



# S. D. Jessup Construction

Shacktown | Yadkinville, NC | SDJessup.com



Photos courtesy of SD Jessup

“Our main driver was [the low] operating costs but the comfort level is a great benefit!” Homeowners



## PROJECT DATA

- **Layout:** 3 bdrm, 3 bath, 1 fl + bsmt, 3,147 ft<sup>2</sup>
- **Climate:** IECC 4A, mixed-humid
- **Completed:** October 2023
- **Category:** Custom

### MODELED PERFORMANCE DATA

- **ERI:** without PV 37
- **Annual Energy Costs:** without PV \$900
- **Annual Energy Cost Savings:** (versus typical new homes) without PV \$1,600
- **Annual Energy Savings:** without PV 13,130 kWh
- **Savings in the First 30 Years:** without PV \$66,750

## KEY FEATURES

- **Walls:** 2x4 16" o.c. + 1" polyiso, advanced framed, R-21.6 total: R-15 unfaced fiberglass batt plus R-6.6 continuous polyiso; coated OSB sheathing; vertical vinyl siding.
- **Roof:** Gable truss roof, 7/16" OSB sheathing, peel and stick membrane, synthetic roof underlayment, asphalt shingles, ridge vent.
- **Attic:** Vented attic: R-38 blown fiberglass in flat ceilings. R-20 fiberglass batt plus 4" blown fiberglass in cathedral ceilings.
- **Foundation:** Insulated basement: Precast concrete wall system with adhered 2.5" rigid polyiso on interior with metal facing over insulation-wrapped concrete studs; R-19 unfaced fiberglass batts and 1/2" drywall in finished areas (80% of basement).
- **Windows:** Triple-pane windows, U=0.20, SHGC=0.18. Southward wall has a covered porch. All windows fixed or casement with triple seals.
- **Air Sealing:** 1.5 ACH50. Sheathing is coated, taped, and caulked to foundation.
- **Ventilation:** Controlled central fan with fresh air intake and timed exhaust integrated with HVAC system. Master bath timed for ASHRAE 62.2 ventilation rate.
- **HVAC:** Central air-source heat pump, 12.6 HSPF, 18 SEER. Variable-speed compressor. Integrated dehumidifier. Zone dampers. MERV 13 filter. Condensate drain shared by HP AC, dehumidifier, and HPWH.
- **Hot Water:** Heat pump water heater, 50-gal, 3.88 EF. Core plumbing design.
- **Lighting and Appliances:** ENERGY STAR appliances.
- **Solar:** None.
- **Energy Management System:** IAQ and energy monitoring. App-connected water heater.
- **Other:** Builder draws house plans to incorporate ZERH at design stage.

## CONTACT

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