

Dwell Development

U.S. DOE

ZERO

ENERGY READY HOME

2016 YYJNNER

Housing
Innovation

Awards

Emerald Star | Seattle, WA | DwellDevelopment.com



"They sell themselves because once people understand, then there is only one choice to make." Anthony Maschmedt, builder, Dwell Development









PROJECT DATA

• **Layout:** 3 bdrm, 2.5 bath, 3 fl, 2,117 ft²

Climate: IECC 4C, marineCompleted: October 2015

• Category: custom spec

MODELED PERFORMANCE DATA

• **HERS Index:** without PV 45, with PV 0

- Projected Annual Energy Costs:
 without PV \$472, with PV \$0
- Projected Annual Energy Cost Savings:
 (vs home built to 2012 IECC) without
 PV \$888, with PV \$1,628
- Annual Energy Savings: without PV 9,896 kWh, with PV 18,090 kWh

CONTACT

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KEY FEATURES

- Walls: Double 2x4 stud wall, 12" cavity dense-packed w R-46 cellulose, $\frac{1}{2}$ " OSB sheathing, fluid-applied weather-resistive barrier, reclaimed barn wood and standing seam metal siding.
- **Roof:** R-84: unvented 16-inch cathedral roof with R-64 blown fiberglass, ½" OSB sheathing, 3" R-20 polyiso, ¼" protection board, standing seam metal roof.
- Attic: No attic.
- **Foundation:** Poured concrete foundation stem walls; slab-on-grade with 4" R-16 EPS under slab, and full perimeter thermal break, R-8 slab edge.
- Windows: triple-pane, low-e, argon-filled, wood-framed, U=0.09, SHGC=0.50.
- Air Sealing: 1.17 ACH 50.
- Ventilation: HRV, MERV 7 filters.
- **HVAC:** 83-gal CO₂ heat pump water heater, 450% efficient, for radiant floor heat and hot water.
- Hot Water: CO₂ heat pump water heater.
- **Lighting:** 100% LED.
- Appliances: ENERGY STAR refrigerator, dishwasher, clothes washer, dryer, induction range.
- **Solar:** 8.1-kW PV.
- Water Conservation: All WaterSense low-flow fixtures, 420-gal rainwater cistern.
- Energy Management System: Adaptive use home management system.
- Other: Electric car charging station, no-/low-VOC finishes, 100% reclaimed siding, 90% FSC or reclaimed wood, recycled content tile, countertops; Passivhaus inspired.





