



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

October 23, 2017

FIRST REVIEW
WC³ Project #: 217-525-185

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

Attention: Craig Browne, Building Official

Subject: Kimmelman SFD – Plan Review Comments

Mr. Browne:

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

1. Architectural drawings dated 8/15/2017 by Architects Limited, sealed and signed by Brian MacKay-Lyons, Licensed Architect.
2. Civil drawings dated 7/26/2017 by Talisman Civil Consultants, sealed and signed by Ryan W Cathey, Professional Engineer.
3. Structural drawings and calculations by Blackwell, sealed and signed by Michaels F Sullaway, Professional Structural Engineer.
4. Geotechnical investigation report (#02529-001) dated 8/8/2017 by IGES, sealed and signed by David A Glass, Professional 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.

Attachment: Comments



Plan Review Comments

Project Name: Kimmelman SFD

Code Review by: Josh Goodman

Location(s): 7763 East Horizon Run, Eden, UT

Structural by: Joe Bingham

Checked By: DeAnn Wilde

SQUARE FOOTAGE SUMMARY:

Main Level	Upper Level	Finished Basement	Unfinished Basement	Deck(s)	Patio(s)	Garage	Carport
3,121 ft ²	237 ft ²	1,341 ft ²	-	-	1,512 ft ²	257 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. The residential structure has been designed based upon the 2015 IBC. The 2015 IRC is the adopted code for single family dwellings in Utah. Please make necessary corrections to the plans to show compliance with the IRC. Ensure all construction shall conform to current codes, standards, ordinances, and laws adopted by the State of Utah and Weber County.
- A2. Please address the following items regarding the Geotechnical Report by IGES dated August 8, 2017.
 - A. Page 19, Item 5.4 Foundation Recommendations: IGES recommends a qualified member of their staff observe the footing/foundation excavation prior to the placement of forms. Provide the observation report to the Weber County building inspector at the time of the footing inspection.
 - B. Page 22, Item 5.7 Concrete Slab-on-Grade: The report recommends a 10-mil vapor barrier be placed below the concrete slab or 2-inches of clean sand. Floor Assembly 1 identifies 6-mil vapor barrier. Make necessary corrections to the plans to ensure the recommendations of the geotechnical engineer are addressed.
 - C. Page 25, Item 6.2 Additional Services: IGES recommends observation and testing during site prep, earthwork and structural fill placement, as well as quality control on concrete placement. Provide the various observation and testing reports to the Weber County building inspector.
- A3. Sheet A200: Please address the following:
 - A. A swim spa is identified, and yet no other information is provided. Is the swim spa to be installed as part of this project/building permit or under a separate permit? If it is to be installed as part of this project, provide complete details, including a complete electrical plan.
- A4. Sheet A201: Please address the following:



- A. Provide a cut sheet for the kitchen cooktop. It appears to be of a size that may be for commercial use. If a commercial kitchen cooktop is to be installed, a Type I hood will be required.
 - I. Page 11, Item 11 Equipment, of the architectural specifications identifies the cooktop and range hood as “to be selected by the architect”, and no other information is provided.
 - B. If a factory-built chimney is being used for the wood burning fireplace, and if the chimney will have an offset, please note on the plans that the chimney must be at an angle not more than 30 degrees from the vertical and the assembly will not contain more than 4 elbows, per R1005.7.
- A5. Sheet A203: Please address the following:
- A. Detail 1/A611 is referenced on this sheet. Detail 1/A611 is a partial stair plan to the study not Bedroom 4. Clearly detail on the plans how emergency escape and rescue openings are provided for Bedroom 4. Clarify whether there is a door that leads to the exterior or is there a window which meets the requirements of R310.2.
- A6. Sheet A303: Please address the following:
- A. Based upon the exterior elevations, please detail in writing and on the plans how the requirements of IRC R403.1.7 for footings on or adjacent to slopes have been met.
- A7. Sheet A900: Please address the following:
- A. Window 3 located at the shower in Bathroom 3 is required to be tempered glazing, per R308.4.
 - B. Window 6 located at the shower in Bathroom 2 is required to be tempered glazing, per R308.4.
- A8. Per R404.1.7, provide a note on the drawings which indicates that backfill is not to be placed adjacent to basement walls until bracing is in place.

MECHANICAL REVIEW COMMENTS:

Due to the lack of complete mechanical plans, additional plan review comments may be forthcoming.

- M1. Page 12, Item 23 HVAC, of the architectural specifications identifies the heating system as a radiant hot water system. However, no aspect of the construction plans identifies the location of a mechanical room or the location of the dedicated water heater for the radiant heating system. Identify on the plans the location of the water heater and provide plans and specifications for the radiant heating system.

PLUMBING REVIEW COMMENTS:

Due to the lack of complete plumbing plans, additional plan review comments may be forthcoming.

