



Photos courtesy of United Way of Long Island

“Once the conventional slab-on-grade was poured, the SIP walls were completed in 2.5 days.” *United Way of Long Island*



PROJECT DATA

- **Layout:** 3 bdrm, 2 bath, 1 fl, 1,275 ft²
- **Climate:** IECC 4A, mixed-humid
- **Completed:** March 2023
- **Category:** Affordable

MODELED PERFORMANCE DATA

- **HERS Index:** without PV 31; with PV -29
- **Annual Energy Costs:** without PV \$1,200; with PV \$50
- **Annual Energy Cost Savings:** (vs typical new homes) without PV \$1,350; with PV \$2,500
- **Annual Energy Savings:** without PV 7,600 kWh; with PV 18,200 kWh
- **Savings in the First 30 Years:** without PV \$55,900; with PV \$104,300

CONTACT

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KEY FEATURES

- **Walls:** SIPs, R-43 total: Magnesium Oxide SIPs, housewrap, wood furring, fiber cement siding.
- **Roof:** Gabled truss roof: flat ceilings over bedrooms/bathrooms/mechanical space; vaulted scissor truss over central living space. 5/8" CDX plywood sheathing, synthetic underlayment, fiberglass composition shingles.
- **Attic:** Unvented (hot roof), 12" R-45.6 open-cell spray foam at roofline. 14" raised-heel energy trusses. 1" R-5.5 graphite EPS installed at following before sheathing with 1/2" OSB: gable ends, attic kneewalls, walls separating porch and carport, and raised-heel trusses.
- **Foundation:** Slab on grade. 2" rigid foam on stem wall insulates slab edge.
- **Windows:** Double-pane, U=0.25, SHGC=0.24, low-e, argon gas fill, vinyl framed, casement windows. Interior J channel attached to vinyl frame for easier sheetrock install.
- **Air Sealing:** 0.76 ACH 50: SIP panels sealed at base, spline joints, and top plates with 1-part closed-cell foam. Panel seams sealed on exterior with butyl caulk.
- **Ventilation:** Distributed ERV for whole-house ventilation, moisture sensors for boost mode.
- **HVAC:** Ducted mini-split air source heat pump, 3.75 COP, 22 SEER, 2 indoor AHUs, 1 outdoor compressor, cold-climate inverter. MERV 13 filters.
- **Hot Water:** Heat pump water heater, 50 gal, 3.7 UEF. Exhaust ducted inside for summer, outside for winter. 1/2" PEX, central manifold, short runs.
- **Lighting and Appliances:** LED lighting. ENERGY STAR appliances in homeowner manual app.
- **Solar:** 7.6 kWh PV array, no battery storage.
- **Energy Management System:** Wi-Fi-enabled HVAC, lighting, IAQ sensors, smoke alarms.
- **Other:** Used building integrated modeling & construction mngmnt software. #2 EV charger.

