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July 31, 2015

K.E. Project #: *215-525-003*

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

Attention: Craig Browne, Building Official

Subject: 7914 E Heartwood Dr. #13 – Plan Review Comments

Mr. Browne:

Kimball Engineering has completed the first review of the proposed 7914 E Heartwood Dr. #13 project located in Eden, Utah. This review was based upon the following:

1. Architectural drawings dated 6/17/2015 by Park Engineering, sealed and signed by Spencer J. Park, Licensed Professional Engineer.
2. Structural drawings and calculations dated 6/17/2015 by Park Engineering, sealed and signed by Spencer J. Park, Licensed Professional Engineer.
3. Geotechnical investigation report (#) dated 9/16/2014 by IGES, sealed and signed by David A. Glass, Licensed Professional 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: 7914 E Heartwood Dr. #13

Location(s): 7914 E Heartwood Dr. #13, Eden, Utah

Code Review by: Cody Richards

Structural by: Joe Bingham

Date of Comments: 07/31/2015

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. Sheet A302 notes that the footings should be poured at least 3 feet below finish grade. Please note the frost depth for the area of the project is 40". Please note on the plans that all footings will be a minimum of 40" below grades.

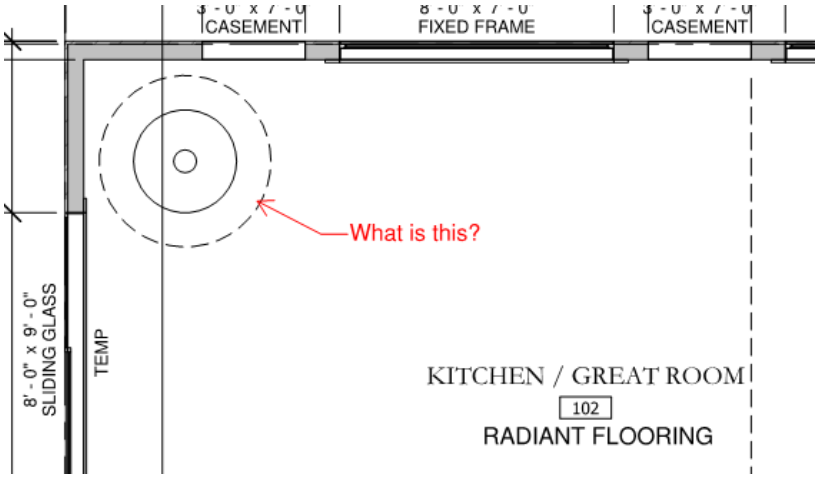
A2. The square footage of the separate stories listed on the cover of the plans does not match the square footage listed on sheet A202. Please address.

A3. Please provide a site plan showing the property line and the dimensions of the building to the property line on all sides.

A4. Operable windows that are located more than 6 feet above the exterior finish grade must have a sill height of at least 24" or comply with one of the exceptions from IRC R312.2.1. It appears that this scenario applies to the casement windows in the master bedroom. Please clarify the sill height to the finish interior floor and exterior finish grade. Please address if this window does not comply.

A5. Please provide a landing and stairs for the exterior door from the main level great room that conforms to the current code.

A1. Please clarify what is shown in the corner of the great room. A snap shot is included below to clarify the item in question. If it is a fireplace please note what type of fireplace it is along with the listing and manufacturer's installation instructions per IRC R1004.1. Also clarify the air supply being provided for combustions per IRC R1006. Please also show how the fireplace will be exhausted.



A6. Please note or show on the plans the required spacing for electrical receptacles throughout the house.

A7. Please show the electrical panel on the plans so that working space can be verified as required by IRC E3405.1.

A8. Please note or show on the plans the required locations for GFCI outlets.

A9. Please note or show all required locations for smoke and carbon monoxide detectors.

A10. 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).

A11. Please provide a note on the plans indicating that all electrical receptacles will be tamper resistant in accordance with IRC E4002.14.

