



908 WEST GORDON AVE. SUITE #3
LAYTON, UT 84041
(801) 547-8133

August 28, 2017

FIRST REVIEW
WC³ Project #: 217-525-147

Weber County
Building Inspection Department
2380 Washington Boulevard, Suite 240
Ogden, Utah 84401
Phone: (801) 399-8374

Attention: Craig Browne, Building Official

Subject: Miguel McKelvey SFD – Plan Review Comments

Mr. Browne:

West Coast Code Consultants, Inc. (WC³) has completed the first review of the proposed Miguel McKelvey SFD project located in Eden, UT. This review was based upon the following:

1. Architectural drawings by ARExA.
2. Civil drawings dated 7/27/2017 by NVS, sealed and signed by Ryan W Cathey, Professional Engineer.
3. Structural drawings and calculations dated 8/3/2017 by ARW Engineers, sealed and signed by Troy M Dye, Professional Structural Engineer.

The 2015 IRC, as adopted by the State of Utah, were used as the basis of our review. Specific comments in regards to this project are enclosed with this cover letter. If you have any questions in regards to this review please do not hesitate to contact me.

Sincerely,

Mike Molyneux, P.E.
Senior Plan Review Engineer

Attachment: Comments



Plan Review Comments

Project Name: Miguel McKelvey SFD

Code Review by: DeAnn Wilde

Location(s): 7914 East Heartwood Drive Unit 5, Eden, UT

Structural by: Joe Bingham

Checked By: Todd Snider

SQUARE FOOTAGE SUMMARY:

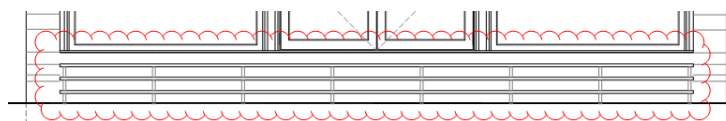
Main Level	Upper Level	Finished Basement	Unfinished Basement	Deck(s)	Covered Patio(s)	Garage	Carport
954- ft ²	425- ft ²	-	-	-	-	-	-

GENERAL INFORMATION:

The submitted documents for the above-mentioned project, as outlined in the cover letter, have been reviewed. The following comments address areas of concern, non-compliance with the governing code, potential errors, or omissions in the proposed design. The appropriate design professional must address each comment below and submit a written response in addition to revised plans and calculations if necessary. **Please cloud any revisions made to the construction drawings and provide the date of the latest revision on each revised sheet.**

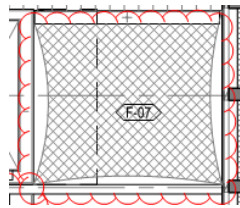
CODE REVIEW COMMENTS:

- A1. General Note: Common walkways, stairs, handrails, guards and associated structures and elements for the site shall be by separate permit and engineering application per Weber County policy and are not part of this review.
- A2. Please note, the Weber County Building Official may require an investigation and inspection, at no expense to the jurisdiction, and by approved authorities, to ensure the intent of IRC R403.1.7 is met. Such report shall include the consideration of material, height of slope, slope gradient, load intensity and erosion characteristics.
- A3. Cover Sheet: Please address the following:
 - A. The plans identify Cache County. Please make necessary corrections to identify Weber County.
 - B. Please note on the plans the governing code 2015 International Residential Code as amended by the State of Utah, Utah Code Title 15A.
- A4. Sheet C1.1: Please address the following:
 - A. The site plan needs to accurately identify all steps leading from the structure. The steps on the south side of the structure are not shown.

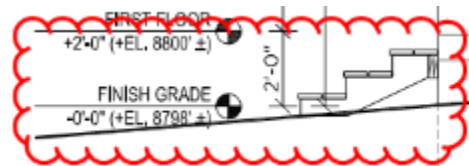


- A5. Sheet A-101: Please address the following:

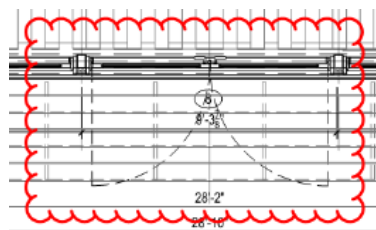
- A. The doors and windows are identified with keyed references. However, a door and window schedule does not appear to be a part of the plans. Ensure all tempered glazing is identified on the schedule.
- B. The window in the master bedroom does not meet the requirements for emergency escape and egress openings, as required by IRC R310.1.
- C. Indicate on the plans the location of the smoke detectors, per IRC 314.3. Clarify that smoke detectors shall be interconnected, hardwired to the building power supply, and provided with battery backup, per IRC R314.4 and R314.5.
- D. Indicate on the plans the location of carbon monoxide detectors, per IRC R315.1 and State Amendments. CO detectors must be installed in the immediate vicinity outside of all bedrooms and be located on each level of the structure
- E. Clarify on the plans what is being provided at this location on the second level. It is identified as F-07, but an associated schedule does not appear to be a part of the plans.



