

SHOWCASE PROJECT: TNDC: ALEXANDER RESIDENCE

SOLUTION OVERVIEW

Alexander Residence is a 12-story building with 179 units originally built in 1928 in the Tenderloin district of San Francisco. The building serves seniors at or below 50 percent area median income and is fully master-metered for all utilities (gas, electric, and water). Prior to being renovated, Alexander Residence was one of Tenderloin Neighborhood Development Corporation's (TNDC) most expensive properties in terms of energy consumption. To reduce the property's operating expenses and ensure long-term affordability and availability of services for residents, TNDC researched energy efficiency programs that would bring deep energy savings and minimize interferences to residents.

**TNDC received rebates totaling \$571,535*

SECTOR TYPE

Multifamily

LOCATION

San Francisco, California

PROJECT SIZE

81,000 Square Feet

FINANCIAL OVERVIEW

Project Cost: \$572,316*

SOLUTIONS

TNDC took advantage of three local rebate programs to implement an extensive energy efficiency scope at Alexander Residence, which covered 98 percent of the retrofit costs. The rebate programs are:

- Low-Income Weatherization for Multifamily Properties (LIWP-Multifamily)
- California Solar Initiative Thermal Program (CSI)
- Bay Area Multifamily Building Enhancements Program (BayREN)

The LIWP program focuses on an integrated approach to achieving whole-building savings rather than focusing solely on energy efficiency or solar. TNDC relied on hands-on technical assistance from LIWP to select and implement the most appropriate energy efficiency measures, leveraging financing from LIWP, CSI, and BayREN. See below for a summary of the energy efficiency

measures and associated costs. The efficiency upgrades were started in January of 2017 and completed in March of 2018.

Savings Measure	Cost
Whole-building LED lighting retrofits	\$98,000
Installed solar thermal hot water system + roof repairs	\$205,301
Low Flow Water Fixtures (0.5 GPM bathroom aerators, 1.5 GPM showerheads)	No cost – installed free by San Francisco Public Utilities Commission
Installed Energy Star ® refrigerators	\$39,563
Mechanical System Upgrades: <ul style="list-style-type: none"> • New steam boiler • DHW pipe insulation • Thermostatic radiator valves (TRV) • Orifice plates in the steam radiators • Variable speed hot water pump 	\$230,050

OTHER BENEFITS

In addition to energy and cost savings, TNDC realized several other benefits from this project including:

- Improved resident safety due to brighter lighting increasing the visibility for security cameras;
- Higher satisfaction from senior tenants with lighting levels per annual survey;
- Improved thermal comfort from the new steam boiler and TRVs; and
- Reduced maintenance staff time spent on resolving mechanical system issues and replacing light bulbs.

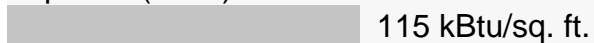
Annual Energy Use

(Source EUI)

Baseline(2016)



Expected(2018)



Energy Savings

17%

Annual Energy Cost

Baseline(2016)



Expected(2018)



Cost Savings

\$20,000



Alexander Residence, front view



Rooftop upgrades



Rooftop upgrades (wide view)