

Tuolumne City Sanitary District

DRAFT

Apple Colony Lift Station Relocation and Maintenance Building Project

Project Description

(01-19-2021)

Background

The Tuolumne City Sanitary District (TCSD or District) is a single purpose sewer District formed in July 1941 as a Special District under California Health & Safety Code Section 6400 et seq. The District currently operates a 350,000 gallon per day design flow wastewater treatment plant located off Box Factory Road in the unincorporated community of Tuolumne in Tuolumne County, California (see Figure 1.1 Vicinity Map). The wastewater treatment plant (WWTP) serves a community population of approximately 1867 residents. The District has 723 total service connections with 676 of these connections being residential (see Figure 1-2 Service Area). The WWTP process includes activated sludge – extended aeration followed by secondary clarification. The Title 22 compliant effluent is piped to the District owned Grinding Rock Reservoir for storage and for land application on the private Baker Ranch in accordance with a long-term effluent disposal agreement.

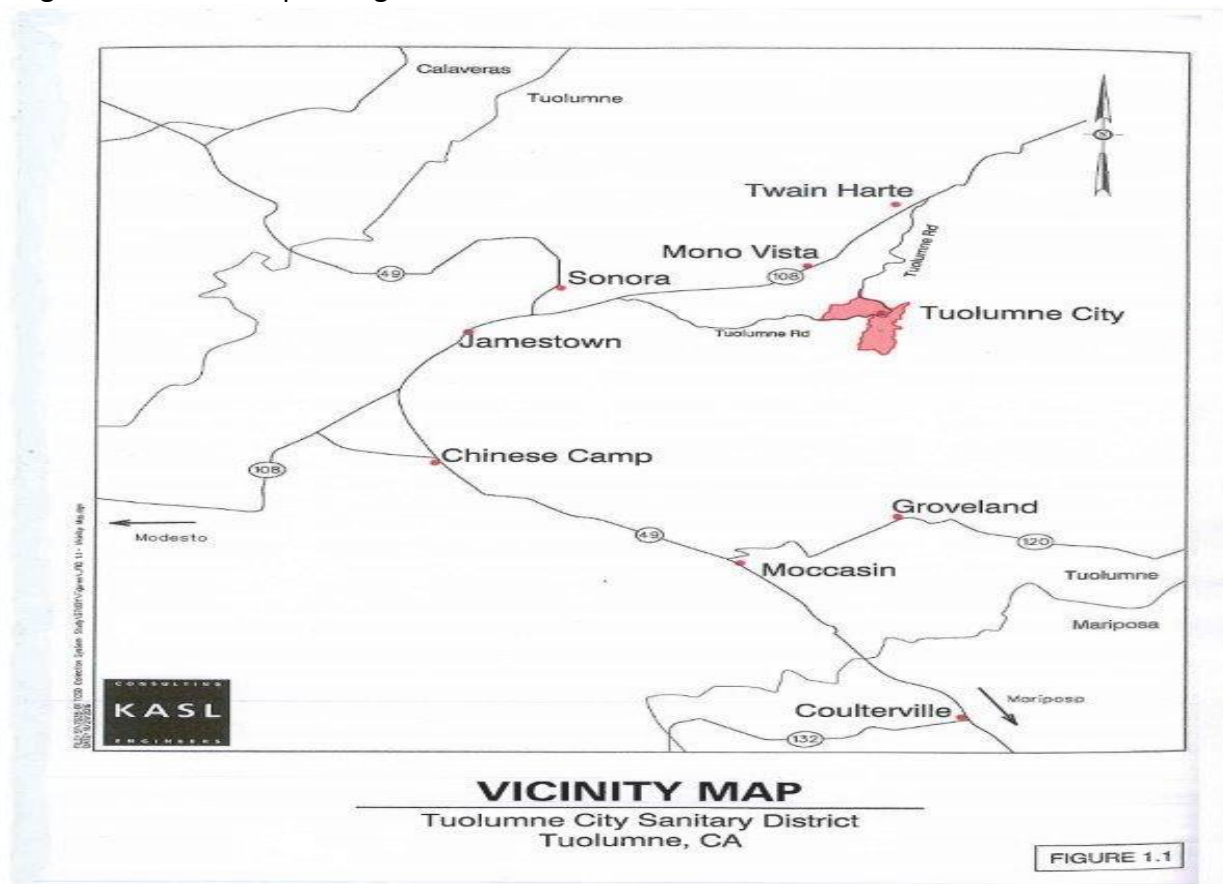
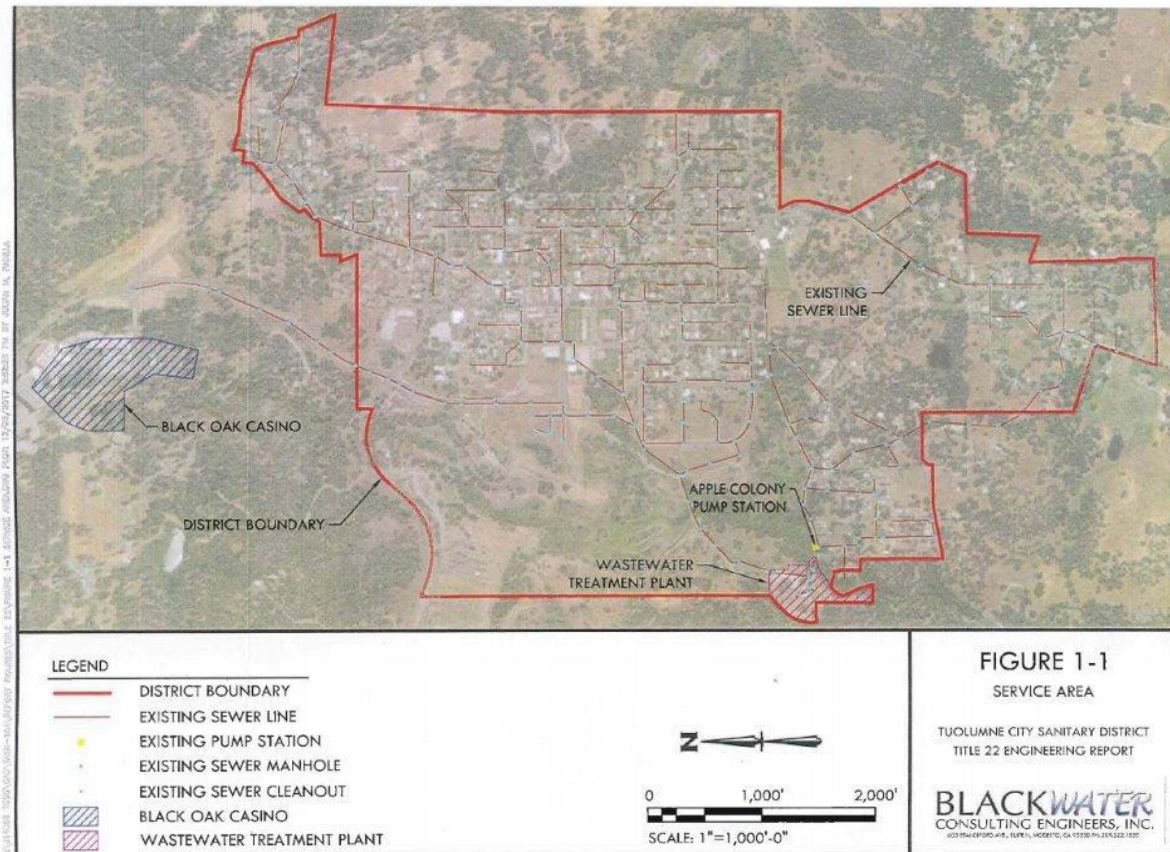


