

Java Haus

Brooklyn, New York

Single Family Building Renovation & Addition

PHI Database ID#: 7398

Certification Goal:



Status: **Pending - in design phase**

Size: 3,250 FT2 TFA with One Unit

Description: This is a reconfiguration and vertical addition of a single-family, 1910 wood-framed house in Greenpoint, Brooklyn, New York.

DOE Climate Zone: 4a

Team:

Architect/Designer:

reBuild Architecture
<https://www.rebuildworkshop.com>

PH Consultant:

bldgtyp, llc
<https://www.bldgtyp.com>

MEP Design:

Green Solutions Consulting Engineers
<https://greensolutionspc.com>

Structural Engineer:

Urban Engineering PC

Builder:

reBuild Workshop
<https://rebuildworkshop.com>



Java Haus, Brooklyn, is a project that involves the complete transformation of a 1910 two-story, wood-framed, semi-detached townhouse in Greenpoint. The aim is to create a spacious, high-performance, single-family home for a family of young professionals.

The owners have requested the design team to expand the existing structure to gain more usable space, reconfigure the interior to make it more functional and to accommodate a contemporary lifestyle. It is also important to maximize daylight throughout the interior, create a large rooftop terrace for relaxation and entertainment, and design the house with Passive House principles to reduce its carbon footprint to the minimum and offer the highest indoor quality to its occupants.



The interior of the home has been designed around a south-facing double-height volume, where the main kitchen is located. An oversized, double-story window brings in daylight deep into the first and second floors of the home where a variety of living spaces are located. It also visually connects the interior and exterior, specifically with the new landscaped backyard, which will be planted largely with native plants.

Thermal Envelope

Ground:

Concrete slab on 2 inches of solid XPS insulation

Walls:

Wall-framed exterior envelope with stucco on XPS insulation (Exterior) and cellulose insulation on the interior

Roof:

Deep LVL wood joist structure with blown packed cellulose insulation, XPS tapered insulation below pavers on pedestal system

Windows & Doors:

High-performance windows and exterior doors from Wythe Windows

Shading Strategies:

Exterior louvers on primary and secondary facades



Two levels up, the new roof is designed as the house's primary outdoor space. In the summer months, the residents will take advantage of the Solar canopy's shade while enjoying great views of the city. Seating areas have been designed to work year-round, as well as large planting boxes for a vegetable garden.

Mechanical Systems:

Ventilation:

Zehnder ERV system with heat recovery

Heating:

Mitsubishi heat pumps with concealed (ducted) indoor units

Cooling/Dehumidification:

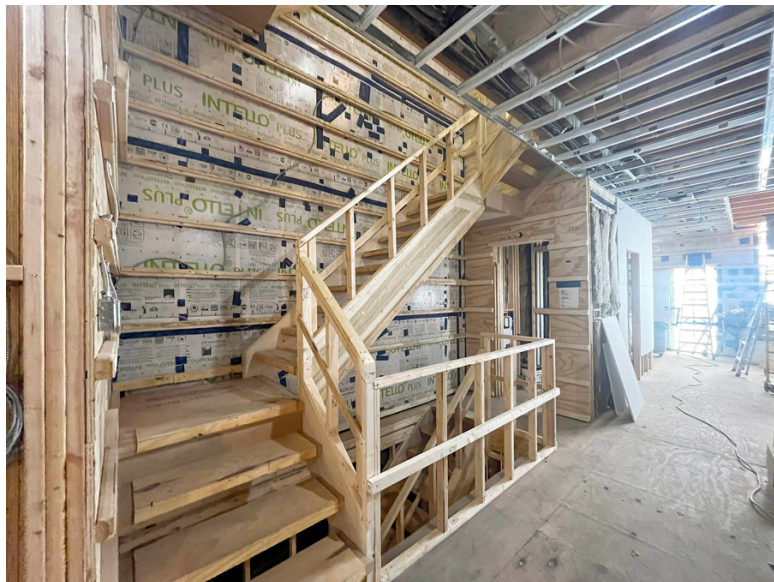
Mitsubishi heat pumps with concealed (ducted) indoor units

Domestic Hot Water:

High-performance electric domestic water heaters

Onsite Renewable Energy:

Solar Panel system on steel canopy by Brooklyn Solarworks



An architect-led design and build team was selected by the owners to handle the project as a single point of contact and responsibility from start to end. The integrated approach allowed for an iterative design that responded to the program goals while containing the schedule and overall costs.

PHPP Values

Climate: Warm - temperate	Cooling & Dehumidification Demand: 3.93 kBtu/sf/yr
Airtightness: 1.0 ACH50	Cooling Load: 3.74 Btu/ry
Annual Heating Demand: 4.47 kBtu/sf/yr	PER Demand: 16.0 kBtu/sf/yr
Heating Load: 4.81 Btu/hr/yr	