



Green Innovation Grant Program (GIGP) No. 152
CWSRF Project No. C3-5381-42-70
Westchester County Department of Environmental Facilities
Project Name: Yonkers Joint Wastewater Treatment Plant Energy Efficiency

DEC Region: 3 County: Westchester

Type of Financing: American Recovery and Reinvestment Act (ARRA) Green Innovation Grant Program

Estimated Total Project Cost: \$211,710.87

Recommended GIGP Award Amount: \$190,539.00

Local Share: \$21,171.87

Other Funding Sources: \$0.00

Project Category: Clean Water SRF. Energy Efficiency.

Project Description:

This project will improve energy efficiency at the Yonkers Wastewater Treatment Plant through installation of new LED luminaries on the existing roadway lighting fixtures lighting necessary for operational safety on-site at the Yonkers Wastewater Treatment Plant.

Project Summary:

For safety and basic work operations, lighting is a necessity at the 27-acre site of the Yonkers Joint Wastewater Treatment Plant. There are sixty 250 watt metal halide exterior lighting roadway lights at the site. Replacement of these lamps with light-emitting diode (LED) lamps will save 65% of the energy used for roadway lighting at the wastewater treatment facility. The upgrade to exterior lighting is one component of upgrades to the facility to achieve environmental and economic sustainability for facility operations and to advance Governor Paterson's '15 by 15' Plan to reduce electricity use by 15 % below forecasted levels.

The facility treats 120 million gallons of wastewater each day. The entire facility is the first in the state to meet international standards for environmental systems called ISO 14001 Environmental Management System (EMS). The United States Environmental Protection Agency (EPA) Region 2 selected the Yonkers Joint Wastewater Treatment Plant to receive a 2008 Environmental Quality Award for its EMS. Upgrades to lighting for the purpose of energy efficiency are one component of other projects undertaken to enhance sustainability of operations and increase energy efficiency to meet EMS standards.

This project is categorically eligible for GIGP financing in two categories per the United States Environmental Protection Agency's (EPA's) "Guidance for Award of Recovery Act Funding to State Revolving Funds" dated March 2, 2009:

1. Energy Efficiency. Categorically eligible projects include the use of "improved technologies and practices to reduce the energy consumption of water quality projects including projects to reduce energy consumption or produce clean energy used by a treatment works" (page 43);
 - a. As a necessity to safe plant operations, on-site lighting is a part of the overall energy consumption of a wastewater treatment facility. Keeping in mind national efforts to foster system management approaches especially asset management for wastewater infrastructure, it is important to plan for energy efficiency throughout the wastewater treatment facility or system.

b. The retrofit of high energy efficiency lighting meets the business case criteria of meeting or exceeding a 20% net energy reduction/savings stated throughout EPA's "Sample Business Case for Energy Efficiency at Wastewater Pumping Systems for Green Project Reserve" and "Green Project Reserve Business Case Principles and Questions and Answers" . The lights chosen for this project will be more than 65% more efficient than the typical available product.

2. Environmental Innovation. Categorically eligible projects "manage water resources in a more sustainable way, including projects that achieve pollution prevention or pollutant removal with reduced costs and projects that foster adaptation of water protection programs and practices to climate change." The EPA Guidance provides example III. g.: "projects that facilitate adaptation of clean water programs and practices to climate change" (pp. 45-46). The use of high efficiency lighting reduces reliance of a Section 212 facility on fossil fuels and mitigates the climate change impacts of that facility. Furthermore, the entire facility is operated to meet international EMS for sustainability which is an innovative method of systems operation in New York State. Enhancement of this component of facility operations is part of the innovative use of the EMS process at a wastewater treatment facility.

Funding Summary:

The City of Yonkers has committed to provide the 10% local match.

SEQR Findings:

The Corporation has determined that the proposed action will finance a project which constitutes the "...replacement, rehabilitation or reconstruction of a structure or facility in kind..." which is a "Type II" action under SEQR, pursuant to 6 NYCRR Section 617.5(c)(2).

Construction Schedule:

<u>Description</u>	<u>Construction Start</u>	<u>Construction Completion</u>
Westchester County Department of Environmental Facilities Yonkers Joint Wastewater Treatment Plant Energy Efficiency	May 1, 2010	December 31, 2012