



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

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August 10, 2017

FIRST REVIEW  
WC<sup>3</sup> Project #: 217-525-139

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

Attention: Craig Browne, Building Official

Subject: Powder Mountain Parcel 4 Ftg Found – Plan Review Comments

Mr. Browne:

West Coast Code Consultants, Inc. (WC<sup>3</sup>) has completed the first review of the proposed Powder Mountain Parcel 4 Footing and Foundation project located in Eden, UT. This review was based upon the following:

1. Architectural drawings dated 6/27/2017 by R & A, sealed and signed by Christian Robert, Licensed Architect.
2. Civil drawings dated 6/27/2017 by Talisman Civil Consultants, sealed and signed by Ryan W Cathey, Professional Engineer.
3. Structural drawings and calculations dated 6/27/2017 by Reaveley Engineers, sealed and signed by Craig A Wilkinson, Professional Structural Engineer.
4. Electrical drawings dated 6/28/2017 by RC Hunt Electric, sealed and signed by Darrin B Sanders, Professional Engineer.

The 2015 International Codes and 2014 NEC, as adopted by the State of Utah, were used as the basis of our review. Specific comments regarding this project are enclosed with this cover letter. If you have any questions regarding this review please do not hesitate to contact me.

Sincerely,

Mike Molyneux, PE

Attachment: Comments



## Plan Review Comments

**Project Name:** Powder Mountain Parcel 4 Ftg Found

**Code Review by:** Alexa Nielsen

**Location(s):** 8569 Spring Park, Eden, UT

**Structural by:** Mike Molyneux

### OCCUPANCY & BUILDING SUMMARY:

Type of Construction	Use Group(s)	Occupant Load	Risk Category	Square Footage	Building Height	Sprinklers
I-A	A-3, A-4 S-1, S-2	641	III*	17,669 ft <sup>2</sup>	2-story, -feet	Yes NFPA-13
V-B	A-2, A-3	857	III*	9,316 ft <sup>2</sup>	1-story, 51-feet	Yes NFPA-13

\* - Items noted with an asterisk may change as a result of the plan review comments.

### 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. Because a phased approval is being sought for this project, the owner must submit a letter to the building official stating that they understand they will be proceeding at their own risk in accordance with IBC 107.3.3.
  - A. Please clearly note on all applicable sheets that this submittal is for a footing and foundation permit only and all other sheets provided, not affected by the footing and foundation permit, are for reference only.
- A2. Please specifically list *all* deferred submittals, in addition to those already listed on the construction documents, as required by IBC 107.3.4.1
- A3. As it appears, the provisions of Section 510.2 appear to be intended for this building. Please address the following:
  - A. Separate code analyses will need to be provided for the separated structures to be created by the provisions of Section 510.2. Please provide this analysis and indicate the construction type, use groups, occupant load, etc. for each separate building.
  - B. Please clearly note that a 3-hour horizontal assembly will be provided to separate the I-A building and the V-B building.
  - C. All shaft and stairway construction must be enclosed within 2-hour rated construction.
  - D. The building above the horizontal assembly shall be permitted to have multiple A occupancy uses with an occupant load of **less than** 300 occupants. However, it appears that this value may have been exceeded on level 3. Please verify.

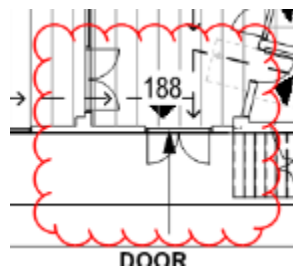
A4. Sheet A01.01: Please address the following:

- A. Please revise the project summary to reflect the actual intended construction of the proposed building. As the project summary indicates a 5-story multi-housing building. However, this building does not have any residential uses specified within and is not 5-stories.
- B. The code analysis indicates that there will be a mezzanine provided, identified as “Upper Ground Level”. Please provide a complete analysis in accordance with Section 505 of the IBC.
  - I. Provide information on the area analysis per Section 505.2.1 of the IBC. This mezzanine level is only permitted to be one-third of the floor area of which it is open to.
- C. Please clarify the square footage of each level of the building to verify the allowable area of the building has not been exceeded, per Table 506.2.
- D. Please clearly indicate the total proposed occupant load of the building, as well as the proposed occupant load of each level, per Section 1004. It appears the occupant loads used for the plumbing fixture calculations are not the correct.
- E. Please clearly indicate the use group of the pool on the plans, per Section 303.5 of the IBC.

