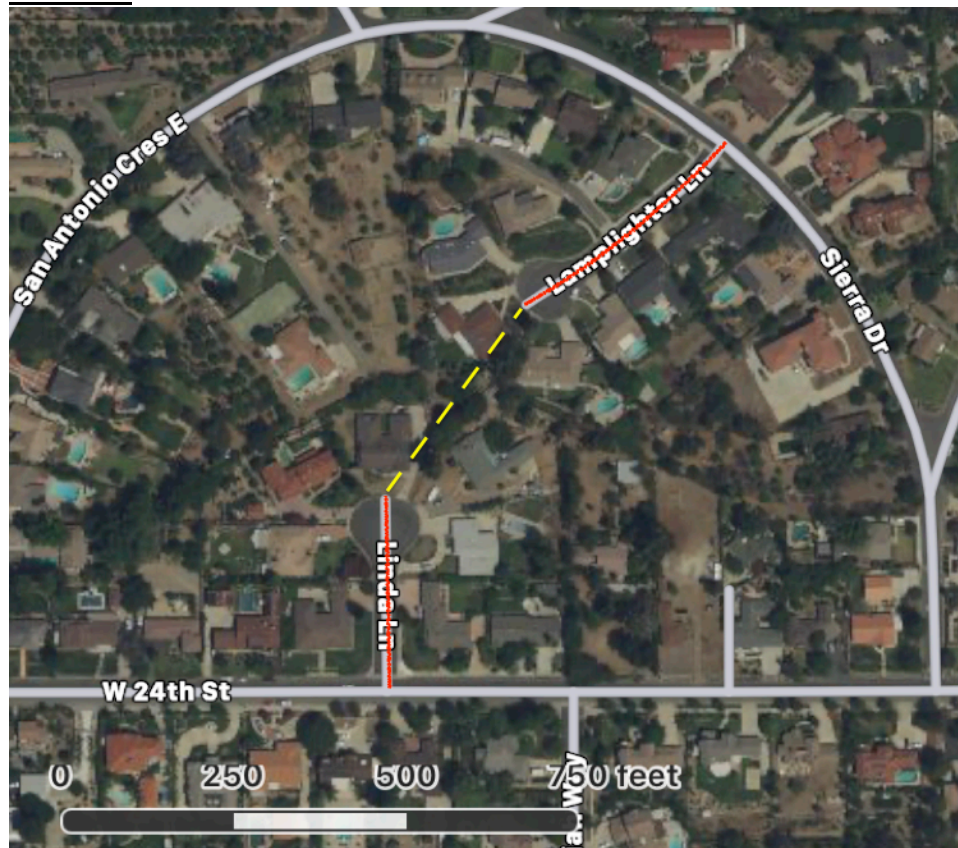
Schedule:

Engineering: March-May 2020

Bidding: May-June 2020

Construction: August-November 2020

Location:



Justification: Replace pipeline on Linda Lane, north of W 24th Street and Lamplighter Lane, west of Sierra Drive. Abandon pipeline located in backyards between Linda and Lamplighter. Install flushing hydrants at end of Linda and Lamplighter. The existing pipeline was installed before 1976 and has exceeded its useful life. Identified in the 2017 Master Plan as a low priority project.

Project Title: **Domestic Water Meter Replacement**

Total Budget: **\$50,000**

Engineering: \$0

Construction: \$50,000

Schedule:

Installation: August-September 2020

Location:



Justification: Water meters have an average operating life of seven to fifteen years. Newer meters with improved technology lasting longer than older meters. To avoid a large replacement program in any one or two years, an on-going program that replaces a small subset of meters in any given year is recommended, with the ultimate goal of replacing every meter on a ten to fifteen-year cycle.

Staff is proposing replacement of 200+- meters per year. The Domestic Water Meter Replacement program was not implemented in 2019. For 2020 staff is proposing replacement of 300+- meters located in books 1 through 4, west of Mountain Avenue.