- A6. Per R311.7, identify on the plans the required landing at the top and bottom of all stairs. The width of each landing shall not be less than the stair served. Every landing shall have a minimum dimension of 36 inches measured in the direction of travel.

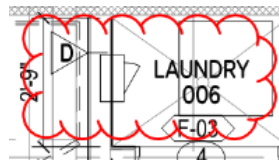


Per R311.3.2 Exception, a top landing is not required where a stairway of not more than two risers is located on the exterior side of the door, provided the door does not swing over the stairway.



- A7. Per R312.1, the minimum height of guards located more than 30 inches above the floor shall be not less than 36 inches, except at the sides of stairs where the minimum height is 34 inches. Openings in guards shall have intermediate rails or ornamental closures that do not allow passage of a 4-inch sphere. Please detail the required guard on the plans.
- A8. Per R311.7.8, please identify the required handrails on the plans. A handrail is required on not less than one side of each continuous run of treads or flight of stairs with four or more risers. Identify the required handrail height at 34-inches minimum and 38-inches maximum measured vertically from the sloped plane adjoining the tread nosing.

- A9. Per 311.7.8, where there are four or more stair risers, at least one handrail continuous the full length of the stairs is required. Identify the required handrail height at 34-inches minimum and 38-inches maximum measured vertically from the sloped plane adjoining the tread nosing. Please detail the required handrail on the plans.
- A10. Per IRC 311.7.3 and Utah State Amendments, please identify on the plans the maximum riser height shall be 8" and minimum tread depth shall be 9".
- A11. Sheet A-504: Please address the following:
- A. Unvented attic and unvented enclosed roof framing assemblies created by ceilings that are applied directly to the underside of the roof framing members and structural roof sheathing applied directly to the top of the roof framing members, shall be permitted where all of the conditions of IRC R806.5 are met. Provide complete detail on the plans.
- A12. No mechanical details or sheet notes have been provided. Please provide appropriate mechanical sheet notes and plans. Information on the constructions documents shall be sufficient in detail to indicate that all work proposed will conform to the provisions of the IRC. R106.1.1.
- A13. Please show or specify combustion air for all fuel-burning appliances. If a single duct will be used for combustion air, please specify a minimum duct size of 1 sq. inch per 3000 Btu/hour input. The one opening must be in the top 12 inches of the room, per IRC G2407.6.
- A14. No plumbing details or sheet notes have been provided. Please provide appropriate plumbing sheet notes and plans. Information on the constructions documents shall be sufficient in detail to indicate that all work proposed will conform to the provisions of the IRC. R106.1.1
- A15. No electrical details or sheet notes have been provided. Please provide appropriate electrical sheet notes and receptacle and lighting distribution layouts including the bathroom ventilation fan. Information on construction documents shall be sufficient in detail to indicate that all work proposed will conform to the provisions of the IRC. R106.1.1. Notes E3 et al are shall be included.
- A16. Please identify this fixture. Is it the washer box, dryer box or house panel? If it is the house electrical panel, it requires working clearances, in accordance with E3405.1.



- A17. Please show electrical outlet spacing to comply with IRC E3901.2.1.
- A18. Please note that any electrical outlets in floors shall not be counted as part of the required number of receptacle outlets except where located within 18" of walls, per IRC E3901.2.3.
- A19. Please note on the plans that where two or more non-metallic sheathed cables (romex) are installed together in the same space without maintaining space between them and where the opening they are installed in is filled with caulking, foam insulation, or other types of insulation, the conductors must be derated as required by IRC E3705.4.4.
- A20. Please show the electrical panel on the plans so that working space can be verified as required by IRC E3405.1
- A21. Please specify that all lighting over tubs or showers must be suitable for wet or damp locations, as required by IRC E4003.9.