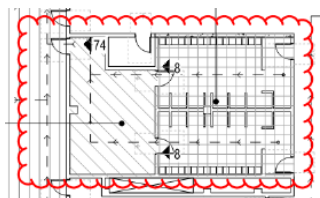
A5. It appears most of the exiting elements do not discharge to the public way. Per Section 1028.1, exit elements are required to provide access and discharge to the public way. Please clearly detail how the occupants of the building will discharge to the public way, per IBC Sections 1028.1 and 1028.5.

A6. Sheet A0.1.02: Please address the following:

- A. Please clarify the actual travel distances specified for all exit accesses shown, per Section 1017 of the IBC. Verify the allowable limits of Table 1017.2 have not been exceeded. It appears not all levels have these values shown on the plans.
- B. Detail 2: Please address the following:
  - I. The below shown door interferes with the landing at the stairs, per IBC 1010.1.6. Please address.

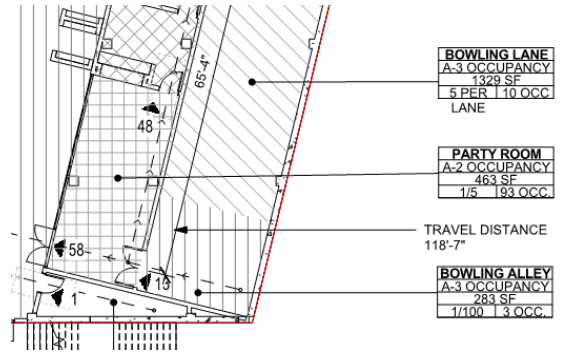


- II. The Locker room appears to be egressing through the steam room. Please clarify the egress path.

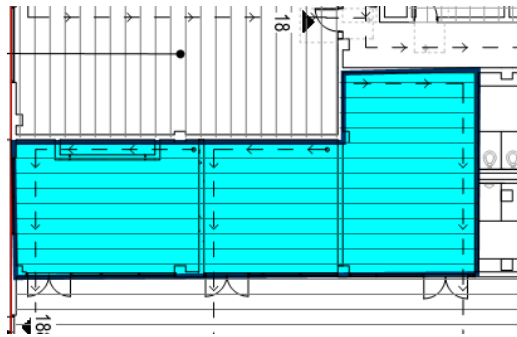


- III. Per IBC 1016.2 Item 5, occupants are not permitted to exit through kitchens. However, the occupants from the party room appear to be exiting through this space. Please address.

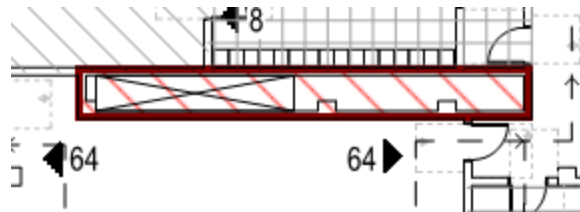
- a. The party room is also required to provide a second exit from this space, per IBC Table 1006.1.2. Please address.



- IV. Please clarify the occupant load of the below highlighted spaces. It appears no occupant load has been assigned to these areas.

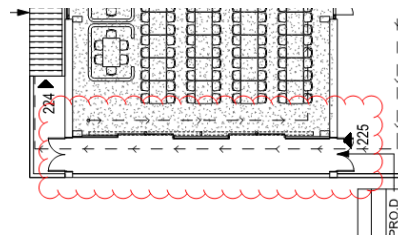


- V. There appear to be shafts; however, no fire rating has been assigned to these elements. Please address, per IBC 713.4.

