



Passive Aggressive Housing

Warren St. Passive House | Hudson, NY | CTAArchitects.com



Photos courtesy of Passive Aggressive Housing

“The house seems to shield me from the stresses of urban living.” Homeowner



PROJECT DATA

KEY FEATURES

- **Layout:** 4 bdrm, 2.5 bath, 2 fls + bsmt, 2,562 ft² + 350 ft² commercial space
- **Climate:** IECC 5A, cold
- **Completed:** May 2023
- **Category:** Custom Spec

MODELED PERFORMANCE DATA

- **HERS Index:** without PV 35; with PV 3
- **Annual Energy Costs:** without PV \$850; with PV \$100
- **Annual Energy Cost Savings:** (vs typical new homes) without PV \$1,200; with PV \$2,150
- **Annual Energy Savings:** without PV 15,650 kWh; with PV 26,700 kWh
- **Savings in the First 30 Years:** without PV \$51,100; with PV \$89,500

- **Walls:** Double wall, R-42 total: Inside to outside: 5/8 inch sheetrock, 1.5" service cavity, smart vapor retarder, 2x4 stud w/blown-in insulation, 3" cavity w/blown-in insulation, 2x6 stud w/blown-in insulation (or 2x4 if non-load bearing), 3/4" sheathing, house wrap, fiber-cement board or 3.25" brick face.
- **Roof:** Gabled rafter roof. 3/4" plywood, 6" polyiso, coated sheathing, steel roofing.
- **Attic:** Unvented, vaulted ceilings: 11.25" R-40 blown cellulose and 6" R-39 rigid polyiso.
- **Foundation:** Insulated basement; under slab: 6" gravel, 6" rigid mineral wool, vapor barrier, 4" concrete slab. Poured concrete walls: Exterior covered with waterproofing, drainage mat, and 3" rigid mineral rockwool. Interior covered with 3" rigid mineral wool, 2x4 stud wall with 3.5" blown mineral wool, 5/8" sheetrock.
- **Windows:** Triple-pane, U=0.12, SHGC=0.39, low-e, aluminum framed, fixed awnings.
- **Air Sealing:** 1.24 ACH50, met PHIUS design requirements for air sealing.
- **Ventilation:** ERV, distributed. Passive radon system.
- **HVAC:** Ducted minisplit air-source heat pumps. Electric radiant floor heating in the second-floor bathrooms.
- **Hot Water:** Heat pump water heater, 50-gal. 4.09 EF. Closed-loop recirculation system.
- **Lighting and Appliances:** LED lighting. All-electric ENERGY STAR appliances.
- **Solar:** 10.8-kW rooftop PV.
- **Energy Management System:** Three-zone heating and cooling with advanced controls.
- **Other:** Passive House-certified urban infill mixed-use building combining residential and commercial space.

CONTACT

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