

Oro Loma Sanitary District San Lorenzo, California

I. Respondent: Jason Warner, General Manager and Jimmy Dang, Associate

II. Treatment Plant Characteristics:

Secondary-Activated Sludge, wastewater, solid waste, and recycling
170,000 people served
43 employees

III. Innovation:

A. Description

Digester Facilities Upgrade Project – Use of 3D Design Tools to Improve Design Stage Review and Construction Progress Tour

The treatment facility produces all of its own electricity on a net annual basis. With the planned expansion of our grease receiving program, our goal is to limit purchases of natural gas to under 1,000 therms per month.

For the tour, we intend to demonstrate how we used 3D visualization to obtain improved input from our operations and maintenance personnel. Seeking and obtaining sound feedback from our operations and maintenance group helps provide the best long term project value as well as superior performance over time. Using 3D tools is now a modest cost project delivery option and represents an industry best practice.

Additionally, 3D tools allow for better coordination with existing utilities and space constraints. 3D visualization tools are a significant factor in the low value of construction change orders.

B. Type of Innovations

Increased use of technology
Modification of workflow processes or classifications
New approach to documentation, technical training, staff development, or knowledge management
Optimization of existing resources

C. Motivation for Innovations

The Oro Loma culture places a high value on Operations and Maintenance involvement at the planning, design, and implementation phases of capital project delivery. By incorporating existing 3D design tools into the project delivery process, the project manager can more accurately convey the details of a design and obtain focused feedback in time to incorporate it.

D. Barriers/Challenges

Once the reviewers and senior management observed the output, everyone was immediately sold on the approach.

E. Benefits

The construction is approximately 50 percent complete. Change orders are under 0.1 percent of the contract value.

F. Effect on Staff Training

There is a greater understanding of what the finished product will look like and be. This allows all staff to mentally prepare for the implementation phase, as well as to make better sense of the construction as it occurs.

G. Lessons Learned

Based on the modest costs of the 3D tools and benefits to date, the District will incorporate these methods on all future significant capital projects.

I. Information Sharing:	Yes	No
Willing to host on-site tour.	X	
Willing to visit another regional water/wastewater facility to provide presentation on innovation.	X	
Willing for staff member from other utility to conduct a follow up visit to learn more about innovations.	X	
Interested in on-line forum to discuss water/recycling/wastewater treatment issues.	X	