



AECOM DESIGN-BUILD PROJECT

Project Highlights:

Location: *Town of Davie, Florida (Broward County)*

Contract Scope: *Public education/outreach, planning, final design, permitting services and construction through two-phase design-build process including a final design of reuse distribution network*

Schedule: *Started in 2009 – will conclude fall of 2013*

Size (MGD): *6-mgd water treatment plant (expandable to 12-mgd)*

3.5-mgd water reclamation plant (expandable to 7-mgd)

Design & Constr. Value: *\$1 Phase 1: \$6,150,000; Phase 2 (estimated): \$102,000,000*

Population Served: *Future design population of 91,000*

The Town of Davie is upgrading its utility systems to allow for growth anticipated from two major redevelopment initiatives within the Town's utility area. These developments will create steep increases in demand for both potable water and wastewater treatment capacity. Furthermore, newly created ocean outfall legislation and regulatory pressures have resulted in a need for the Town to implement a reuse program (tertiary treatment and high level disinfection).

The Davie project was implemented through a two phase progressive design-build approach. The Phase 1 contract was awarded through a competitive bid process based on qualifications, and a negotiated price. At the conclusion of Phase 1 a Guaranteed Maximum Price (GMP) proposal was presented to the Town for Final Design & Construction Services. This was an open book process where the Town actively participated in the selection of sub-contractors and vendors.

Problem Solving Strategy

The permitting process and sheer number of permits necessary to implement this project in a timely fashion was a significant challenge for AECOM to overcome. To date, there have been approximately 25 permits obtained for Federal, State and Local authorities, excluding the actual building permits.

AECOM assisted the Town in all matters related to land acquisition for the project. The main site for locating the facilities was purchased by the Town from a local university, and the process took more than three years to complete. Remote properties for locating four raw water wells and easements for the associated supply pipelines were also acquired by the Town from adjacent landowners.

Further, the water reclamation facility presented unique challenges of its own, due to restrictions imposed by the relatively small size of the site, and the need for it to be located in close proximity to large reclaimed water users. The extensive stormwater management requirements necessary to adhere to south Florida regulations resulted in the need for underground storage in addition to surface dry retention areas. The combination of facilities, underground utilities, landscaping and stormwater management needs presented a significant challenge to fit on the 14-acre site.

Successful Solution.

The permitting process was successful do to an interactive approach of managing and tracking each of the various permits. For most permits, a pre-submittal meeting was held with the respective agency to ensure the hot issues were identified and addressed as early on in the overall process as possible. Once permit applications were submitted, AECOM actively pursued quick turn-around and response time from individuals responsible for approvals with each respective agency. This hands-on approach proved successful in obtained permits to get the project constructed in a timely fashion.

In order to minimize land usage, a high-rate, compact treatment process was selected for both the water treatment and water reclamation facilities– thereby allowing adequate space for construction on the available property. This presented the Town with an opportunity to be among the first to employ reverse osmosis technology to treat brackish water from the Floridan Aquifer as an alternate source of potable water. A more complex process, employing raw water wells, with an ability to extract brackish water from the Floridan aquifer at a depth of approximately 1,400 feet, as opposed to obtaining fresh water from the Biscayne Aquifer at a depth of roughly 100 – 150 feet, had to be implemented.

Membrane Bioreactor (MBR) technology was chosen for the water reclamation facility– allowing it to have a smaller footprint, and be sited near users in the immediate vicinity, such as golf courses and educational institutions.

Relationship to the Economy

The number of jobs created varies from month to month depending on construction activities. The number of people employed by this project in any one month would be approximately 60 to 80 individuals. Overall jobs created during planning through construction phases are approximately 770, while permanent jobs are approximately eight for both facilities.

What AECOM's customer (public-sector officials) have to say about their work.

The Town of Davie commits to providing the public with a safe and dependable supply of drinking water as well as providing proper treatment and disposal of wastewater. With the upcoming growth (discussed below) expected in the utility service area, the Town must be proactive in constructing facilities to provide water and wastewater treatment to these new users. The Town must expand its utility in conjunction with the planned growth on the horizon.

*The Town's vision is to effectively provide and manage high-quality utility service as well as comply with all water and wastewater regulations. The future of Davie's water is well said with the project's slogan, **Making Davie Clean Through Green** – Town of Davie Utilities Director, Bruce Taylor*

"The future of water conservation is in re-use. The Town of Davie's new state-of-the-art water reclamation facility currently under construction will do much more than just meet Davie's growing demands for a clean and dependable source of drinking water. The innovations built into our new facility will position the Town of Davie as an industry leader in water conservation and water reclamation. The result will be a more eco-friendly, efficient use of the Town's water resources." –David Town Councilmember Susan Starkey

For Additional Information Contact:

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Please send project photos.

Particular care is being taken to ensure that the facilities blend in with their surroundings, in what is a particularly attractive community that prides itself on its outdoor lifestyle