Figure 1.2 TCSD Service Area Map



The *Apple Colony Lift Station* (ACLS) is currently located on the southernly edge of Turnback Creek and the northern edge of Box Factory Road (see *Images 1, 2 & 3 below*) near the entrance to the wastewater treatment plant. This is currently the only lift station within the District. This lift station was constructed in 1966 during the development of the Apple Colony subdivision which it serves. Wastewater lift stations are facilities designed to move wastewater from lower to higher elevation through pipes. All of the sewage from the Apple Colony subdivision is gravity fed to the low point in the service area near the current lift station and then is pumped up to the wastewater treatment plant for processing.

Image 1.) Apple Colony Lift Station View from the south



Image 2.) Apple Colony Lift Station View from the northeast



Image 3.) Apple Colony Lift Station up close



The ACLS includes a wastewater receiving well (wet-well); pumps and piping with associated valves; motors; a power supply system; an equipment control and alarm system. The ACLS is

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equipped with two submersible pumps of different makes that are controlled by float switches operating on an independent alternating pump sequence. Each pump has an output of approximately 157 gpm with each pump cycle pumping around 430 gallons. Both pumps were serviced in June 2013. One of the pumps failed in 2018 and the District had the windings rewound.

Proposed Apple Colony Lift Station Relocation and Maintenance Building Project

Due to the age of the lift station facilities the District proposes to replace the ACLS and install a new three pump system lift station to improve reliability. The existing facilities will be extremely difficult, if not impossible to replace at the current site for a number of reasons. These reasons including, but are not limited to, its location adjacent to the Turnback Creek floodplain which provides no additional space for expansion, the inability to further encroach on Box Factory Road, the unlikelihood to obtain state and federal permits to encroach into the wetlands and the need to maintain a location in close proximity to the current lift station due to the need to maintain the gravity flow to the lift station and to utilize our existing wastewater treatment plant electrical generator for backup power in the event of loss of power from the electrical grid. In addition, the District needs to build an additional storage building for vehicle, equipment, and materials storage on a flat site. The current site is too small, in the floodplain, and totally inadequate for constructing a building. A site in close proximity to the current ACLS is essential for functionality and to reduce project costs.

The proposed *Apple Colony Lift Station Relocation and Maintenance Building Project* consists of the following components:

- Acquisition of approximately .40 acres of private property located at 18109 Box Factory Road, Tuolumne, CA 95379, APN # 062-120-017.
- Demolition / removal / site restoration of the existing lift station located at 18050 Box Factory Road across the street from the proposed site to be acquired.
- Site preparation and construction of a new Lift Station including electrical service, pipelines, automated control systems, control building and associated appurtenances on the acquired property and public right-of-way.
- Construction of a new maintenance building of up to 3600 square feet (sq. ft.) and associated appurtenances on the acquisition site (See Exhibits 1, 2 & 3 below).
- Connection of the existing emergency generator for backup electrical power to the new lift station and new maintenance building.
- On-Site concrete and asphalt paving, construction of a concrete block perimeter wall, and associated gates, fencing lighting and signage.

