

# City of San Buenaventura



## Wastewater Treatment Plant Nutrient Removal Improvements Monthly Progress Report



Prepared By:  
MNS Engineers, Inc.

### SEPTEMBER 2011

## Schedule and Budget Summary

# Wastewater Treatment Plant Nutrient Removal Improvements

### Schedule Summary

Notice to Proceed	March 23, 2009
Original Contract Days	894
Contract Days Added	55
Revised Contract Days	949
Elapsed Time (Days)	(911)
Remaining Time (Days)	38
Contract Completion Date	November 7, 2011
Time Elapsed to Date	96%
Work Completed to Date	94%
Approved Change Orders	34

### Budget Summary

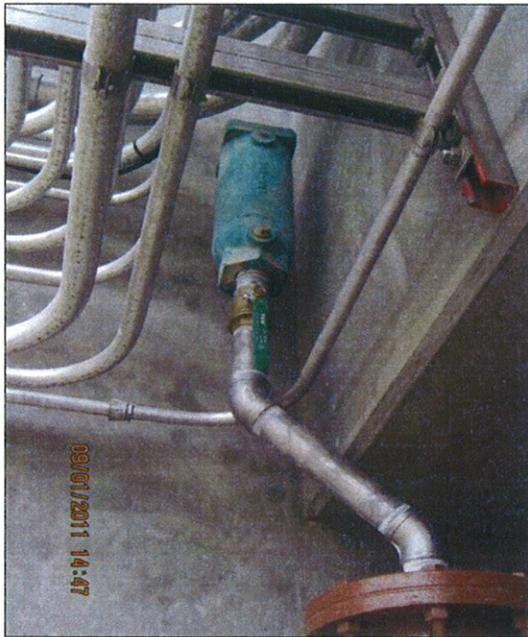
Original Contract Amount	\$14,167,000.00
Approved Change Orders	\$878,822.21
Revised Contract Amount	\$15,045,822.21
Previous Payments	\$14,088,765.21
Current Month Pay Request	\$49,865.00
Total Work Completed	\$14,138,621.21
Work Remaining	\$907,201.00

### MNS Budget Summary

Original Contract Amount	\$1,749,005.00
Approved Change Orders	<u>\$0.00</u>
Actual Contract Amount	\$1,749,005.00
Value of Work Completed to Date	\$1,570,126.98
Value of Work Budgeted to Date	<u>\$1,713,005.02</u>
Contract Amount Remaining	\$178,878.08

## Progress Summary

# Anoxic, BAR & FET Tanks



ARV for WML PS Discharge Line



BAR tank fine bubbler diffusers



Installing 14" motor operated BFV to control air flow into BAR tank

### Summary of Work

New 30" PE was placed into service. Primary effluent flowing into Anoxic tank inlet channel instead of into the Aeration tanks. Temporary bypass pumps were put into service. MLR pumps and RAS pumps were put into service, pumping MLR and RAS into the anoxic tank and BAR tank, respectively. Plant water piping for all 3 tanks was completed. Grinding, sacking and patching the tank exterior walls were completed. ARV for WML PS discharge was installed. The Plant fabricated baffles and mounted them on the anoxic tank inlets to mix the water flowing into anoxic tanks better. It worked well and the Contractor passed the required test. Air valve was installed on the new 14" line feeding the BAR tank. BAR tank and anoxic tanks were put online.

Taft Electric disconnected power to temporary bypass pumps. ICS PLC programming was partially completed and continues. Remainder of the programming was to be delayed until all 4 aeration tanks, MLR pumps, RAS pumps and anoxic tanks were all operating in the final configuration. However, a power outage occurred and the MLR pumps did not come back online. This caused the secondary clarifier waterfall to overflow. City asked that the programming be completed so this does not happen again.

### Progress Expected Next Month

Fasten down stairway landings and top deck grates.

Taft will continue to work on programming. DAFT and WML Pumps cannot be programmed until Contractor's work on the DAFT is completed.

# Anoxic, BAR & FET Tanks

More Pictures



Anoxic tank placed into service



Plant Staff Installing Fabricated Baffles

## Progress Summary

# AERATION TANKS



Aeration tank bubble test



Aeration tank bubble test



Filling aeration after completing retrofit

### Summary of Work

Existing inlet channel was abandoned and isolated. Existing 24" PEFF was abandoned and removed. New 30" PE was placed into service flowing into Anoxic tank inlet channel. Temporary bypass, MLR Pumps and RAS pumps were put into service. Existing aeration tanks #1 - #4 were retrofitted in sequential order. Tanks were drained, diffuser heads were removed and replaced, laterals were removed in tanks #1 and #2 and added to tanks #3 and #4 and grit and sand were removed. Deteriorated coating was removed. Slide gates between tanks #1 and #2 and between tanks #3 and #4 were removed, 36" pipes were installed and concrete was placed around the pipes. Fine bubbler diffusers were tested and observed by MNS in each tank. Holes for 36" stainless steel ML pipes were cored and pipes were installed. As soon as tanks #1 and #2 were placed back online, temporary pumps and associated piping were removed. Existing ML pump and associated piping were removed.