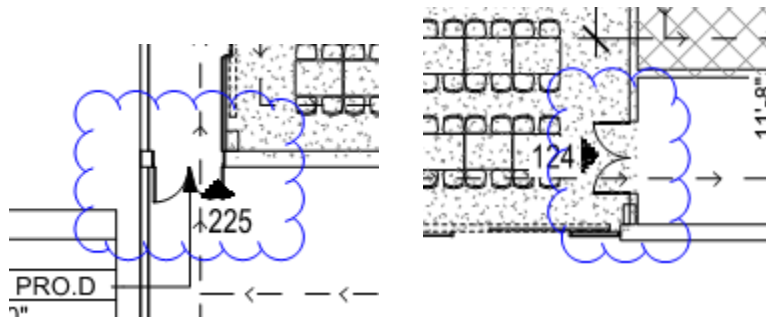


C. Detail 3: Please address the following:

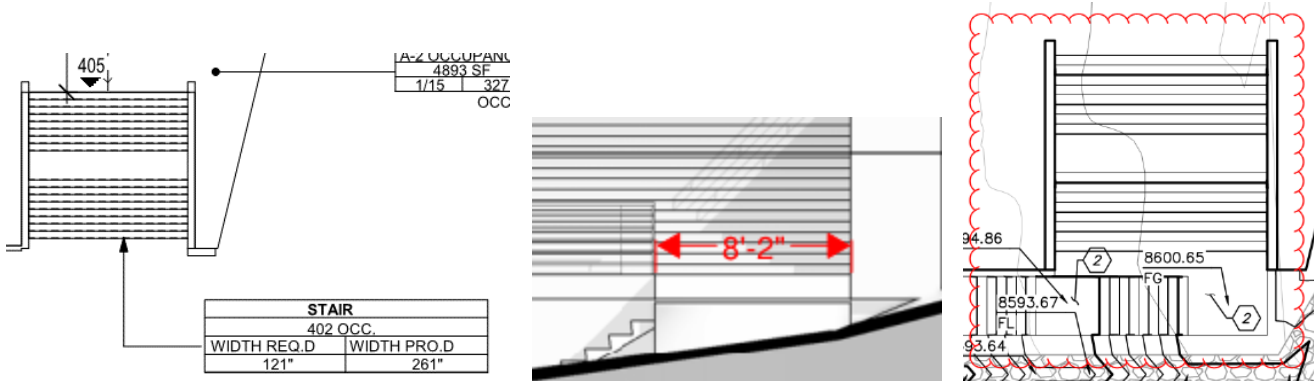
- I. Per IBC 1028.1, occupants are not permitted to re-enter the building. However, it appears that both the occupants from the terrace area and the occupants from the multi-use space will re-enter the building. Please make all necessary corrections.



- II. The following door swings will need to be revised, as these doors must swing in the direction of egress travel, per IBC 1010.1.2.1. Please address.

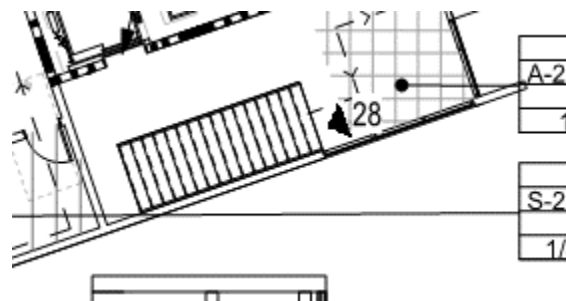


- III. The stair shown below is noted to have 405 occupants assigned to it. However, in the elevation drawings, a guardrail is placed directly at the bottom of the stair run, reducing the egress width to 96-inches. Per IBC 1005.4, the minimum required width of the means of egress is not permitted to be reduced. Please make all necessary corrections to the plans.
- a. In addition to the above comment, IBC 1011.6 requires that the landing provided at the top and bottom of each stairway be not less than the width of the stairway served. Please address.



D. Detail 4: Please address the following:

- I. The stairs provided within the lobby appear to be constructed as exit access stairs. Please provide complete details showing compliance with IBC 1019.3.
  - a. It appears these stairs may connect the upper ground level, ground level, and upper basement. Please clarify.

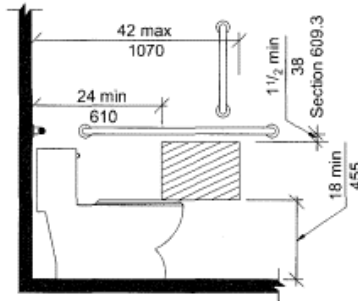


A7. Sheet A04.11: Please address the following:

- A. Detail 3: Section 604.6 of ICC A117.1-09 requires that the toilet flush controls be located on the open side of the water closet. Please note this requirement on the plans.