EXHIBIT 1. Proposed Draft Site Plan

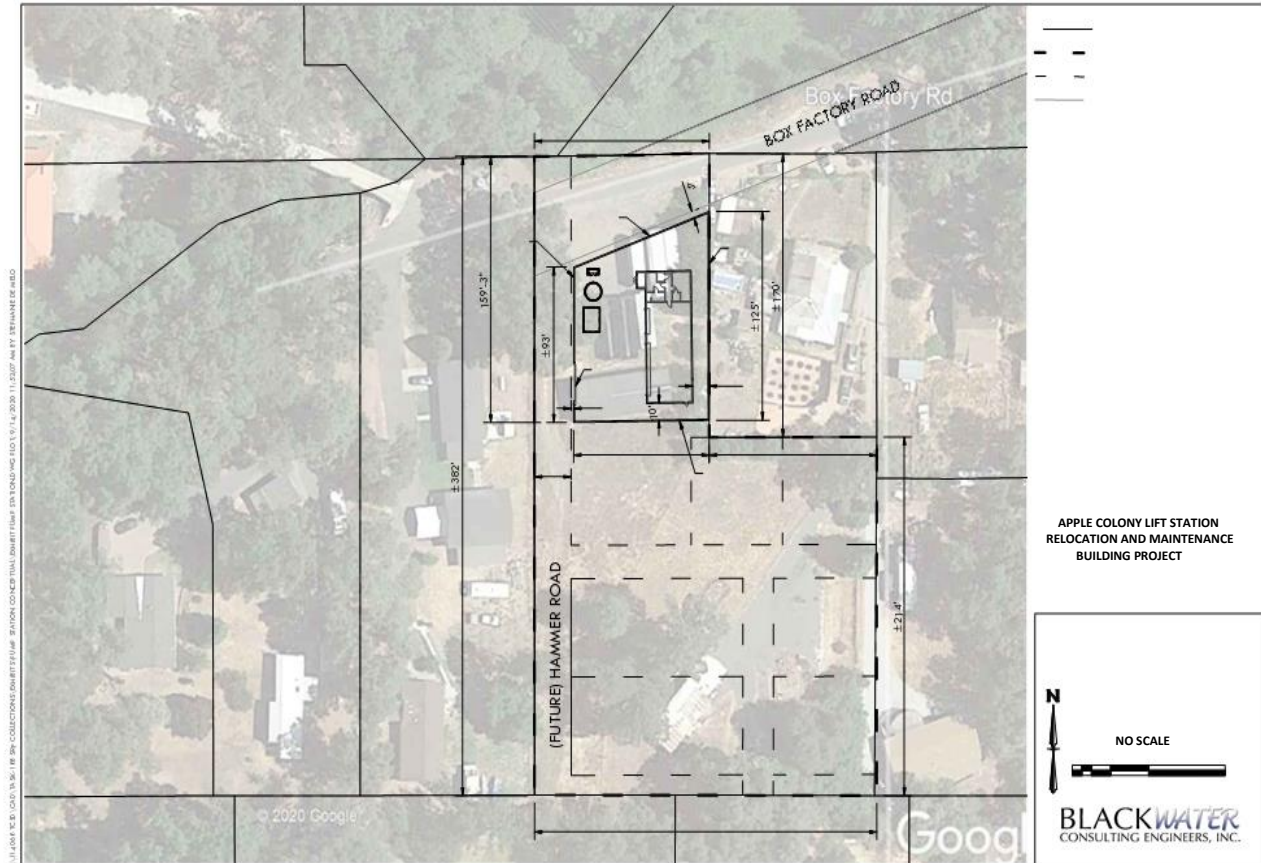
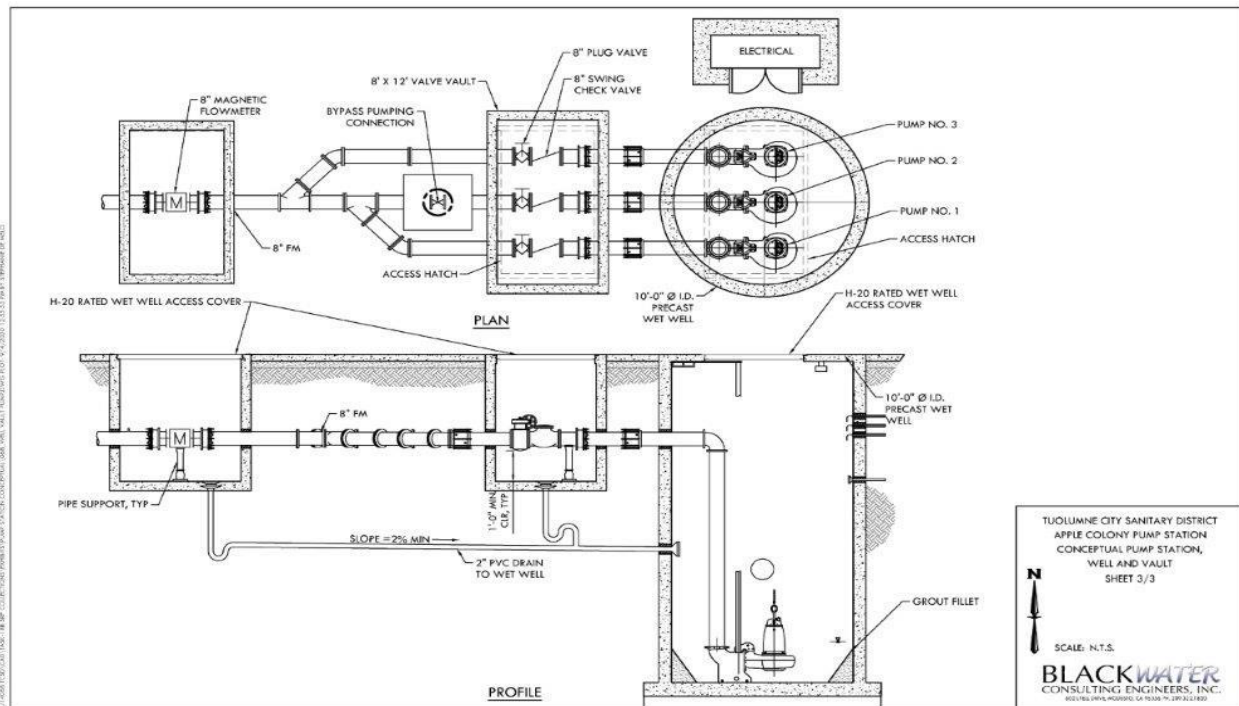


EXHIBIT 2. Draft Lift Station Piping Diagram



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