PUBLIC STORAGE
SELF-STORAGE FACILITY
JERSEY CITY, NEW JERSEY

KEY PARAMETERS

- Type of Facility – Existing Building (EB)
- Function – Storage / Warehouse
- Area – 7-story, 329,020 sf
- Project Completed – 2017

Challenge: Meeting energy-savings criteria for utility company incentives with *verifiable* energy savings. The 100-year-old block-long building was once the largest cold storage facility in the world. Each of over 4000 storage units in the facility are climate controlled.

Solution: Dynamic V8 Air Cleaning Systems, in conjunction with the application of the IAQ Procedure in ASHRAE Standard 62.1, allowed designers to meet indoor air quality standards while reducing the level of outdoor ventilation air. Dynamic V8 Air Cleaners provide MERV 15 performance and remove odors and VOCs. In addition, Dynamic V8 filter media pads have an average change-out life of over four years.

Results: The reduction in the amount of Outdoor Air, used for ventilation, substantially reduced the heating and cooling load and

enabled a reduction in HVAC system capacity and physical size of the heating and cooling plant. The selected VRV systems required less floor space and piping which consequently increased rentable floor space.

The combination of energy conservation measures led to energy reductions which were measured and verified over a three-year period under New Jerseys Pay for Performance Existing Buildings Program which takes a comprehensive, whole-building approach to energy efficiency in existing commercial and industrial buildings. Like performance contracting programs offered in other states, the program links incentives directly to energy savings and includes measurement and verification components to ensure that estimated savings levels are achieved.

Incentives totaled $558,025 with an estimated 57.8% total energy savings as compared to the energy code used in New Jersey in 2015, and was estimated to save 1,416,429 kWh of electricity annually and reduce electric demand by 159 kW annually. Overall, the project had an estimated annual energy cost savings of $196,742, with a 138% internal rate of return and a one-year simple payback period with incentive. Absent these incentives, the project would have a 27.4% internal rate of return and a four-year simple payback. Read the entire report here.

In the end, this approach offered sustainability, superior IAQ, and verifiable energy savings.

TEAM

- Owner – Public Storage
- Architects – TAO Architecture + Design
- Engineers – Summit Engineers, Inc.
- Facility Management – Public Storage

MECHANICAL SYSTEMS

- HVAC – Daikin

UTILITY REBATES

- Square K Energy Solutions

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