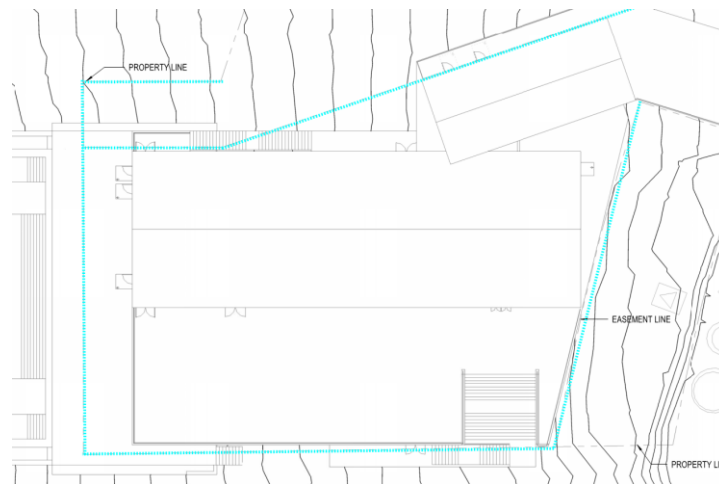
B. Detail 4: Please address the following:

- I. Several notes appear to overlap with one another. Please address.
- II. Please show the location of the vertical side water closet grab bar as provided for in Section 604.5.1 of ICC A117.1-2009.
- III. Please provide complete dimensions for the location of the toilet paper dispenser in accordance with Section 604.7 of ICC A117.1-09.



A8. Sheet A05.02: Please address the following:

- A. It appears that the property line and easement lines cut across the proposed structure. Please make all necessary corrections to the plans.



B. Fire Separation Distances: Please address the following:

- I. Please provide dimensions to the property lines and easement lines specified on the plans. This distance shall be measured at right angles from the face of the wall.
- II. Based upon the FSD, additional fire ratings for the exterior walls of the buildings may be required, in accordance with IBC Table 602.
  - a. Any wall within 10 feet will be required to be protected from the interior and exterior of the wall.
- III. Please provide a separate opening analysis for each building on the site. The analysis shall be based upon the separation distances determined in accordance with above definition and IBC Table 705.8.

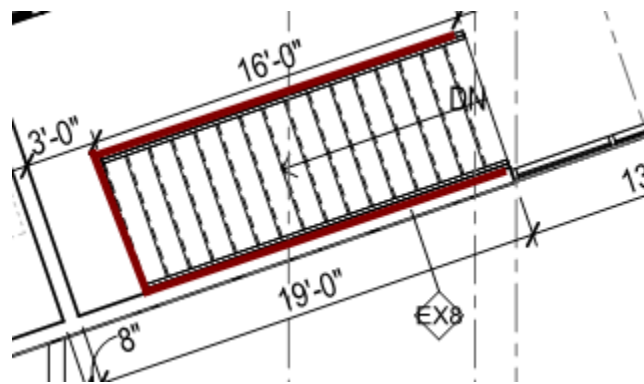
- a. *Advisory (no response required): The opening analysis shall be based upon the closest distance from the face of the building to the imaginary property line and the building.*

A9. Sheet A20.03: Please address the following:

- A. Please provide complete information on the guardrail provided to the patios, per IBC 1015:  
I. Please provide information on the minimum height of the guardrail per IBC 1015.3.

A10. Sheet A20.04: Please address the following:

- A. Please indicate guardrails around the stairway provided, in accordance with Section 1015 of the IBC.



A11. Sheet A30.01 & A30.02: Please address the following:

- A. The elevation plans do not show the exterior stairs provided on the site plan. Please revise these sheets to match.

A12. Sheet A94.01: Please address the following:

- A. Please clearly indicate the fire ratings of each wall type and the listed design, where applicable. It appears that some fire rated wall types may be missing.  
B. Please provide information on the type of fire rated construction to be provided throughout the project in accordance with Chapter 7 of the IBC.  
I. Please provide continuity details for each separate assembly, per Chapter 7 of the IBC.