This project may be impacted by the Company's review of Automated Meter Reading (AMR) that would provide daily information regarding domestic consumption. Staff has budgeted this project later in the fiscal year to allow time for the AMR review to complete before spending money.

The Company has 1,300+- domestic meters.

Project Title: **SCADA PLC Controller Replacement**

Total Budget: **\$40,000**

Engineering: \$0

Construction: \$40,000

Schedule:

Installation: February - April 2020

Location: System Wide

Justification: A water system is controlled in-part through the System Control and Data Acquisition (SCADA) computer network. Communications occur between the central control server and Programmable Logic Controllers (PLCs) located at each facility. PLCs contain instructions on site specific activities ranging from reservoir water levels, chlorination levels and site security alarms. The Company's current PLC inventory contains almost 40 PLCs of differing electronics from different companies programmed by different people, without the benefit of standardization or documentation retained by the Company.

Staff is proposing the modernization of Company PLCs on a multi-year basis, replacing two to four per year. Replacement will include standardization of instruction sets and documentation of each PLC's programming, input and output.

For this year staff is proposing replacement of the PLCs at the Forebay and Office.

Project Title: **Cucamonga Crosswall Environmental Mitigation**

Total Budget: **\$73,000**

Maintenance: \$73,000

Schedule:

Maintenance: April & August 2020

Location:



Justification: As a condition of the Cucamonga Crosswalls repair project, the Company committed to conduct mitigation and associated environmental monitoring for a period of no less than five years. This commitment was a condition of the California Department of Fish and Wildlife Streambed Alteration Agreement.

The mitigation includes yearly removal of invasive plant species and seeding of native plant species. Mitigation will occur in the late winter-early spring months. The intent is to provide enough time for native and invasive seed to germinate but not establish strong roots or go to seed.

Project Title: **Frankish Tunnel Pipeline Repair and Meter Install**

Total Budget: **\$50,000**

Engineering: \$10,000

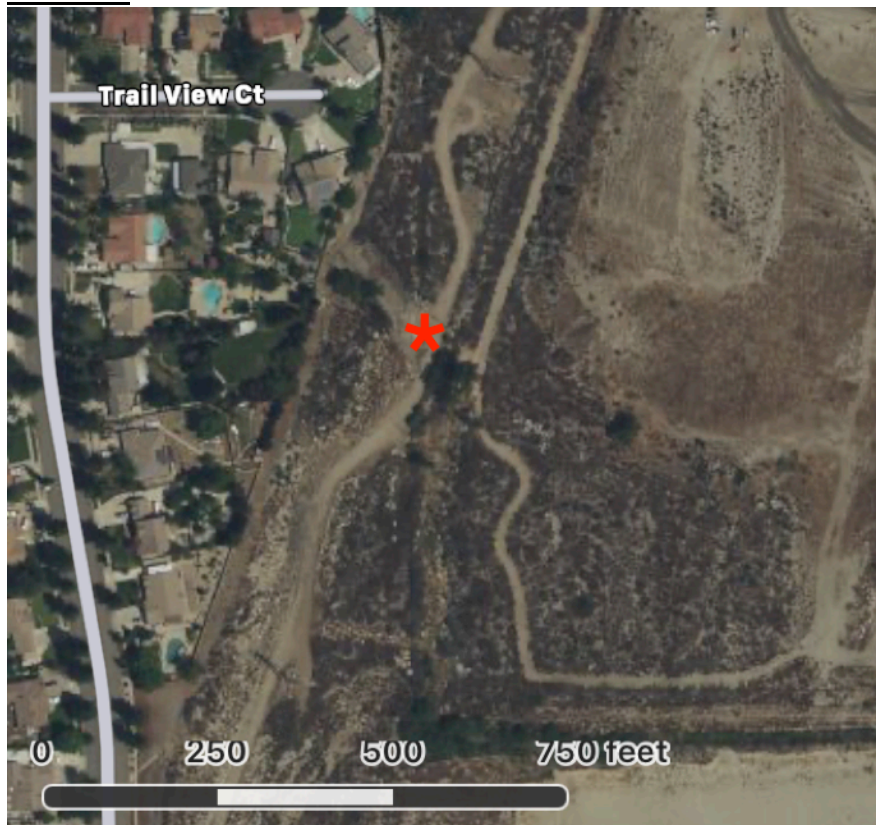
Construction: \$40,000

Schedule:

Design: June – July 2020

Construction: September – October 2020

Location:



Justification: The metering arrangement at the Frankish Tunnel outflow is not set to the appropriate hydraulic grade and the Company is unable to meter all waterflow from the tunnel. Additionally, this location is a transfer point for spread water from the forebay into Basin 6A. To improve metering and accounting for all available water, staff would like to upgrade the tunnel outfall and install an additional meter.

Project Title: **Well Site 19**

Total Budget: **\$1,312,000**

Engineering: \$160,000

Construction: \$1,152,000 total (\$691,000 in 2020)

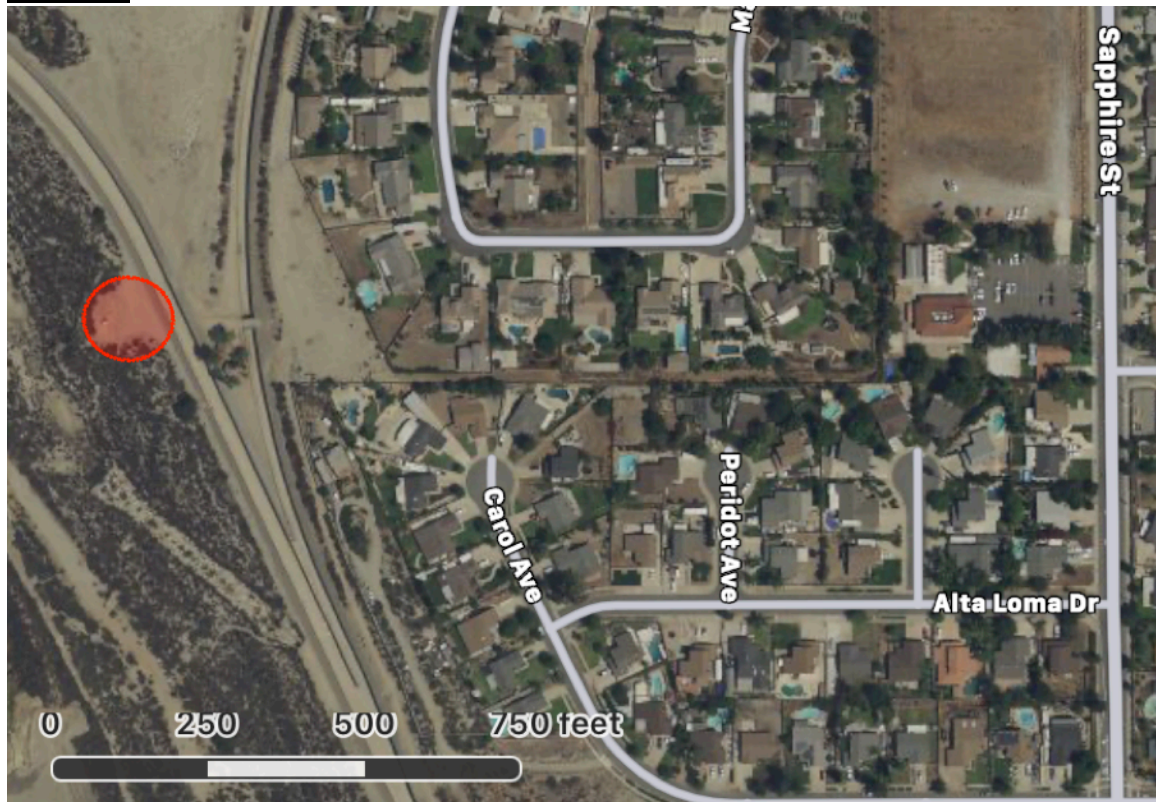
Schedule:

Engineering: October 2020 – March 2021

Bidding: June-July 2021

Construction: October 2021 – February 2022

Location:



Justification: Unable to meet supply requirements, 2008 Master Plan recommendation. Construct a new well at Site 19. Identified in the 2017 Master Plan as a high priority project.

