SHOWCASE PROJECT: JPNDC: JULIA MARTIN HOUSE

SOLUTION OVERVIEW

Jamaica Plain Neighborhood Development Corporation (JPNDC) built Julia Martin House in 2006 for residents aged 62 and older; the property is managed by Peabody Properties, Inc. The primary issue at Julia Martin House was its boilers, which had been causing problems for several years. As active participants in the Massachusetts' Low-Income Energy Affordability Network (LEAN), JPNDC and Peabody secured funding for energy- and water-efficient upgrades, all of which have produced savings.

JPNDC was particularly concerned about heating issues because of the age and vulnerability of its residents. JPNDC built Julia Martin House to allow independent and frail low-income seniors to age in place. They collaborated with the former Bromley-Heath Tenant Management Corporation and used HUD's Section 202 financing to build the 56-unit affordable multifamily building. However, by 2015, the Julia Martin House produced uneven and unreliable heating, as only one of its two boilers was operational and experienced frequent shutdowns. The building overheated at times, which exacerbated residents' asthma and other respiratory conditions. At other times, the boiler produced insufficient heat to maintain a comfortable temperature across the building, which prevented residents with circulatory issues from feeling warm.

SECTOR TYPE

Multifamily

LOCATION

Jamaica Plain, Massachusetts

PROJECT SIZE

45,000 Square Feet

FINANCIAL OVERVIEW

Project Costs: $124,000

SOLUTIONS

Heading into the winter of 2015, JPNDC needed to replace the boilers at Julia Martin House to ensure that residents experienced reliably comfortable temperatures, but also to reduce costs through increased efficiency, better controls, and avoided work orders. JPNDC was concerned about funding the replacements until LEAN granted the funding for high-efficiency boilers in August 2015.

JPNDC also used LEAN funding to install lighting upgrades, including two motion sensors, 14 fixture replacements in common areas and stairways, and 13 LED lamp upgrades in the parking lot. Finally, JPNDC installed an irrigation meter, resulting in substantial annual cost savings.

Type of Upgrade	Months since Upgrade	Energy/Water Savings	Annual Cost Savings	Cumulative Cost Avoidance
Lighting	58	191,000 kWh	$6,600	$31,900
Irrigation	69	121,000 gallons	$2,400	$13,700
Boiler Replacement	30	19,200 therms	$8,700	$21,600
TOTAL	NA	NA	$17,700	$67,200

OTHER BENEFITS

The property's namesake, community organizer and long-time resident Julia Martin, commented that "Our residents are more comfortable and secure knowing these boilers are keeping them warm, no matter what medication they must take or whatever health issues they face." The new boilers provide a comfortable and healthy living environment for Julia Martin residents. JPNDC can adjust heating production in real time while maintaining an even temperature across the building regardless of season or time of day. Heating and hot water functions have been separated which allows JPDNC to shut off heat in the summer without sacrificing hot water production. In addition to cost savings, JPNDC and Peabody Properties report lower maintenance costs.

Annual Energy Use

Baseline(2014)
122 kBtu/sq. ft.

Actual(2016)
100 kBtu/sq. ft.

Energy Savings

18%

Annual Energy Cost

Baseline(2014)
$23,900

Actual(2016)
$13,400

Cost Savings

$10,500

Julia Martin House exterior

Julia Martin, resident and community activist