Contract Operations: Operations & Maintenance

Operations & Maintenance (O&M). A public partner contracts with a private partner to operate and maintain a water and/or wastewater system while the public partner retains ownership and rate setting authority.

OPERATIONS & MAINTENANCE CONTRACT
An O&M partnership transfers daily responsibility and risks from the public partner to the private partner.

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<th>Public Partner</th>
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The scope of the partnership could include: treatment plants, collection and distribution systems, pump stations, meter reading, customer service and billing.

A typical O&M partnership has the following attributes:
- 5 to 10 year contract term
- Fee is fixed for the term of the contract, which creates budget certainty
- All existing employees can be offered employment
In 1991, the city of Palmetto, Florida selected Veolia to manage their 2.4 million gallons per day (combined capacity) Bardenpho and oxidation ditch wastewater treatment plants, 36 lift stations, a land application program for sludge, and an effluent reuse program with a reuse distribution system.

The city of Palmetto provides wastewater treatment services to a population of approximately 130,000 people on the Gulf Coast of Florida. For years, the city had been operating the treatment plant on its own, but in the late 1980s, the city’s growing population and stringent discharge requirements prompted Palmetto to seek out an experienced contract operator to preserve its natural resources.

In the years since, Veolia has undertaken numerous initiatives to improve operational efficiencies and prevent untreated wastewater from entering the Terra Ceia Bay. Measures such as developing a reclaimed water distribution system, improving process control, upgrading the effluent disinfectant, and overseeing discharges to the Bay have resulted in decades of cost savings, a perfect safety record, significant improvements to compliance rates, and improved quality of discharges to endangered shellfish beds.

"Veolia has been here now for more than 27 years, and they’ve not had issues in that time. So that’s a phenomenal record. They are really a community partner, and they play a big part in a lot of our big annual events and outings. Whenever we have an emergency like with the hurricane we had a few years ago, I knew the plant was in good hands. They give me a high level of confidence."

- Shirley Groover Bryant
Palmetto Mayor
**Infra mark: City of Houston (Kingwood), Texas**

Infra mark is responsible for operations and maintenance of water and wastewater treatment plants, and associated collection and distribution systems, in Kingwood, Texas.

Infra mark’s relationship with the Kingwood area of Houston began in 1974, when several utility districts selected Infra mark to assist in correcting operational problems in their water and wastewater plants. The relationship continued to grow over time as Kingwood added more water and wastewater systems. In 1996, Kingwood was annexed by the city of Houston, and in 1997, Infra mark entered into a contract with the city to operate and maintain the water systems in the Kingwood area, which continues today.

When Houston annexed Kingwood, Infra mark continued its role as system operator and helped city staff transition other services to municipal operations. This included a smooth and efficient transition of meter reading, billing, collection and customer service. Additionally, Infra mark briefed Houston city staff on a major upgrade of the treatment facilities. Because Infra mark was involved in this multi-phased project from the beginning, it was able to bring the city up to speed quickly and ensure a successful transition.

Infra mark have provided uninterrupted service for more than 45 years, evolving our partnership with the city through major upgrades and system expansions. Many of Infra mark’s recommendations have saved the city money and created operational efficiencies. For example, Infra mark performed a recent filter upgrade that saved the city $590,000. Infra mark also recommended changes to the proposed expansion of the Kingwood Central wastewater treatment plant, which reduced the cost of construction significantly. The resulting modifications to the tank levels and improved oxygen transfer from the fine bubble diffusers eliminated additional construction of extra tanks and led to a 30% decrease in electricity usage as a result.

As a partner with the city, we have managed operations through several natural disasters with minimal disruption to service. Infra mark was instrumental in the efforts to keep the system operational after Hurricane Harvey in August 2017. Infra mark employees jumped headfirst into the tasks of restoring power, fixing debris-laden equipment, and assessing damage to flooded areas. With the example set by Project Manager, Jonathan Dawson, crews worked tirelessly and continuously despite road conditions, damaged or no facilities and, in some cases, dealing with personal loss. In addition, 12 Infra mark employees convoyed from Oklahoma with equipment, vehicles, and emergency response supplies to begin assisting recovery efforts as soon as the water began to subside. Within 72 hours, the team was able to restore operations at 95% of the facilities in the Kingwood area.