Taft Electric installed new DO meters, probes and controls and connected them to the PLC. Power to temporary bypass pumps was removed.

### Progress Expected Next Month

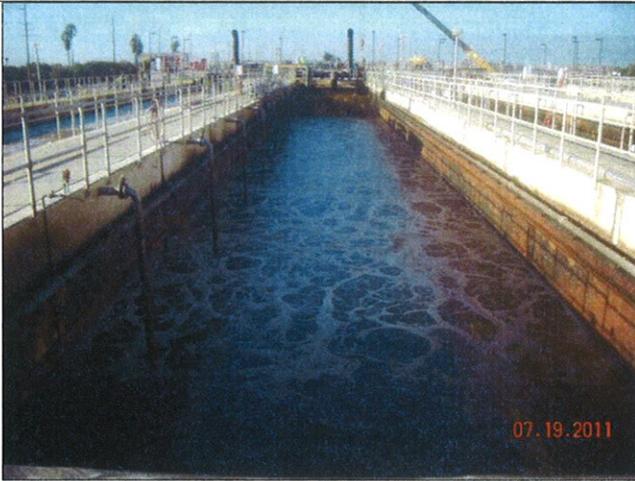
Work in the Aeration Tanks is complete.

### Open Issues

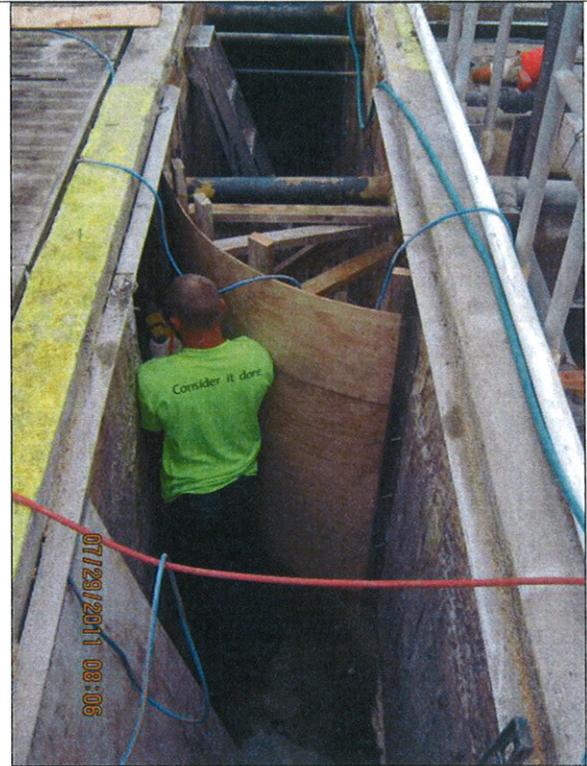
None.

