

Energy Audit – Cultural Snug Harbor Cultural Center and Botanical Garden Staten Island, New York

Program

NYPA Comprehensive Energy Audit

Scope of Services

- Analyze Utility Data
- Review Facility Documentation
- Facility Surveys
- Perform Infrared Imaging
- Develop DOE 2.1E Computer Model
- Identify Energy Conservation Projects
- Quantify Carbon Mitigation Benefits
- Prepare Comprehensive Audit Report

Level of Involvement

Prime Contractor

Facility Size

231,238 sq. ft.

Facility Type

Museum, office, botanical garden, public assembly

Project Results

- Replace fixtures with T12 and magnetic ballasts
- Replace incandescent lamps with compact fluorescent fixtures
- Replace high intensity discharge lighting with T5HO fixtures
- Replace incandescent exit signs with LED fixtures
- Install lighting controls
- Replace greenhouse lighting
- Install pipe insulation Install Heat-Timer units to control steam heating in selected locations
- Install building management system
- Install programmable thermostats
- Upgrade motors with premium efficiency units
- Repair steam traps

Project Costs

Installation Cost: \$302,730

Simple Economic Payback: 4.7 years

Snug Harbor opened in 1833 as America's first home for retired and disabled seaman. It was founded on a bequest from Robert Randall who passed away in 1801 and established a Trust "for the purpose of



Temple Row at Snug Harbor

maintaining and supporting aged, decrepit and worn-out sailors". He left his 21 acre farm in Manhattan that, at the time was two miles from city border, as the intended location. However, in the interim between his death and the realization of his endowment, New York City expanded and the farm, bordering on what is now Washington Square Park, became quite valuable. The Trustees were able to secure approval to construct the facility in Staten Island and develop the farm to provide income in the future for the Trust. This arrangement enabled Snug Harbor to house and care for thousands of retired mercantile sailors between 1833 and 1976. The campus includes a mix of centralized and de-centralized heating and cooling systems.

The audit was requested by the City of New York as part of the Mayor Micheal R. Bloomberg's PlaNYC program to make a greener, greater New York. PlaNYC addresses 10 key goals for the city that focus on five key areas of the city's environment including land, air, water, transportation and energy. This report is part of an effort to save energy in city operated buildings, thereby reducing operating costs and greenhouse gas emissions.

EME Group is recommending eleven specific energy efficiency projects that are expected to reduce Snug Harbor's total energy costs by 13%, equivalent to \$63,979 annually at current rates. To achieve these savings, a capital investment of \$302,730 is necessary and results in an overall simple payback of 4.7 years.