



City of Lawton



The Opportunity

In 2007, the City of Lawton wanted to be a model for other small Oklahoma towns to address environmental concerns and bring continual benefits to its residents, while also cutting operational costs. City leaders partnered with OpTerra Energy Services to design, implement, and complete various efficiency improvements in the City, with a focus on water and wastewater solutions.

The Partnership

A focal point for this project was retrofitting water meters to enable automated meter reading capabilities. The installation of 29,000 new water meters across 23 sites sharply cut costs by providing a greater level of accuracy through a fixed-based communication system. Benefits of the new system include more accurate readings, which in turn improves billing and collection efforts. Labor was redirected from meter reading to other core mission objectives and meters provided real-time information that enhanced leak detection and other service capabilities. Additionally, OpTerra installed new diffusers and provided control improvements at the wastewater treatment plant that allowed City staff to utilize their aeration system more effectively through both solids retention time and blower controls.

The Impact

The meters were part of a larger citywide project, which includes lighting retrofits and LED traffic signals. With CO₂ emissions reductions of 142 metric tons each year and guaranteed annual energy savings of more than \$198,000, the program makes a strong statement about the City's role in environmental stewardship, setting a national example in providing optimal solutions in the area of wastewater treatment.

Program Highlights

- Increased revenue of \$815,746 from guaranteed meter accuracy
- Reduced carbon dioxide by 157 tons each year

Technical Scope

- Wastewater treatment plant improvements:
 - Solids retention time (SRT) control and aeration
 - Diffuser replacement
 - Nitrification aeration basin control
 - Influent
- Change-out of more than 29,000 water meters with automated meter reading (AMR)
- Lighting retrofit including LED traffic signals
- Energy Management systems
- Air-cooled condensers