

City of El Campo, Texas

Siemens to implement infrastructure improvements targeted at the WWTP

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The City of El Campo, Texas is situated in the newly termed “Texaplex,” a triangular region that incorporates Texas’ major cities. By 2030, population growth in the Texaplex is expected to grow by nearly 50%. El Campo, a city of 11,000 people in Wharton County, is proud of its small-town values and ideals and is poised for growth over the coming decades.

To prepare for the inevitable changes of a growing community, the City of El Campo looked to Siemens Industry, Inc. to identify a variety of infrastructure improvements.

Client Objectives

As with many cities in Texas, aging infrastructure has been a common issue, and the City of El Campo was no different. On the forefront of needs was the city’s wastewater treatment plant (WWTP). The City staff was doing a great job utilizing their existing resources to keep an outdated WWTP running, and turned to Siemens to help them fine-tune operations and find creative ways to fund much needed infrastructure improvements.

Siemens Solution

In the summer of 2012, Siemens proposed a series of infrastructure improvements that were designed to help the City of El Campo improve its infrastructure with minimal impact to the City’s budget. As part of a 15-year energy Performance Contract (PC), Siemens will implement:

- Blower replacement and aeration improvements at the WWTP – the City’s existing, blower will be replaced with a new, high-efficiency blower that will optimize process control and operating efficiency while providing blower redundancy. The aeration system will be upgraded with dissolved oxygen and digester level controls, fine bubble diffusers, and new air piping grid.
- Headworks rehabilitation – to improve the City’s solids management, Siemens will replace the existing corroded drum screen and support structure with a new stainless steel assembly including a finer mesh screen, install new screening wash system using recycled non-potable water, install new metal grating, and replace the existing waste chute.
- Non-potable water (NPW) system – the existing NPW system will be upgraded with a new system that includes a pump, variable frequency drive (VFD) controls, and a new suction intake screen. These upgrades will vary the pressure and flow, based on actual plant operating demands, for optimal system performance.

The City of El Campo will generate more than \$196,000 in annual energy, operational, and capital savings

- SCADA system – the new SCADA system will improve performance of the lift station pump controls, centralized system management, remote monitoring and notification of critical infrastructure, and data logging of key equipment operating parameters.
- Lighting retrofits and relamps – El Campo's existing T12 fixtures in various facilities will be retrofitted with more efficient T8 fixtures. Additionally, Siemens will replace magnetic ballasts with electronic ballasts, install occupancy sensors, and replace incandescent lamps with compact fluorescent (CFL) lamps.
- Electrical deficiency repairs – at the City's wastewater treatment plant, Siemens will repair electrical ground faults, electrical conduit, and conduct general maintenance on the motor control center. These repairs will improve employee safety and protect the equipment for longer life spans.
- HVAC replacements – at the Fire/EMS facility, four rooftop HVAC units, which have surpassed their useful lifecycles, will be replaced with new, more efficient units.

These solutions will be implemented beginning in the fall of 2012, and are expected to be complete in late summer of 2013.

Client Results

When Siemens and the City of El Campo have completed the above solutions, Siemens anticipates the following benefits to the City:

- First year utility, capital offset, operational, and maintenance savings in excess of \$196,000
- Total guaranteed energy savings of approximately \$756,000 over the 15 years of the PC
- Improved infrastructure, including equipment redundancies, required maintenance and repairs, longer equipment life expectancies, reduced maintenance requirements and costs, optimized processes and performance, improved employee safety, increased plant and operator efficiency, enhanced working environments, and new warranties
- Increased water conservation and reuse efforts

The partnership between the City of El Campo and Siemens will deliver the necessary cost savings, energy efficiency upgrades, and infrastructure improvements needed to prepare the City for long-term growth and economic development.



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