

# *Santa Margarita Water District*

## MEMORANDUM

**TO:** Board of Directors

**DATE:** October 10, 2014

**FROM:** Don Bunts

**SUBJECT:** Engineering Update

### **FACILITY PLANNING AND DESIGN EFFORTS**

#### **Plano Lift Station Force Main Relocation**

Continued efforts on the design and construction of the force main relocation project have been taking place with Olson Construction. A final proposed approach will be presented to the Board in late October or early November.

#### **Recycled Water Retrofit Identification**

Construction plans are being prepared to implement the Califa retrofit project. Additionally, staff is meeting with various entities, the City of Mission Viejo and HOA's, to identify potential retrofit opportunities.

#### **Tesoro Zone 2 and Zone B Reservoirs and Pipelines**

The design of these facilities is ongoing. The information for performing the necessary CEQA activities is being compiled with the goal of the CEQA compliance activities to be completed by the end of December.

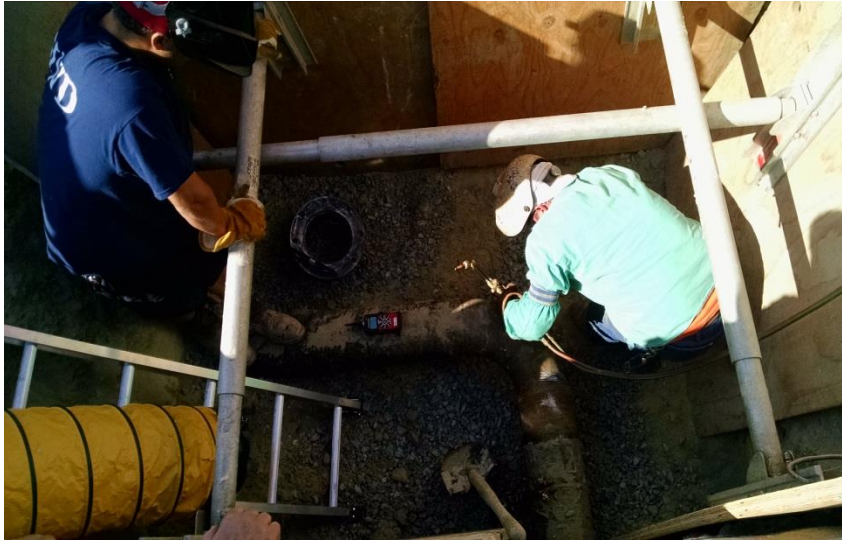
#### **PA-2 Lift Station and SC-6 Turnout**

The PA-2 Lift Station contract documents are close to being completed and it is anticipated that this work will be advertised for construction bids by November for award by the Board in December.

## **TREATMENT FACILITY MODIFICATIONS/REHABILITATION**

### **Chiquita Water Reclamation Plant**

Chiquita continues to send on average 5.6 million gallons a day (mgd) through the filtration and chlorination process for recycled water production. This flow rate represents the highest production values that Chiquita has experienced.



SMWD staff and welding contractor accessing and installing access port on 8" methane gas line at Chiquita.

The methane gas recovery system at Chiquita was installed in 1986 as a part of the Phase II construction project. This underground piping has developed accumulations of debris and hardened sulfide deposits over the years. As a result, the line has developed restrictions which required plant staff to devise and implement a plan for access and cleaning. The methane line was purged with nitrogen (an inert gas) and then cut into with a torch. An access flange was added which allowed the vector truck to jet-rod the line for debris removal. The project went as planned and the line currently is flowing freely again.

Nitrogen purging system set up by plant staff.



Plant and Engineering staff are working together to develop an installation plan for the two new Aerzen Turbo Blowers that have recently received Board purchasing approval. The (2) new blowers will replace the existing numbers 2 and 3 units and are anticipated to provide single unit operation performance with a 23% reduction of energy usage. Tentative plans are to have these units installed and operational by November 2014.

The Chiquita plant treated over 177.6 million gallons (MG) of wastewater and produced approximately 470.8 acre-ft (af) (~153 MG) of recycled water (~86.1% recovery).

Approximately 652 tons (~21.0 tons/day) of dewatered biosolids were generated. The dewatered solids were disposed of as follows:

Synagro South Kern Facility	200 tons
Prima Deshecha Landfill	281 tons
Nursery Products	171 tons

### **Oso Creek Water Reclamation Plant**

The plant treated approximately 54.7 mg of wastewater and produced over 147.3 af (47.9 mg) of recycled water over the last month. This is a recovery of 87.6% of the wastewater flow for reuse. In addition 92.8 af of Oso Barrier water was added to the non-domestic water system.

Due to high outside temperatures some operational difficulties were experienced with the blowers shutting off due to the operating temperature. Operations staff responded quickly to the situation and resolved the issue by opening all the doors and putting in fans to force more air from outside the blower room across the equipment.



The number 4 Zone B pump was put back into service and troubleshooting the installation to get the pump back into service.

Influent Pump No. 4 w/ adapter plate and motor attached.



## CONSTRUCTION ACTIVITY

### Gobernadora Basin

The upper basin is almost complete with some remaining grading work to be accomplished. Work has begun on the installation of the power feed from the Coto de Caza area and the non-domestic line located in the OC Parks trail.



Rip upstream of lower dam



Diversion channel before final grading





Final Grading Activity



Effluent Force Main

### **Middle Chiquita Grading, Pipelines and Reservoirs**

The grading work is complete and the original contract work on the domestic and recycled water lines is approximately 98% complete. Leatherwood has begun the submittal and procurement process for the additional Zone II and Zone B pipeline installation that was recently added to the original contract via a change order authorized by the Board in August.

The 4 million gallon, non-domestic water storage tank is complete and operational. This tank has been filled and is currently in service. The domestic tanks will be completed in October.

### **District Administration Solar Project**

All of the equipment has been ordered with the inverters and the solar panels having been delivered. Final permitting for the work will be submitted in mid-October. The roof mounted panels will be installed beginning in the first week in November and should be operational by the end of November. The ground mounted units will be installed immediately following the completion of the roof mount system and will take 8-10 weeks to be installed. It is still anticipated that the majority of the installation work will be completed by District forces.