

# NEW ECOLOGY

## Finch Cambridge

*Location:* Cambridge, MA • *Size:* 101,024 sq. ft. • *Units:* 98 •

*Owner:* Homeowner's Rehab, Inc. • *Architect:* ICON Architecture, Inc.

### PROJECT BACKGROUND

Finch Cambridge is an exciting, newly-constructed 98-unit affordable housing apartment building located in Cambridge, MA. It is owned by Homeowner's Rehab, Inc. (HRI), a non-profit owner and developer supporting diverse communities by developing and preserving affordable, high-quality housing. The team began the project with a lofty goal—design and construct a new, affordable housing development in Cambridge, that is both climate hazard resilient and meets the highest energy efficiency standard possible. Raising the bar even higher, HRI later decided to pursue full Passive House certification under the PHIUS+ 2015 rating system. In the end, the final project cost was only 1.4% above the original estimate for the non-Passive House design baseline, and represented a cost savings after rebates and incentives were factored in.



Finch Cambridge is the first Passive House certified affordable, multi-family development in Massachusetts.

New Ecology (NEI) was brought onboard at the beginning of the project as the sustainability consultant to ensure the building was designed and built to the most rigorous standards for energy efficiency, occupant health and comfort, and environmental impact. As the project evolved, it was awarded funding from the Massachusetts Clean Energy Center (Mass CEC) Passive House Design Challenge. The developer and design team engaged in a collaborative learning process on what it means to create a new, affordable Passive House residential building.



NEI also oversaw the construction testing and verification for certification. After completion of this process, HRI enlisted NEI to install a Remote Monitoring & Optimization (ReMO) system to track energy and water usage performance, indoor air quality, and solar PV electricity generation. This system will help HRI ensure that the building continues to meet the Passive House intent.

Finch Cambridge was a project of many firsts. Not only is it the largest new affordable housing development built in Cambridge in the past 40 years, it is also the first Passive House certified affordable, multifamily housing development in Massachusetts (and the state's second Passive House certified multifamily building). It is also the first development to meet the City of Cambridge Article 22 requirements using Enterprise Green Communities, and the City has since adopted this strategy in their compliance pathways for other future affordable housing projects. To top it all off, on October

30, 2020, PHIUS announced that Finch Cambridge and the team at ICON Architecture were awarded the annual prize for Best Affordable Project in the PHIUS Design Awards.

## Solutions and Features

- Remote Monitoring of heating, cooling, and DHW systems, indoor air quality, rooftop ERVs, water use, and solar PV production
- \$147,000 in incentives from Mass CEC through the Passive House Design Challenge
- Air tight: 0.46 ACH50
- 105 kW Solar PV system
- Living spaces and mechanical and electrical equipment elevated above 2070 flood level
- Solar shading on south- and west-facing windows to prevent summertime overheating
- Triple-glazed windows with thermally broken frames to prevent thermal bridging
- Continuous exterior insulation
- Central ERVs providing continuous ventilation
- Central VRF providing heating and cooling
- Large community spaces for residents including a lounge and community kitchen, homework nooks, and a rooftop terrace with raised gardening beds

### GREEN CERTIFICATIONS

- Enterprise Green Communities (EGC) Certified
- PHIUS+ 2015 Certified