

City of Clovis Sewage Treatment/Water Reuse Facility DBO Services, Clovis, California

- Single-entity design-build-operate (DBO) of a new \$37-million 2.8-mgd Sewage Treatment Water Reuse Facility (ST/WRF)
- 2009 Design-Build Institute of America Excellence Award for Projects over \$15 Million
- Scope includes design, and construction, and a 10-year operations and maintenance period

The City of Clovis solicited proposals for the design, construction, and operation of a new Sewage Treatment/Water Reuse Facility capable of 2.8 mgd average daily flow (expandable to 8.4 mgd) with 10 years operations and maintenance (O&M). The process design must reliably meet or exceed its goal for cost, effluent quality, aesthetics, and environmental impact. Additionally, the design must handle uncertainties in the influent load to the ST/WRF and future expansion needs. CH2M HILL developed a solution to reliably meet the City's goals using proven process solutions in combination with innovative solids reduction technology.

In October 2006, the City of Clovis awarded the design, construction, and long-term operations of a new \$37-million 2.8-mgd ST/WRF to CH2M HILL. The new ST/WRF will fulfill the City of Clovis' area growth needs and provide highly treated recycled water.

The integrated DBO delivery contract provides seamless delivery by a true DBO provider resulting in an integrated mindset and single point of contact and responsibility. Through this delivery method, CH2M HILL provides for facilities planning and engineering, design, construction, obtaining governmental approvals, permitting, acceptance testing, startup, O&M, and warranty for the ST/WRF.

The selected treatment includes both membrane bioreactor process (MBR) as well as Siemens' Cannibal™ process. MBR is delivering the highest quality water and provides exceptional effluent quality, creates the least environmental impact by use of a small



footprint, significantly reduces costs, and offers simplified expansion for future needs.

In addition to MBR, Siemens' Cannibal™ solids reduction process has been incorporated into the new ST/WRF. The Cannibal™ process greatly reduces solids production with consequent capital and operating cost savings. It virtually eliminates biosolids production, which eliminates the need for expensive dewatering and digestion equipment and associated costs.

Design and construction of the treatment plant began in late 2006 and was substantially completed on June 5th 2009. The project was delivered on budget with zero lost time incidents in over 150,000 man-hours completed to date. CH2M HILL is operating and maintaining the facility, chemicals, capital maintenance repair and replacement, membrane maintenance and replacement, residual solids disposal, and guaranteed maximum energy usage through 2018.

The facility is designed to blend in with the residential and business community. Architectural features include prairie-style architecture, water features, and extensive landscaping and screening to minimize visual impact. The facility also includes extensive odor control, including reuse of odorous air within the treatment process and biofilters.

The Clovis project has been honored with numerous industry awards, including:

- 2008 *Environmental Business Journal* Wastewater Project Merit Award.
- 2009 American Academy of Environmental Engineers Design Honor Award for Excellence
- Finalist, *Global Water Intelligence's* 2009 Water Reuse Project of the Year
- 2009 Award of Merit from the WaterReuse Association.
- 2009 Design-Build Institute of America Excellence Award for Projects over \$15 Million