A12. The mechanical room appears to also be used as a food/storage area with shelving around half of the perimeter of the room. This may make clearances from combustible and working space difficult. Please show on the plans the location of the furnace/boiler and water heater to confirm that proper working space will be provided. IRC sections M1305 and M1306

CODE REVIEW COMMENTS:

W1. Please fill out and return the attached form from appendix C from the 2012 International Wildland-Urban Interface Code (IWUIC) to determine the hazard level for this project.

W2. Please provide a site plan showing the conforming defensible space required from IWUIC Table 603.2. Please note on the plans who will be responsible for maintaining the defensible space according to IWUIC section 605.

W3. Please provide information for a conforming water supply according to IWUIC section 404. This would include dimensions from the closest water supply to the home.

W4. Please provide a map showing the accessability of the property. This should include the following,

A. Please show the driveway and provide the length of the driveway. (If the house is farther that 150 feet to the access road please make sure the driveway complies with the requirements of IWUIC 403.2)

B. Please show and provide information for the access road to the property which would include,

I. The width of the road.

II. Is the road a two-way or one-way street?

III. Is the road a dead end road or a through street?

IV. Is the road marked with street signs?

W5. If a fireplace is being installed please note on the plans that a spark arrester must be installed. IWUIC 605

W6. This property is required to have an automatic sprinkler system installed throughout. Please provide the plans and manufacture installation instruction for the sprinkling system or list this as a deferred submittal on the cover of the plans.

W7. After the property hazard level has been established and a conforming or non-conforming water supply and defensible space has been provided, please determine the Ignition-Resistance Construction Classification that is required from IWUIC table 503.1. Please specify that classification on the plans and note on the plans how the construction will comply with the required classification.

Note: It may not be required to have both a conforming water supply and a conforming defensible space. Table 503.1 provides options factoring in the hazard, type of construction, water supply, and defensible space.

STRUCTURAL COMMENTS:

Structural Drawings:

S1. Sheet S0.0: Please address the following:

A. The values listed for Ss and Sds are different from those listed in the geotechnical report. Please verify that the correct spectral accelerations are used for design.

B. The General Structural Notes state that a geotechnical report was not provided. Please provide a copy of the geotechnical report to the structural engineer for review and verify that the structural design is consistent with the report.

   I. Please review the recommendations for footing bearing depths and verify that the footings are placed appropriately.

C. The General Concrete Notes reference ACI 318-08. Please update to ACI 318-11.

S2. 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.

S3. Section 4.3.6.4.3 of AWC SDPWS-2008 requires 3”x3”x0.229” plate washers at foundation anchor bolts. Provide a note indicating this requirement.

S4. Sheet S1.0: Please address the following:

A. Footing F-1 does not meet the minimum reinforcement requirements of Section 10.5.4 of ACI 318-11.

B. The Foundation Wall Reinforcing Schedule does not specify the placement of the bars in the wall. Please clarify whether the bars are to be placed in the center of the wall, or whether a double mat of bars is required in the 12 inch wall.

S5. Sheet S2.1: On the main floor framing plan the detail reference is missing for the attachment of the steel beam to the foundation wall. Please provide.

S6. Sheet S4.2: Concrete pier details do not meet the tie requirements of Section 7.10.5.3 of ACI 318-11. Please provide additional ties as required.

S7. 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.

S8. In general the drawings are lacking in details. Please provide more information on how the structure is to fit together; specifically details are needed showing the lateral load path from the roof diaphragm into shear walls. Specific framing details are also missing. Please address.

Structural Calculations:

S9. Please provide calculations for the foundation walls.

S10. It appears that shear walls are supported by steel framing at the back of the home or are supported by framing that cantilevers beyond the steel supports. This is an in-plane discontinuity in vertical lateral force-resisting element irregularity as defined by Table 12.3-2 of ASCE 7-10. Please show how this is being addressed and verify that all of the ASCE 7-10 requirements for this irregularity have been met.

S11. 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.

S12. Please provide calculations for the porch awning (detail 3/S4.1).

S13. Please verify that all of the shear wall piers meet the maximum aspect ratio per Section 4.3.4 of AWC SDPWS-2008.