Project Title: **Company Geographical Information System**

Total Budget: **\$50,000**

Consulting: \$30,000

Hardware/Software: \$20,000

Schedule:

Project was approved in 2019

Consulting: November 2019-March 2020

Location: Company wide

Justification:

The intent of the new GIS database is to:

- Aggregate pertinent information of Company facilities into a database that can be readily queried. (location, size, material, year constructed, as-builts, photos, etc.)
- Aggregate known Company easements into a geospatial database.
- Incorporate appropriate external geospatial information including photogrammetry imagery and County parcel information.
- Create a facility records database with a graphic front-end that is readily accessible in the field (tablet enabled 'system map').
- Develop a facility records database that is flexible and easily updated.
- Include meters with appropriate information including GPS location, size, identifying number and customer account records.
- Link the new GIS database to Company finance and billing database to provide the ability to query billing records and present results in a graphical environment (e.g. monthly consumption by parcel, color-coded by amount consumed). This feature does not necessarily have to be in 'real-time'. But the links need to be established for at least monthly updates.
- Link the new GIS database elements to Company asset management records/ depreciating assets database.
- The data should be compatible with modeling software for future Company needs.

Project Title: **Irrigation Water Meter Replacement**

Total Budget: **\$20,000**

Installation: \$20,000

Schedule:

Installation: June – July 2020

Location: System Wide

Justification: Water meters have an average operating life of seven to fifteen years. Newer meters with improved technology lasting longer than older meters. To avoid a large replacement program in any one or two years, an on-going program that replaces a small subset of meters in any given year is recommended, with the ultimate goal of replacing every meter on a ten to fifteen-year cycle.

Staff is proposing replacement of 2 meters per year.

This project may be impacted by the Company's review of Automated Meter Reading (AMR) that would provide daily information regarding domestic consumption. Staff has budgeted this project later in the fiscal year to allow time for the AMR review to complete before spending money.

Company has 12 irrigation meters.

Project Title: **Irrigation SCADA PLC Controller Replacement**

Total Budget: **\$40,000**

Installation: \$40,000

Schedule:

Installation: February - April 2020

Location: System Wide

Justification: A water system is controlled in-part through the System Control and Data Acquisition (SCADA) computer network. Communications occur between the central control server and Programmable Logic Controllers (PLCs) located at each facility. PLCs contain instructions on site specific activities ranging from reservoir water levels, chlorination levels and site security alarms. The Company's current PLC inventory contains 12 PLCs, with differing electronics from different companies programmed by different people, without the benefit of standardization or documentation retained by the Company.

Staff is proposing the modernization of Company PLCs on a multi-year basis, replacing two to four per year. Replacement will include standardization of instruction sets and documentation of each PLC's programming, input and output. For 2020 staff is proposing replacement of PLCs at Well 31 and Reservoir 1.

Project Title: **Reservoir 9 Pipeline Replacement**

Total Budget: **\$488,000**

Engineering: \$80,000

Construction: \$408,000

Schedule:

Design: April – July 2020

Construction: October – December 2020

Location:



Justification:

Replace pipeline on 25th Street and along backside of Burt Street homes to Reservoir #9. Abandon pipeline installed in backyard along Electric Avenue and Newman Street. The 24" concrete pipeline was installed before 1976 and has exceeded its useful life. Identified by staff as a high maintenance root-bound pipeline.

Project Title: **Irrigation Pipeline Viewpoint, Canyon View Ave to Campus Ave**

Total Budget: **\$276,000**

Engineering: \$46,000

Construction: \$230,000

Schedule:

Engineering: January - April 2020

Construction: July – September 2020

Location:



Justification:

Replace pipeline on Viewpoint St. between Canyon View Ave and Campus Ave. The pipeline was installed before 1976 and has exceeded its useful life. Identified by operations staff as a high maintenance pipeline.