**The below comments are for reference only and do not require a response, please be aware that this is not a comprehensive list and additional comments to these may be generated in later phases of the project. These comments affect later phases of the project and not necessarily the footing and foundation permit.**

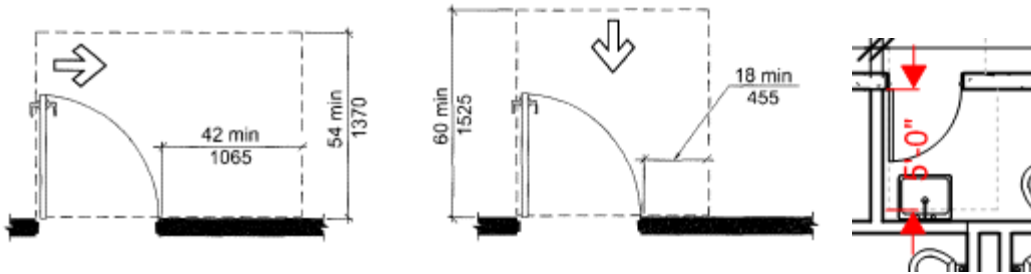
A13. Please clearly identify all fire rated construction to be provided throughout the project, such fire rated construction includes:

- A. Complete listed assembly for each separate fire rated assembly.  
B. Continuity details for each separate assembly per Chapter 7 of the IBC.  
C. A listing for all rated assemblies with complete installation instructions per the listing as required by IBC 703.2.



- A14. Please provide fireblocking as indicated in IBC 718.2.2 of the IBC in the concealed spaces at the break in the floors and at 10 feet horizontally in the space between the double walls, etc.
- A15. Please provide information on any draftstopping to be provided through the building, per Section 718.3 of the IBC.
- A16. Please indicate the size and location of portable fire extinguishers as required by IBC 906.3.
- A17. Please provide a complete door schedule for the proposed building. This door schedule should include the following information:
- A. Proposed door hardware, proposed door dimensions, proposed callouts, any glazing contained within, etc.
  - B. Please provide information on the proposed fire ratings of all doors within rated assemblies per Table 716.5. Such doors would include: doors within corridor walls and stair tower doors.
- A18. Sheet A20.02: Please address the following:
- A. Game Room 208: Per IBC 1109.15, a minimum of 2%, but not less than one of each type of gaming table provided shall be accessible and shall be provided with a front approach. Please clearly indicate this on the plans.
  - B. Locker Rooms 219 & 220: Please address the following:
    - I. IBC 1109.12.1 requires that locker rooms are required to be accessible. Please address the following requirements for Section 803 of ICC A117.1-09.
      - a. Show the turning space per Section 803.2 of ICC A117.1-09.
      - b. Please provide information for the accessible bench as required by Section 803.4 of ICC A117.1-09. This includes but is not limited to:
        - i. Clear floor space for bench per Section 903.2 of ICC A117.1-09.
        - ii. Size of the bench per Section 903.3 of ICC A117.1-09.
        - iii. Back support per Section 903.4 of ICC A117.1-09.
        - iv. Height of the bench per Section 903.5 of ICC A117.1-09.
        - v. Verify that the bench is fastened to the floor as required by Section 903.6 of ICC A117.1-09.
    - II. Please indicate on the plans that a minimum of 5% of the lockers being provided will be accessible in each of the areas a provided for in Section IBC 1109.9. This includes:
      - a. A clear floor space in front of the accessible lockers per Section 905.2 of ICC A117.1-09.
      - b. Locker shall be located within at least one of the accessible reach ranges of Section 308 of ICC A117.1-09.
      - c. The operable parts for the locker (and lock if provided) shall be accessible and comply with Section 309 of ICC A117.1-09.
  - C. The below restroom does not appear to have been provided with sufficient maneuvering clearance in accordance with Section 404.2.3.2 of ICC A117.1-09, as it overlaps the lavatory provided. Please address.





D. Juice Bar 209 & Snack Bar 206: IBC 1109.12.3 requires that at least one service counter is accessible. Please note which counter is accessible. Per Section 904.3 of ICC A117.1-09 the accessible counter shall meet the following requirements:

- I. Parallel Approach: A portion of the counter, a minimum of 36 inches wide and extending the full depth of the counter, shall be no more than 36 inches in height.
- II. Forward Approach: A portion of the counter, a minimum of 30 inches wide and extending the full depth of the counter, shall be no more than 36 inches in height. Toe and knee clearance in accordance with Section 306 of ICC A117.1-09 shall be provided below the accessible counter.

E. Gym 217: Accessible exercise machines and equipment shall be provided with clear floor space in accordance with Section 305 and 1104.1 of ICC A117.1-09.

