

# Envinity

ZERO
ENERGY READY HOME

2023 WINNER
Housing
Innovation
Awards

Trout Rd. House and Cottage | State College, PA | Envinity.com/contact-us













## PROJECT DATA

• **Layout:** 4 bdrm, 7 bath, 3 fls, 4,051 ft<sup>2</sup>

Climate: IECC 5A, cold
Completed: August 2023
Category: Custom for Buyer

#### **MODELED PERFORMANCE DATA**

• HERS Index: without PV 47

- Annual Energy Costs: without PV \$1,550
- Annual Energy Cost Savings: (vs typical new homes) without PV \$2,150
- Annual Energy Savings: without PV 22,300 (MH) kWh
- Savings in the First 30 Years: without PV \$87,200

## CONTACT

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### KEY FEATURES

- Walls: 2x6, 24" o.c., adv. framed, R-30 total: 5.5" R-21 dense-pack cellulose; coated OSB sheathing with EPS (R-9); all seams taped; draining housewrap; engineered wood siding.
- Roof: Gabled open-web vaulted trusses, plywood baffle, 2x strapping, 5%" coated OSB sheathing, synthetic underlayment, standing seam metal roofing.
- Attic: Unvented vaulted ceilings, R-80 total: 22" R-80 blown cellulose in open-web roof trusses, 2x3 service cavity.
- Foundation: Slab on grade, 2.6" R-10 EPS on slab edge. Under slab: 10-mil vapor barrier, R-10 EPS, 4" crushed stone base.
- Windows: Triple-pane, U=0.15, SHGC=0.18, thin-film center pane, fiberglass frame.
- Air Sealing: 0.52 ACH 50. Windows edges, all sheathing, and air barrier seams were taped; under-slab vapor barrier liquid flashed.
- Ventilation: ERV with boost speeds and timers, supplies to each bedroom and bunk, pulls from baths, kitchens, mechanical room; IAQ sensor controls.
- **HVAC:** Mini-split air source heat pumps, 9.6 HSPF, 16.0 SEER, Cottage has 2 indoor air handlers, 1 outdoor compressor; Main house has 4 indoor, 2 outdoor.
- Hot Water: Gas tankless, 0.96 EF, 2 in main house, 1 in cottage; central manifold.
- Lighting and Appliances: LED lighting, ENERGY STAR appliances.
- Solar: None.
- Energy Management System: ERV has app-based controls.
- Other: Main house designed for high-occupancy short-term rentals, so extra attention to ventilation. No tank water heater. Variable refrigerant flow heat pumps.





