BOSTON CLIMATE RESILIENCY

Boston Resilient Building Case Study
Landmark Center Phase III
421 Park Drive

Team:
Development Team: Alexandria Real Estate Equities, Inc. and Samuels and Associates
Architect: Elkus Manfredi Architects
Landscape Architect: LeBlanc Jones Landscape Architects
Sustainability Consultant: The Green Engineer
Permitting, Transportation, Civil Engineering, Cultural Resources, Air/Noise: VHB, Inc.
MEP Engineer: WSP
Geotechnical Engineer: McPhail Associates
Status: Under Construction

OFFICE LAB
RESILIENCY
Living Shoreline, Resilient Infrastructure
SUSTAINABILITY
Green Building, Carbon Reduction
Zero Net Carbon Approach

Carbon Reduction

- EUI (Energy Use Intensity): 101 kBtu/SF
- 50.6% energy reduction compared to baseline by applying high-performance glazing system, high-efficiency LED fixtures, dedicated outdoor air system with heat recovery, high-efficiency chillers, and cooling tower
- 42.6% in stationary source GHG emissions
- To accomplish net-zero carbon status, the project team is committed to supplying 100% of the electricity used from renewable sources and/or purchasing Renewable Energy Certificates. The remaining on-site natural gas consumption of the building will be offset with the purchase of carbon credits.

Design Approach

- The building's design process compared performance of each alternative including 90% electric, geothermal, and all-electric by Energy, Energy Cost, and GHG Emissions.

Climate Adaptation

Extreme Heat

- 25,000 SF of green/vegetated roof area
- Light-colored pavers on ground floor and amenity terrace areas
- Paved areas are shaded by street trees, trees in planting beds, and standalone shade trees
- Highly reflective roof materials

Extreme Precipitation

- In addition to green roof and pervious areas, equipment that is critical to the operation of the building, such as transformers, switchgear rooms, telecommunications, and mechanical rooms, will be raised to a minimum of 17.5 feet Boston City Base (BCB) to the maximum extent practicable.
- Domestic hot water tanks and the standby generator will be located on either the top floor (mechanical penthouse) or the roof of the building.

Green Building

- Targeting LEED V4 BD+C Gold Certification
- Targeting Fitwel Certification

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