

October 22, 2015

K.E. Project #: 215-525-005

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

Attention: Craig Browne, Building Official

Subject: Bisnow Residence – Plan Review Comments

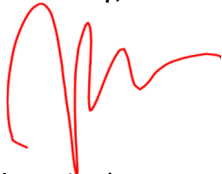
Mr. Browne:

Kimball Engineering has completed the first review of the proposed Bisnow Residence project located in Summit Powder Mountain, Utah. This review was based upon the following:

1. Architectural drawings dated 8/3/2015 by Bertoldi Architects, sealed and signed by Ray Bertoldi, Licensed Architect.
2. Structural drawings and calculations dated 8/10/2015 by LEI, sealed and signed by Joshua K.S. Anderson, Professional Structural Engineer.

The 2012 International Codes and 2011 NEC, 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,



Joe Bingham, SE  
Attachment: Comments

## Plan Review Comments

**Project Name:** Bisnow Residence

**Code Review by:** Cody Richards

**Location(s):** 7982 East Heartwood Drive, Summit Powder Mountain, Utah

**Structural by:** Joe Bingham

**Date of Comments:** 10/22/2015

**Checked by:** Mike Molyneux

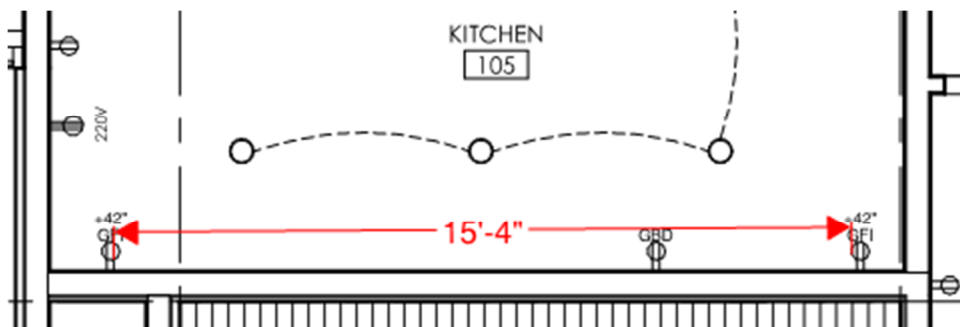
### GENERAL INFORMATION:

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. From sheet L1.2 it appears that the project will include retaining walls over 4 feet. Please provide calculations for these retaining walls.
- A2. For the crawl space, please note how the space will be ventilated and show the size and locations of the vents as required by IRC R408.1 and R408.2. If the space is to be conditioned instead of providing foundation vents, please note how this is to be accomplished as per IRC R408.3.
- A3. Please provide notes or details on the plans showing the required separation between the garage and the dwelling with a minimum of ½ inch gypsum board as required by IRC R302.6, and 5/8 type X at the ceiling where living space is located above the garage.
- A4. Provide a detail showing how the underside of the stairs will be protected with a minimum of ½ inch gypsum board. (IRC R302.7)
- A5. Please show or note on the plans that all grading around the home will slope at least 5% away from the home for proper drainage as required by IRC R401.3.
- A6. Please provide the listing and manufacturer's installation instructions for the gas fireplace per IRC R1004.1. Also clarify the air supply being provided for combustions per IRC R1006.
- A7. It appears that windows 5, 10, 11, and 12 would all need to be tempered glass according to IRC R308.4.5. Sheet AE-603 shows windows 11 and 12 as tempered, but they are not listed as tempered in the window schedule. Please note that they are tempered in the window schedule to eliminate confusion. Windows 5 and 10 do not appear to be listed as tempered anywhere on the plans, please address.

- A8. From the wall sections it appears that there are areas of the home with a slab on grade when the slab is not at least 12 inches below grade. This would require that the slab be insulated according to IRC N1102.2.9. Please address.
- A9. Please add a note to the plans indicating that all electrical circuits providing power to bedrooms shall be provided by an arc-fault circuit interrupter as required by IRC E3902.11 (as amended by the State of Utah).
- A10. Please provide a note on the plans indicating that all electrical receptacles will be tamper resistant in accordance with IRC E4002.14.
- A11. 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 per IRC E3901.4. There are no outlets shown along the kitchen counter where the kitchen window appears to be.



- A12. At minimum one outlet is required at the kitchen island. Please address.
- A13. One electrical receptacle is required in proximity of the HVAC equipment in order to service them (IRC E3901.12). Please note or show this on the plans. Receptacles in unfinished portions of the basement are required to be GFCI.
- A14. Receptacle outlets are required every 12 feet along the walls in most rooms. The dining room, living room, and master bedroom do not show any receptacles along walls with the full length windows. Receptacles are still required at these locations. Please show or note on the plans how this will be accomplished. If floor receptacles are used please show or note that they are required to be within 18 inches of the wall.
- A15. One exterior receptacle is required at grade level in both the front and back of the home. No receptacle is shown at grade level in the back of the home. Please address.
- A16. Please confirm with Weber County Fire Marshal's Office whether this project is required to meet the code requirements of the 2012 Urban/Wildland Interface Code.

**GEOTECHNICAL COMMENTS:**

- G1. The structural documents make reference to a geotechnical report. Please provide a copy for review.

**STRUCTURAL COMMENTS:**

**Structural Drawings:**

- S1. Please indicate the required frost protection for footings per IBC 1809.5.
- S2. Please verify that a note is on 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.
- S3. Section 4.3.6.4.3 of AWC SDPWS-2008 requires 3"x3"x0.229" plate washers at foundation anchor bolts. Please verify that this requirement is noted on the plans.
- S4. Please verify that the requirements of IBC 1604.8.3 have been met and that there is a positive connection of the deck to the supporting structure. The use of nails subject to withdrawal is not allowed.
- S5. Sheet SD.0: Please clarify in The General Framing Notes the roof sheathing thickness that is required.
  - A. Sheet SD.4 also indicates roof sheathing thickness. Please verify that requirements listed in more than one location on the plans are consistent.

**Structural Calculations:**

- S6. The proposed structure includes re-entrant corner irregularities as defined by Table 12.3-1 of ASCE 7-10. Please confirm that the requisite forces were increased as required by Section 12.3.3.4 of ASCE 7.
- S7. A moment frame column is supported by a beam as shown in detail 26/SD.2. This constitutes an in-plane discontinuity in vertical lateral force-resisting element irregularity as defined by Table 12.2-2 of ASCE 7-10. Please verify that the requirements of the ASCE Sections referenced in this table have been met and that the forces have been amplified as required.
- S8. Please verify that all shear walls meet the maximum aspect ratio per Section 4.3.4 of AWC SDPWS-2008.
- S9. Anchor bolt calculations per Appendix D of ACI 318-11 show that seismic design is flagged as "No." Please address.
- S10. Please address the following regarding the footing calculations and schedule:
  - A. Calculations were not found for all of the footings shown in the schedule. Please provide.

- B. Please verify the thicknesses shown in the schedule. The 7 foot square footing shown in the calculations is 14 inches thick, yet the schedule shows 12 inches thick.
- S11. Please clarify what R values are used in each direction of loading and verify that the most stringent value has been used as required by Section 12.2.3 of ASCE 7-10.
- S12. Please verify that the seismic load calculations include a percentage of the roof snow load in seismic weight of the structure as required by Section 12.7.2 of ASCE 7-10.
- S13. A calculation showing the total base shear in each direction could not be found. Please provide along with a horizontal distribution of lateral forces per Section 12.8.4 of ASCE 7-10 showing the shear load to each lateral resisting element.