

## Winter Park Capital Improvements Projects and Swoope Water Treatment Plant, Winter Park, Florida

- Innovative thinking and planning saved the City of Winter Park \$5 million in construction costs.
- Extensive mitigation measures as well as trenchless construction in some roadways was performed in order to preserve area tree canopies.
- Swoope Water Treatment Plant (WTP) was awarded the Design-Build Institute of America's 2006 National Merit Design-Build Award for water projects under \$15 million.

The City of Winter Park's water system serves approximately 22 square miles and a total population of more than 88,000 people. CH2M HILL was called upon by the City to provide engineering and construction services for their 6-year Water System Improvement Program, resulting in more than \$51 million in capital improvements (to date) and expansion of the City's water system.

CH2M HILL is responsible for a broad range of projects and is delivering challenging technical solutions to Winter Park on projects including:

- 8.2-mgd Magnolia WTP: Phase 1
- 8.2-mgd Magnolia WTP: Phase 2 – Ozone Addition
- 7.4-mgd Swoope WTP (listed separately below)
- .75-mgd East WWTP – Clarifier Rebuild
- 10-mgd Aloma WTP
- Swoope WTP: Phase 2 – Well Capacity Increase
- 3-mgd Wymore WTP Repump Conversion
- 1-mgd East WWTP – Aeration Modifications and Repowering

**Swoope Water Treatment Plant.** CH2M HILL performed site development, planning, permitting, design and construction services for this award-winning project. The innovative thinking and planning of the project team saved the City of Winter Park over \$5 million in construction costs. By increasing the capacity from

4-mgd to 7.4-mgd, the City saved \$3 million – the cost of installing a second ozone system at another plant. Locating the Swoope WTP next to the existing plant saved the City an additional \$1 million that would have otherwise been required for new distribution system improvements.

A workshop approach provided an avenue for owner input throughout the design assuring that the City's needs were met and typically exceeded. CH2M HILL included the City's architect on the design-build team to coordinate a complementary architectural style for an affordable housing unit to replace rental homes demolished for the new plant construction. This approach also resulted in locating the plant further from the apartments and enhancing the dividing buffer zone between the apartments and the WTP.

Plant construction began in March 2003, and the design-build approach shortened construction time to 18 months, an aggressive schedule that considered the complexity of the state-of-the-art treatment processes. Construction innovations minimized the impact to the residents, disruption to foot traffic along sidewalks, driveway access, and traffic flow while preserving the tree canopy along the residential streets. The benefits of these construction methods were evident throughout the 20-month construction process in that only 3 minor complaints were received from residents living near the construction site.

Originally on track to be completed 2 months ahead of schedule, the project was delayed when 3 hurricanes hit central Florida in Autumn of 2004. CH2M HILL maintained a self-imposed aggressive schedule and substantial completion was achieved in November 2004, with commissioning successfully concluded in December 2004.