A19. Sheet A97.50 THROUGH A97.56: Please address the following:

- A. Provide information for a two-way communication device at the elevator landings on all accessible floors other than the level of exit discharge as required by IBC 1009.8.
- B. Please provide dimensions for the elevator cab to ensure that an ambulance stretcher can be accommodated, per the provisions of IBC 3002.4.
- C. IBC 3005.4 requires that the machine room for the elevator be provided with 1-hour rated walls and ceiling. Please clarify the listing for the rated walls of this enclosure.

A20. Sheet A98.04: Please address the following:

- A. Detail 2: Suspended acoustic ceilings installed in Seismic Design Category D shall be installed according to IBC 808.1.1.1, IBC 1613.1, ASTM C 635, ASTM C 636, and ASCE 7-10. Provide the identified report, ICBO Report No. 1905 or LARR #24299. If the report is not provided, please address the following:
  - I. T-Bar system is required to be heavy duty.
  - II. Per Section 13.5.6.2.2 of ASCE 7-10 the perimeter support angles are required to be 2 inches. In each orthogonal direction, the grid is required to be rigidly attached to the perimeter angle on one side and permit a 3/4 inch movement in either direction at the other.
  - III. Seismic bracing is required for all ceilings greater than 144 square feet in area. This includes splay wires and compression struts.
  - IV. Spacer bars are required at perimeters.
  - V. Section 13.5.6.2.2 requires that seismic joints be provided such that no single ceiling area is larger than 2,500 square feet.

A21. Please provide complete details and indicate graphically the locations of the following signage:



- A. As required by IBC 1013.1 there appear to be multiple required exit or exit access doorways which have not been provided with exit signs. Please address.
- B. IBC 1013.4 requires that tactile exit signs be provided at the entrances to the stairways and at all exterior exit doors. Please address.
- C. For interior exit stairs connecting more than three (3) stories IBC 1023.9 requires that stairway identification signs be provided at each floor landing. Please provide the following:
  - I. Each sign shall designate the following: The floor level of the sign, the terminus at the top and bottom, the identification of the stair, level of exit discharge, identify if roof top access is provided. (e.g. Stair #1; Floor 3; Access to floors 1-4; Exit on Level 1, No Roof Top Access.)
  - II. In addition, a visual, tactile, and braille sign shall be provided at the door at each level leading from the stair into the building indicating the level of the building to which the door leads.

**MECHANICAL REVIEW COMMENTS:**

*No mechanical review comments for the footing and foundation phase.*

**PLUMBING REVIEW COMMENTS:**

*No plumbing review comments for the footing and foundation phase.*

**ELECTRICAL REVIEW COMMENTS:**

*No electrical review comments for the footing and foundation phase*

**ENERGY REVIEW COMMENTS:**

*No energy review comments for the footing and foundation phase.*

**STRUCTURAL COMMENTS:**

**General:**

- S1. Because a phased approval is being sought for this project, the owner must submit a letter to the building official stating that they understand that they will be proceeding at their own risk in accordance with IBC 107.3.3.
- S2. Only those items associated with the foundation were reviewed in this submittal phase. A more thorough review will need to be conducted when a permit is sought for the balance of the structure.

**Structural Drawings:**

- S3. Sheet S00.01: The plans list the project as a risk category II. It appears due to use and occupant load that the building would be a risk category III structure. Please address on the plans and in the calculations.
- S4. Sheet S20.01: Please address the following...
  - A. Provide the size of the strip footing along gridline 3 at gridlines B.9 and C.
  - B. Please provide the required concrete piers along gridline 3 at gridlines B and C.



- S5. Sheet S22.01: Please provide a concrete beam schedule for the concrete beams shown at gridlines A and E as well as between gridlines D through E.
- S6. Sheet S60.01: Please verify the height dimension for detail B2 to ensure the design height is not exceeded in construction.

**Structural Calculations:**

- S7. The moment frames supporting the roof framing on Sheet S22.04 do not continue to the foundation. Please see Section 12.3.3.3 of ASCE 7-10.
- S8. This appears to be an assembly occupancy with more than 300 occupants. Per Table 1604.5 of the IBC this would be a risk category III building. Please update the risk category, wind speed, and importance factors accordingly.
- S9. Please provide a concrete shear wall key plan to verify the concrete wall calculations.
- S10. Calculations for the retaining walls at what appears to be the pool area (33'-0" wide footing) consider a concrete compressive strength of 5000psf. The concrete schedule shows a concrete compressive strength of 4500psi. Please coordinate.

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]