

Cherry Hills Village Contractor Meeting 4/7/2022

Energy/HVAC Plan Submittal and Top Review Comments



SHUMS CODA
ASSOCIATES

Common Energy Plan Review Comments

- Please indicate the proposed energy compliance path. Prescriptive (R-value table or U-factor table or Total US (REScheck)), Simulated performance or Energy Rating Index (ERI)
- Please provide a depiction of the building thermal envelope. N1101.5.1
Conditioned Garage? Limit thermostat to maximum 45°
- Please provide details/note for the hot water piping insulation to verify conformance with section N1103.5.5
- Please add a note indicating that all headers and corners will be insulated with materials having a minimum value of R-3 per inch. Table N1102.4.1.
- Please provide typical air barrier details that show locations and sealing requirements. Soffits, tubs/showers, fireplace chases, rim joists, attic knee walls, etc. Once created this sheet can be used on all like projects. This will help avoid confusion in the field. N1101.5.

Follow these links for CAD details that are free to use:

<https://basc.pnnl.gov/resource-guides>



Common Energy Plan Review Comments

- Add a note indicating that not less than 90% of the permanently installed lighting fixtures shall contain only high efficacy lamps. N1104.1
- It appears an unvented attic assembly is proposed. The minimum R value for the air impermeable insulation is R-20. Also, verify that the closed cell foam is a class II vapor retarder. R805.5.
- Please indicate on the construction plans the proposed insulation materials, their R-values for all proposed assemblies and U-factor for all proposed fenestrations. These must match the values used in the HVAC calculations and any energy compliance documents
- Please indicate the type of domestic water heating equipment. Also, will there be any type of heated water circulation system? If so, please provide the construction details to verify conformance with section N1103.5.1.
- Will there be one or more gas, liquid or solid fuel-burning appliance that is neither direct-vent nor uses a mechanical draft venting system is located within a dwelling unit's air barrier? Please specify.

If so, each exhaust system capable of exhausting in excess of 400 cubic feet per minute shall be mechanically or passively provided with makeup air at a rate approximately equal to the exhaust air rate.



HVAC Design

- Please provide the manufactures expanded performance data for all proposed heating and cooling equipment.
- Please provide details for the required whole house mechanical ventilation system to verify compliance with section N1103.6/ M1505
- Please add the fitting ID on the duct plans. Add a note that a picture of the duct fittings used in the design will be available for the field inspector.
- Please provide the project summary report for all zones
- A note on sheet A4.1 indicates the crawl space will be supplied with conditioned air including return air. We did not see any supply or return air ductwork to the crawl space area. Please review and comment.
- It appears that the duct system for the upper zone is in a vented attic. However, we do not see any duct heat gains or losses included in the calculation. Please review and comment.
- The calculation indicates a crawl space. However, the construction plans indicate slab on grade. Please coordinate and revise calculations as needed



HVAC Design Comments

- Please indicate the type of domestic water heating equipment. Also, will there be any type of heated water circulation system? If so, please provide the construction details to verify conformance with section N1103.5.1.
- Will there be one or more gas, liquid or solid fuel-burning appliance that is neither direct-vent nor uses a mechanical draft venting system is located within a dwelling unit's air barrier? Please specify.

If so, each exhaust system capable of exhausting in excess of 400 cubic feet per minute shall be mechanically or passively provided with makeup air at a rate approximately equal to the exhaust air rate.

- Refer to the report titled “component constructions”. The fenestration overhangs and blinds are not included. The default for window blinds is ‘Medium color blind with slats at 45°’. Manual J Do’s (Mandatory Requirements) section 2-3. Please revise calculation.



HVAC Design

- We did see what appears to be an exhaust only whole house mechanical ventilation system. Three ventilation fans controlled by a ASHRAE 62.2 code compliant timer. Please indicate that these are exhaust fans, the CFM and the fan specifications to verify compliance with section N1103.6 and M1505.

Note: If this is an exhaust only ventilation system then the heat gain and loss calculations (Manual J) would see this an infiltration load and not a central vent load.





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