# AERATION TANKS

## More Pictures



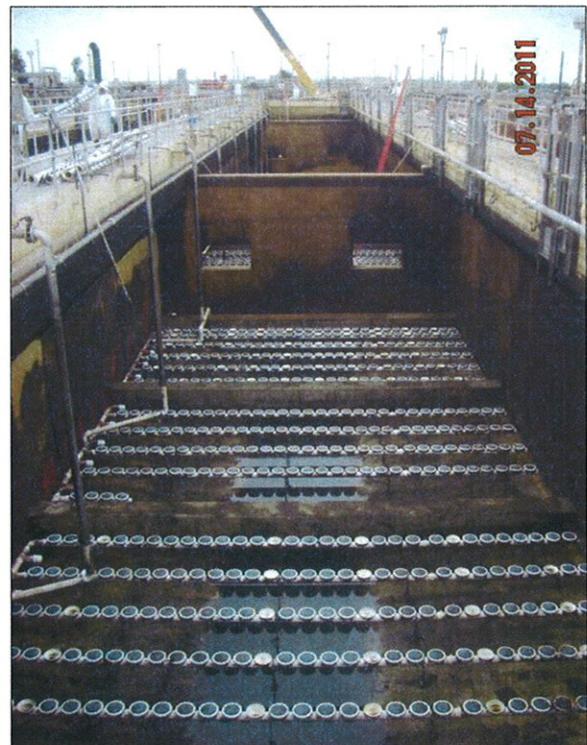
Refilled aeration tank back online



Forming aeration tank #3 discharge



Coring 42" hole for 36" ML pipe



Completed diffusers and ready to fill



Coring 42" hole for 36" ML pipe

# AERATION TANKS

## More Pictures



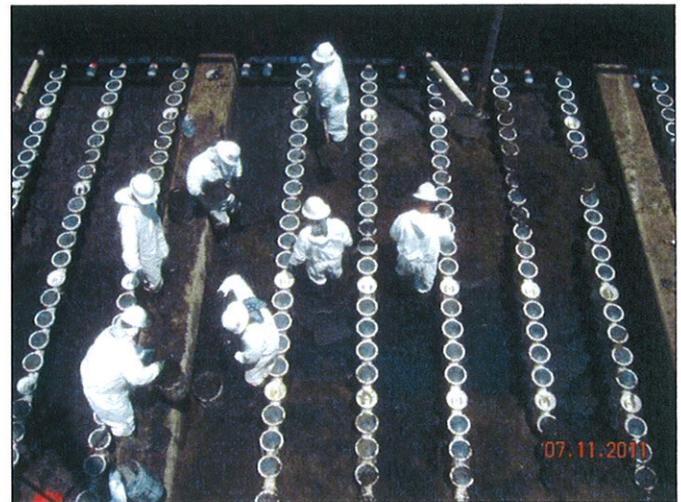
Installing DO Monitor Control Panel



DO Monitor Control Panel



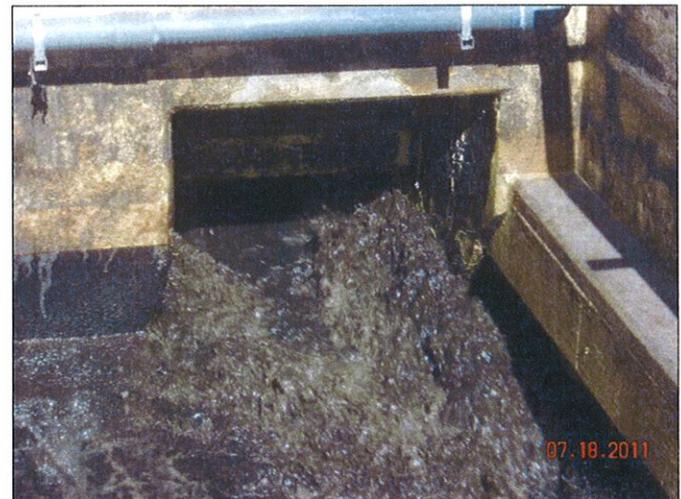
36" ML discharge pipes being installed



Cleaning grit and sand from tank



36" ML pipes being installed



Filling aeration tank #1

## Progress Summary

# MLR and RAS PUMP STATIONS



MLR Pumps



RAS Pumps



MLR Pumps Seal Water Control

### Summary of Work

MLR and RAS pumps were both put into service. Air lines for pneumatic valves were completed. Seal water flow control panel for the MLR pumps was completed. Hose bib was installed. Patterson Pumps representative was on site to perform operational and functional testing on both RAS and MLR pumps. Plant Staff removed the standpipes and replaced them with ARV's on the MLR pump discharge. MLR pumps were sucking down the water level in MLR channel to the point where the pumps were sucking air resulting in the MLR pumps not achieving the designed pump rate. Plant Staff fabricated a weir gate and installed it in the ML channel. This corrected the problem. RAS pumps experienced no problems. Grinding, patching and sacking the MLR Channel were completed. All concrete on the job is now complete.

ICS completed programming for the MLR and RAS pumps to run in automatic.

### Progress Expected Next Month

Motor manufacturer and gear box manufacturer are expected to be onsite to inspect RAS and MLR pumps for performance. Gear box is leaking excessive oil.

### Open Issues

Operational and functional testing will need to be performed in conjunction with plant staff since the pumps are already online. Testing will probably not take place until all new facilities are online.

## Progress Summary

### NEW AIR LINE (CCO #23)



Automatic motor controlled butterfly valve was installed



### Summary of Work

Contractor hung pipe hangers and installed 14" ss pipe for new air line from the BAR tank to the flume structure. Automatic motor controlled butterfly valve was installed.

### Progress Expected Next Month

Continue installing pipe hangers and pipe.

### Open Issues

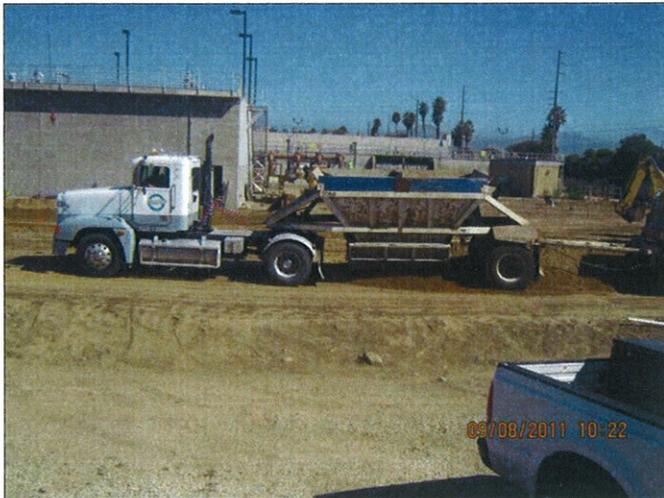
None.

## Progress Summary

### SITE WORK



Existing electrical vaults to be set to grade to match asphalt pavement



Importing fill material



Grading site

### Summary of Work

Soil was imported to bring the site up to grade. Rough grading was performed on the entire site. Contractor made subgrade under all roadways and curb and gutter. Site is ready for curb, gutter and paving contractor.

### Progress Expected Next Month

Subcontractor, Toro, will be onsite to place base, form and pour curb and gutter, fine grade roadway, place base and place asphalt pavement.

### Open Issues

None.