- P1. Page 12, Item 22 Plumbing, of the architectural specifications identifies a domestic water heater and possible water softener. However, no aspect of the construction plans identifies the location of a mechanical room or the location of the water heater water softener.
- P2. Per P2801.7, please identify on the plans the seismic bracing requirements for the water heater.

ELECTRICAL REVIEW COMMENTS:

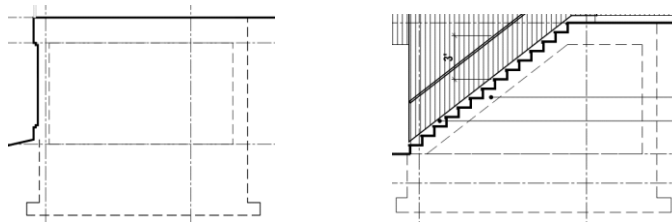
- E1. Per E4002.14, please provide a note on the plans indicating that all outlets will be tamper resistant.

- E2. Per E3902.10, please specify on the plans that electric radiant heating system for the bathroom(s) must have ground-fault circuit protection.

ENERGY REVIEW COMMENTS:

N1. REScheck:

- A. Wall 1 (wood frame) is identified as having R-36 cavity insulation and R-10 continuous insulation. Exterior wall assemblies identified on Sheet A001 identify 2" continuous SPX rigid insulation (R-10), 2" closed cell insulation (R-12 air barrier), and 5.5" insulation batts (R-24).
- B. The solid concrete basement walls 1 through 4 are identified with R-17.5 continuous insulation applied to the exterior side. The plans do not appear to detail how the R-17.5 continuous insulation will be applied to the below grade basement walls. Normally, below grade basement wall insulation would be achieved by furring the interior side of the basement walls and applying "cavity" insulation. Please clarify and make all necessary corrections to the plans and the REScheck.



- C. Per IECC R401.3, 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.
- D. Per IECC R402.4.5, please indicate that recessed luminaires (can lights) will be sealed to limit air leakage per ASTM E 283.
- E. Per N1102.4.5, recessed lighting installed in the building thermal envelope shall be IC rated and sealed to the interior finish. Please note these requirements on the plans.

STRUCTURAL COMMENTS:

Structural Drawings:

S1. Sheet S-001: Please address the following:

- A. The Design Notes make reference to IBC 1617.5 for the Simplified Design Procedure. This section of the 2015 IBC does not exist. Please clarify.
- B. The soils report referenced in the notes does not appear to be the correct report. Please verify and revise the notes.
- C. Please add a note to the plans stating that all fasteners (i.e. nails, screws, anchor bolts, etc.) which are to be installed in preservative treated wood (i.e. sill plates) shall meet the requirements of IBC 2304.9.5.
- D. Section 4.3.6.4.3 of AWC SDPWS-2015 requires 3"x3"x0.229" plate washers at all shear walls. Please verify that this requirement is clearly noted on the plans.

S2. Sheet S-100:



- A. The foundation wall has not been specified where Details 9/S-200 and 10/S-200 are cut. Please clarify.
 - B. The reinforcing steel requirements have not been listed for FW1 in the Foundation Member Schedule. Please clarify.
- S3. Please verify that the foundation details and the Foundation Member Schedule match. In some instances what is called out in the schedule does not match what is depicted in the details.
- S4. No details or notes are provided for endwall blocking at the floor joists which run parallel to the foundation walls. Please provide a detail showing the blocking requirements as required by Section 12.11.2.2 of ASCE 7-10.
- S5. Per IBC 2205.2.2, structural steel elements are to be designed and detailed in accordance with AISC 341-10. In accordance with Section A4 of AISC 341, the drawings must clearly designate all members that are part of the lateral-force-resisting-system and their connections. Please clearly call out all chords and drag members on sheet S202 and ensure that their connections are properly accounted for on the plans. These are items that will need to be verified by the special inspectors in accordance with IBC 1705.2.1.
- S6. The information provided on the detail sheets is extremely light. Please provide sufficient information so that gravity and lateral load paths and all connection details are clear.
- A. Nothing was provided showing the braced frames and braced frame connections. Please provide elevation views of the braced frames along with connection details.
 - B. Some of the notes on the plans appear to indicate that the steel connections are to be provided by the steel detailer as a deferred submittal. These will not be allowed as a deferred submittal. Please provide complete engineering and details for all connections.
- S7. The plans show that helical piers will be used. Please clarify the extent of these and provide the required loads for the pier designer.

Structural Calculations:

- S8. Structural calculations were not provided for review. Please provide. **Additional comments may be made upon review.**
- S9. The roof snow load is listed as 192 psf. Please confirm that a percentage of the snow was considered in the seismic weight of the structure as required by Section 1605.3.1 and 1605.3.2 of the Utah Amended Code.
- S10. Please provide calculations for snow drift loads where applicable and verify that the structure can accommodate these increased loads.
- S11. Please provide a summary of building irregularities as defined by Tables 12.3-1 and 12.3-2 of ASCE 7-10 and show that forces have been increased where required by ASCE 7.

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]