



Mantell-Hecathorn Builders Inc.

Engine Creek House | Durango, CO | M-HBuilders.com



Photos courtesy of Mantell-Hecathorn

“Our annual net energy usage will be below zero with only a 6.2-kW solar panel system for our 3,000-ft² home. Pretty cool! We couldn’t be happier with our home.” *Hunter and Miranda Mantell-Hecathorn, home owners and builders*



PROJECT DATA

- **Layout:** 3 bd, 3.5 bath, 2 fl, 2,931 ft²
- **Climate:** IECC 5B, cold
- **Completed:** October 2016
- **Category:** custom for buyer

MODELED PERFORMANCE DATA

- **HERS Index:** without PV 41, with PV 11
- **Projected Annual Energy Costs:** without PV \$1,950, with PV \$700
- **Projected Annual Energy Cost Savings:** (vs typical new homes) without PV \$1,900, with PV \$3,150
- **Annual Energy Savings:** without PV 17,400 kWh, with PV 28,600 kWh

KEY FEATURES

- **Walls:** R-52 double-wall with 2x6 24" o.c. outer wall, 2x4 24" o.c. inner wall for 12" cavity with 3" closed-cell spray foam plus 9" blown fiberglass; coated OSB sheathing with seams taped, 3/8" woven plastic rain screen. Poly fly ash lap, cedar, and stone siding.
- **Roof:** 6 ft ice-and-water shield at eaves; synthetic vapor-permeable underlayment; asphalt shingles.
- **Attic:** R-70 22" blown fiberglass in vented attic with 24" raised heel trusses.
- **Foundation:** Conditioned crawlspace with 2" rigid foam on each side of foundation walls for R-22 total wall; 4" R-20 rigid foam under garage slab.
- **Windows:** Aluminum-clad, triple-pane, low-e, air-filled, U=0.20, SHGC=0.50.
- **Air Sealing:** 0.92 ACH 50.
- **Ventilation:** HRV.
- **HVAC:** Ductless mini-split heat pumps, 12 HSPF, 26 SEER.
- **Hot Water:** 58-gal direct-vent gas water heater, .81 EF.
- **Lighting:** 100% LED.
- **Appliances:** ENERGY STAR refrigerator, clothes dryer.
- **Solar:** 6.2-kW PV.
- **Water Conservation:** All faucets EPA WaterSense certified; push-button recirc pump.
- **Energy Management System:** Automated controls of lighting, security, and HVAC. Web-based tracking of electric production and usage.
- **Other:** Low-VOC, electric car charging station, EPA Indoor airPLUS qualified home.

CONTACT

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