

CASTLE SQUARE APARTMENTS FACT SHEET

Summary

Property Location: 476 Tremont Street, Boston's South End. Property occupies an entire city block.

Size & Population: 500 low- and moderate-income apartments

Age: Constructed in the 1960s

Owners: Castle Square Tenants Organization, 501(c)3 (Majority Owner) ; WinnDevelopment (Minority Owner)

Renovation: Property-wide green renovation scheduled to be complete by March 2012.

Record Breaking: A portion of the property, the 192-unit Tremont Street midrise, will be the largest Deep Energy Retrofit in the U.S., achieving a 72 percent energy reduction.

Jobs (full time equivalent): 200 estimated

Deep Energy Retrofit Details (192-unit Tremont Street midrise buildings)

WHY ARE DEEP ENERGY RETROFITS CUTTING EDGE? - Deep Energy Retrofits are the next wave in green building. The majority of green buildings are only 20 to 30 percent more efficient than typical buildings in the U.S. To date, there has been a technical glass ceiling on what is feasible for energy and carbon reductions in existing buildings. Deep Energy Retrofits completely raise the savings bar. Castle Square achieves a 72 percent energy reduction (a dramatic improvement over 20 to 30 percent energy savings)!

WHY ARE DEEP ENERGY RETROFITS IMPORTANT TO NATIONAL ENERGY POLICY? Existing buildings are a huge contributor of green house gases. In the U.S., existing buildings account for 40 percent of the nation's energy use and 38 percent of the carbon dioxide emissions. The climate change problem cannot be solved without tackling energy consumption in existing buildings. The standard 20 to 30 percent energy savings is not going to solve the problem alone. Deep Energy Retrofits provide an aggressive road map to address climate change.

HOW ARE DEEP ENERGY RETROFITS TECHNICALLY DIFFERENT THAN OTHER GREEN RENOVATIONS?

- ✓ The key difference between Castle Square Apartments Deep Energy Retrofit and standard energy efficiency renovations is insulation, which at Castle Square will be located on the outside of the building (visually transforming the dated property).
- ✓ A new 5" super insulated shell, combined with a super insulated reflective roof, high efficiency windows and extensive air sealing, will increase the insulation value of the building by a factor of ten.
- ✓ Because of super insulation, the building will require only a fraction of the energy to heat and cool.
- ✓ Additional energy savings will be made using small high efficiency cooling and heating equipment, LED and CFL lighting, Energy Star appliances and solar hot water.
- ✓ This is not a gut renovation, so fewer resources are used. Residents stay in their apartments during the renovation, with minimal disruption.

IS CASTLE SQUARE REALLY THE LARGEST DEEP ENERGY RETROFIT IN THE U.S.? Although similar energy savings are currently being reached on large commercial and residential buildings in Europe, this project will be the first existing building of its size in the U.S. to achieve such savings.

WHAT IS THE OFFICIAL DEFINITION OF A DEEP ENERGY RETROFIT? A renovation with energy savings greater than 50 percent.

Other Details

LEED RENOVATION: In addition to the Deep Energy Retrofit, this is a LEED project. Green improvements are being made in every apartment and include energy measures, new green kitchens and baths, green flooring, low VOC paint, improved ventilation, recycling of construction materials, and ecologically sensitive landscaping.

NEW STREETScape: The renovation will include a vibrant street façade and retail promenade on Tremont Street.

GREEN COMMUNITY CENTER: A green community center will be constructed where Castle Square Tenants Organization will expand its program offerings, such as youth education and leadership, a technology learning center, a computer repair clinic, senior programs, multimedia production, and a teen center.

RESIDENT PARTICIPATION: Hundreds of residents have participated in green design workshops and residents serve on the Board of Directors that oversees construction.

Resources & Funding

- U.S. Department of Housing and Urban Development Green Retrofit Program (American Recovery and Reinvestment Act)
- Massachusetts Department of Energy Resources High Performance Grant Program (American Recovery and Reinvestment Act)
- Federal Low Income Housing Tax Credits
- MassHousing
- U.S. Department of Energy's Building America program
- U.S. Department of Energy Office of Energy Efficiency and Renewable Energy
- Bank of America
- Boston Redevelopment Authority
- NSTAR
- National Grid
- Enterprise Foundation
- Kresge Foundation

Team

The design, development, and construction team includes Building Science Corporation, Elton + Hampton Architects, Petersen Engineering, Biome Studio, Pinck Co., Rees-Larkin Development, Klein Hornig LLP, Backus Associates, Viva Consulting, and CWC Builders.



BEFORE: Castle Square Apartments, Tremont Street



AFTER: Castle Square Apartments, Tremont Street