- A22. Please show electrical GFCI receptacles within 24" of the edges of counter spaces, within 24" of the sink, within 24" of the cook top at the kitchen counter spaces, and spaced every 4' o.c. thereafter as appropriate per IRC E3901.4.
- A23. Please specify two small appliance branch circuits for the kitchen that are limited to supplying wall and counter space outlets for the kitchen, pantry, breakfast room, dining room, or similar areas. Note: These circuits cannot serve outside plugs, range hoods, disposals, dishwashers, or microwaves. They may only serve the required countertop/wall outlets and the refrigerator.
- A24. Please note that a dedicated 20-amp branch circuit for the bathroom receptacle outlets. This circuit cannot supply any other receptacles, lights, fans, etc.
- A25. Please note that all 125-volt, single phase, 15- and 20-amp receptacles in laundry area shall have GFCI protection, per IRC E3902.9.
- A26. Please note that a dedicated 20-amp branch circuit for the bathroom receptacle outlets. This circuit cannot supply any other receptacles, lights, fans, etc.
- A27. Please show a GFCI outlet adjacent to each lavatory for both main and loft bathrooms, per IRC E390.1.6.
- A28. Please show a receptacle in the hallway leading to the bedroom, per IRC E3901.2.2.
- A29. Indicate that outlets will be provided on the exterior of the home in accordance with IRC E3901.7.
- A. Please specify that all receptacles located outside must be the weather resistant type, as required per IRC E4002.9
- A30. Per IRC E4002.14, outlets for receptacles rated at 125 volts, 15- and 20-amps are required to be tamper-resistant.

ENERGY REVIEW COMMENTS:

- N1. No insulation values have been noted on the plans. Please provide corresponding insulation values, notes, and details, including the air barrier and vapor retarder, to ensure the work will comply with the IRC R702.7. Information on construction documents shall be sufficient in detail to indicate that all work proposed will conform to the provisions of the IRC N1101.5.
- N2. Please detail on the plans the extent of the building thermal envelope, per IRC N1101.5.1.
- N3. Sheet G-002: Please address the following:
- A. The REScheck has been based upon the 2012 IECC. The currently adopted code is the 2015 IECC and the Utah State Amendments.
- B. The glazing area is identified at 2%. This seems inaccurate based upon the fact that the entire south wall is identified as glazed, and there are skylights and windows throughout the structure.
- C. The REScheck identifies R-50 continuous roof insulation and an R2.9 cavity insulation. Please detail on the plans how this is to be constructed. Also see Plan Review Comment A11 above.
- I. Identify the skylights on the REScheck.
- D. Please detail on the plans how the east and west insulated concrete walls will be constructed to meet the identified R-20 continuous insulation value.
- E. Please detail on the REScheck the construction materials for the east and west spandrel walls. Detail on the plans how the wall is to be constructed to meet the identified R-40 continuous insulation value.



- F. Please detail on the plans how the north spandrel wood framed wall will be constructed to meet the identified R-20 continuous insulation value.
 - G. Please detail on the REScheck the construction materials for the north and west retaining wall. Detail on the plans how the wall is to be constructed to meet the identified R-51 continuous insulation value.
 - H. Please detail on the plans how the slab-on-grade is to be constructed to meet the identified R-60 continuous insulation.
- N4. Please note that a permanent certificate shall be completed and located in an approved location that lists the predominant R-values of the insulation installed in the ceiling/roof, walls, foundation and ducts outside conditioned spaces, and U-factors for fenestration.

STRUCTURAL COMMENTS:

Structural Drawings:

- S1. Sheet S001: The plans show 14 inch thick walls, yet the notes do not show reinforcing requirements for these walls. Please address.
- S2. Sheet S004: The footing schedule appears to be missing information for Footing FC3. Please address.
- S3. Sheet S101: Please provide connection details for the upper ends of the Glulam stair stringers.
 - A. Please also provide information on the stair treads and how they are connected to the stringers. If the stringers are not to be notched please make this clear.
- S4. Sheet S102: Please address the following:
 - A. The 2x roof joists do not appear to be specified. Please provide size and spacing.
 - B. It appears from Detail 6/S202 that roof joists span from the exterior HSS members to the nearest glulam beam (between grids 1 and 2, and between grids 11 and 12). Framing is not shown on the plan at these locations. Please clarify.
- S5. Sheet S202: The steel plate saddles and bolts have not been specified in Details 7 and 11. Please clarify.
- S6. Please address the transfer of diaphragm shears into the concrete shear walls at the roof and floor levels. There do not appear to be continuous collector elements detailed on the plans.

Structural Calculations:

- S7. The cover page of the calculations shows a Seismic Design Category B and a Site class D. Please confirm this should really be Seismic Design Category D and Site Class B.
- S8. The calculations indicate SIP panels at the roof, but these do not appear on the plans. Please clarify.
- S9. Please confirm that deflections have been checked at the moment frames and that they are within acceptable limits.
- S10. Please address the transfer of lateral forces at “open to below” locations where there is no attachment of the floor diaphragm to lateral resisting elements.

If you have any questions regarding the above comments, please contact Mike Molyneux at mikem@wc-3.com or by phone at (801) 547-8133.

[END]

