

2006 U.S. Conference of Mayors Excellence in Public/Private Partnership Award Application

Stamford, Conn., and CH2M HILL Water Pollution Control Facility Upgrade and Expansion

Stamford, Conn., is in the final stages of the largest capital project ever undertaken by the City – a \$105 million upgrade and expansion of the 30-year-old Stamford Water Pollution Control Facility (WPCF), \$60 million of which is associated with nitrogen removal processes. The project designer and construction management provider is CH2M HILL, hired by the City in 1996 for the massive project, though the partnership between Stamford and CH2M HILL began in 1989 through proactive projects addressing nitrogen removal in the Long Island Sound.

Committed to enhancing the local environment and complying with a mandate from the Connecticut Department of Environmental Protection (DEP), the City's goal was to reduce nitrogen levels in the Long Island Sound. At the time of the project's conception in the early 1990s, there were no set nitrogen requirements; however, the Sound was dead to growth and fishing, lobsters were dying, and beaches were often closed. Stamford was the first municipality to proactively begin experimenting with nitrogen removal in the early 1990s and conducted a study funded by the U.S. Environmental Protection Agency (EPA) to demonstrate new nitrogen removal technology.

Major improvements to the treatment plant as a result of this project include expanding the capacity of the plant to handle 24 million gallons of average wastewater daily flow and up to 68 million gallons of peak daily flow, upgrading the disinfection process to ultraviolet light treatment from the previous method of chlorine disinfection, improving solids handling, and enhancing nitrogen removal. Other facets of the project include demolition of an old, unused municipal solid waste incinerator and construction of a new recycling center and new public works garage, both of which were relocated across from the wastewater plant as a result of the plant expansion.

The project has presented challenges, including contaminated soil, high water table, and continuous soil testing; however, the partnership between Stamford and CH2M HILL has yielded a successful project that will be completed on-time and within budget. Throughout the project, CH2M HILL and Stamford have responded quickly to issues that arose while maintaining ongoing communication and controlling costs.

Here are examples of the positive impacts this partnership and project have had on the Stamford community and how they relate to the U.S. Conference of Mayors' awards judging criteria:

- **Environmental enhancements to region and community.** Since the early 1990s the City of Stamford has been committed to reducing nitrogen levels. Upon completion of the plant upgrade and enhancement, the nitrogen levels in the Long Island Sound will be greatly reduced, thereby enhancing the natural habitats and revitalizing local recreation surrounding Stamford. According to the EPA's Long Island Sound Study, upgrades to sewage treatment plants like Stamford's WPCF have decreased nitrogen discharges to the Sound by 19 percent since 1990. Upon completion of the project, Stamford's nitrogen discharge levels will be 4 milligrams per liter on a rolling average year round basis. This is a tough goal in a location with cold winters.

Local shellfish beds are now protected, due in part to the upgrade's use of ultraviolet light water treatment process instead of using chemicals such as chlorine, which can be toxic to marine habitats. (*Partnership has enhanced the quality of life in the community, Measurable results: cleaner/healthier environment*)

- **Innovatively improving biosolids treatment.** CH2M HILL and City of Stamford are continuing to work on projects surrounding the upgraded treatment plant. The new, innovative biosolids handling process will use one truck instead of four, and the byproduct of the biosolids treatment can be used as an agricultural amendment. As a result, there will be less traffic and fuel consumption, and the project will yield beneficial reuse and a source of clean energy. (*Innovation*)
- **Enhancing Stamford community and region.** The State of Connecticut has a nitrogen trading program that allows municipalities with low nitrogen levels to sell credits to municipalities that are exceeding maximum levels. As a result of Stamford's low nitrogen levels, the City will enjoy increased revenue from the trading program with an expected \$400,000 per year in the sale of credits. Additionally, sales of the nitrogen credits will help offset the debt service associated with the plant upgrade, thereby stabilizing the user charge.

The Stamford waterfront also can look forward to revitalization due to the aesthetic and environmental improvements brought about by this project. With a notable reduction in odor, the area can anticipate an increase in fishing, tourism, and recreation.

Stamford Mayor Malloy also is developing the Mill River Corridor Plan, a cornerstone of the Stamford revitalization efforts. The Plan calls for the redevelopment of the river corridor to provide park land on both sides of the river, the development of a new park to connect the West Side to Downtown, and the construction of 1,000 units of mixed-income housing to encourage commuters to live in town. The environmental and aesthetic improvements brought about by the upgrade are crucial to this plan. (*Creativity of approach, Impact on city economy*)

- **Additional plant capacity allows for growth in City.** By increasing the average wastewater daily flow capacity from 20 million gallons a day to 24 million gallons, the City has a greater capacity and opportunity for future residential and commercial growth. The population of the Stamford area is predicted to increase by nine percent in the next 20 years, and the commercial development is predicted to increase by 17 percent. The upgraded treatment plant helps make this growth possible. (*Impact on city economy*)

The successful partnership between Stamford and CH2M HILL has been mutually beneficial to the City, the region, and CH2M HILL. The City has since partnered with CH2M HILL for \$15 million in future projects.