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**PRIVATE PARTNER RESPONSIBILITIES**

- Operating, maintaining, and managing the wastewater treatment plant, collection and distribution systems, wells, lift stations and booster stations
- Designing and constructing of major capital projects
- Permitting for any new or upgraded facilities
- Regulatory compliance and reporting
- Developing and executing the asset management plan
- Recruiting and staffing

**BENEFITS**

- Successfully implemented Supervisory Control and Data Acquisition (SCADA) system
- Recommended changes cut plant expansion costs significantly
- Tank level modifications and other changes resulted in 30% decrease in electricity usage
- Cost savings of $590,000 on sand filter repairs
- Uninterrupted service during natural disasters

**DETAILS**

- Population Served: 120,000 residents
- Type of Facility: Five wastewater treatment plants and 13 water treatment plants
- Flow: 15 million gallons per day (wastewater) and 43 million gallons per day (water)
- Other: 350 miles of collection system; 65 lift stations; 315 miles of distribution system; seven elevated storage tanks; 23 wells

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**Testimonial**

“They do an excellent job. They don’t want to go back and repeat work so they spend time doing it properly and finding the best solutions.”

- Anthony Edwards
  Public Works and Engineering
  Drinking Water Operations,
  Former Senior Inspector,
  City of Houston
Jacobs and the North Hudson Sewerage Authority (NHSA) have worked together since 1989 to optimize and improve wastewater infrastructure, treatment performance, and services for nearly 180,000 people in four cities along the Hudson River. The parties’ collaborative efforts over three decades have improved water quality in the Hudson, and supported development and revitalization efforts.

Jacobs manages the wastewater collection and treatment systems including a 20.8 million gallons per day of trickling filter wastewater treatment plant, a 10 million gallons per day of trickling filter wastewater treatment plant, 107 miles of combined sewers, 11 pump stations and an extensive network of combined sewer and storm water regulating equipment.

When Jacobs began working with the city of Hoboken and NHSA’s predecessor organizations, the facilities for which the company assumed responsibility were aging and ineffective. The communities they served faced regulatory violations and penalties from local and federal authorities and were under a ban on new sewer connections. Jacobs optimized treatment processes, trained operators and returned facilities to compliant operations allowing the ban on new connections to be lifted. Jacobs coordinated operations with capital improvements that helped reduce pollutants released into the Hudson, and ultimately enabled the Authority to transform the Hudson waterfront from eyesore to valued asset. Jacobs also supported response and recovery during and after Superstorm Sandy in 2012. Team members made emergency repairs and returned equipment to full operation within 10 days of the storm.

“Fortunately, for the North Hudson Sewerage Authority, Jacobs, our partner of 22 years at the time, came to our assistance and in 24 hours provided an expert team to address the damage caused by the disastrous storm surge. Our main Sewage Treatment Plant in Hoboken was pumped out, some 24 pumps were removed, rebuilt and replaced and temporary electrical control systems constructed to enable primary treatment 48 hours later with full secondary treatment restored within 5 days of the system failure. It was teamwork at its best.”

- Frederic J. Pocci, P.E.
SUEZ has a 20-year contract to operate wastewater treatment facilities for the city of Springfield, MA under the direction of the Springfield Water & Sewer Commission. SUEZ provides operations, maintenance and management of the second largest wastewater treatment plant in Massachusetts and the third largest in New England.

Through this partnership, SUEZ has helped the Springfield facility significantly reduce its energy consumption and greenhouse gas emissions since 2000. Upgrades at the plant resulted in $500,000 in electrical power savings and a significant decrease in use of natural gas.

SUEZ has also implemented $14 million in capital improvements including the design, build and operation of a biosolids handling system, as well as a combined sewer overflow monitoring system.

This partnership has helped the Springfield facility be part of “The World is our Classroom” program organized by the Springfield Water & Sewer Commission. Every fifth grader and teacher in Springfield participates in this hands-on curriculum that explores science, math and engineering concepts at the Springfield Wastewater Treatment Facility.

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**PRIVATE PARTNER RESPONSIBILITIES**

- Operating, maintaining, and managing the wastewater treatment facilities
- Designing and constructing major capital projects
- Permitting for any new or upgraded facilities
- Regulatory compliance and reporting
- Developing and executing an asset management plan
- Recruiting and staffing

**BENEFITS**

- Cost savings
- Energy reduction
- Reduction in greenhouse gas emissions

**DETAILS**

- Type of Facility: 3rd largest wastewater treatment facility in New England
- Population served: Approximately 275,000 residents
- Flow: 40 million gallons per day of wastewater treated; average design capacity of 67 million gallons per day and a peak flow of 180 million gallons per day
- Other: 24 combined sewer overflow regulator stations; 25 sanitary pump stations; 15 miles of combined sewer interceptor and force mains; 5 flood control pumping stations and related outfalls, and backwater gates

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**Testimonial**

“[SUEZ] has attracted and retained over the years highly qualified professionals whose skills and dedication to their craft has manifested itself in a finely tuned and efficient wastewater treatment plant as confirmed by operating performance data.”

- Bill Fuqua, Contract Administrator, SWSC