

HEATING AND COOLING SYSTEMS

Thermostats

- Thermostat type and location

Ducts and Air Handler

- Duct and air handler locations
- Notes or drawings specify insulation R-values for ducts in unconditioned spaces
- Note indicating that HVAC contractor will seal ducts to 4.0 cfm/100 ft² conditioned floor area with UL 181 products appropriate for the duct material type. (Testing not required if all ducts are located completely within conditioned space.)
- Furnace and air conditioner or heat pump specifications

HVAC Design Worksheet

- Completed *Heating and Cooling Equipment Worksheet* (page 1)
- Completed *Whole-house Mechanical Ventilation Worksheet* (page 2)

HVAC Piping

- Notes or drawings indicate HVAC pipe insulation R-values (e.g. hydronic systems, refrigerant lines)
- Notes or drawings indicate HVAC pipe insulation protection for pipes/insulation located outdoors (e.g. refrigerant lines)

SERVICE HOT WATER PIPING

- Hot water pipe insulation R-value for pipes meeting any *one* of the following conditions
 - $\geq \frac{3}{4}$ " nominal diameter
 - Located outside conditioned space
 - Between the water heater and a manifold
 - Underground or in a slab
 - Serving more than one dwelling unit
 - Supply and return piping in recirculating hot water systems other than demand recirculating systems

LIGHTING

- Lighting schedule or notes indicating percentage of high-efficacy lighting

INFORMATION REQUIRED ON CONSTRUCTION DOCUMENTS

To receive a building permit, the following information is required to be contained within construction documents.

ENERGY CODE COMPLIANCE PATH

One of the following energy code compliance paths indicated clearly on the plans

- 2020 ECCCNS
- Prescriptive
- Prescriptive with envelope tradeoffs – Supply REScheck or other approved U_{overall} calculations
- Simulated Performance Alternative – Supply IECC Energy Cost Report
- Energy Rating Index Alternative – Supply Preliminary ERI Report and Energy Code Checklist

BUILDING THERMAL ENVELOPE

- Continuous building thermal envelope depiction
- Typical cross-sections for each unique assembly type including callouts for:
 - Insulation R-values, materials, and installed thickness
 - Fenestration U-factors and solar heat gain coefficients (SHGCs)
 - Primary air barrier method, materials, and location

- Construction details for the following, if included in the scope of the project
 - Slab on grade with insulation extending downward from the top of the slab
 - Insulated corners: Framing allows space for insulation
 - Insulated headers: Insulation installed in headers as space allows
 - Fireplaces on exterior walls: Air barrier between insulation and fireplace insert
 - Dropped ceiling/soffit: Air barrier aligned with insulation
 - Porch roofs: Exterior wall sheathing extends behind intersection with porch roof
 - Skylight shafts: Shaft walls are insulated and include attic-side air barriers
 - Showers/tubs on exterior walls: Air barrier located between wall insulation and the shower/tub knee wall
 - Knee walls: Air barrier on attic side of knee wall, top plate installed, blocking between floor joists under knee wall
 - Blocking between joists above walls separating garages from conditioned space
 - Cantilevered floors: Insulated with solid air barriers underneath insulation and blocking between joists
 - Attic access hatches: Weatherstripped and insulated to the same R-value as the surrounding surface
- Notes indicate that insulation is to be installed per manufacturer's installation instructions or RESNET Grade I