



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

July 14, 2017

FIRST REVIEW
WC³ Project #: 217-525-098

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

Attention: Craig Browne, Building Official

Subject: SPM – Parcel 2C Building – Plan Review Comments

Mr. Browne:

West Coast Code Consultants, Inc. (WC³) has completed the first review of the proposed SMGH Jeff Werbelow SFD 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. Mechanical and plumbing drawings by CCI Mechanical.
5. Electrical drawings dated 6/28/2017 by RC Hunt Electric, sealed and signed by Darrin B Sanders, Professional Engineer.
6. Geotechnical investigation report (#) dated 1/18/2017 by IGES, sealed and signed by David A Glass, 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 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,

Alexa Nielsen

Attachment: Comments



Plan Review Comments

Project Name: SPM – Parcel 2C Building
Location(s): 5752 Copper Crest, Eden, UT
Checked By: DeAnn Wilde

Code Review by: Alexa Nielsen
Structural by: Joe Bingham
MEP by: John Saunders

OCCUPANCY & BUILDING SUMMARY:

Type of Construction	Use Group(s)	Occupant Load	Risk Category	Square Footage	Building Height	Sprinklers
Podium I-A	A-2, M S-1, S-2	170*	*	21,766 ft ²	2-story,	Yes NFPA-13
Condos V-B	R-2, A-2,	202*	*	22,435 ft ²	3-story, 56-feet	Yes NFPA-13

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

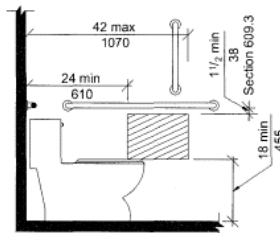
GENERAL INFORMATION:

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. It appears that this permit is for footing and foundation only. Please address the following:
 - A. 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.
 - B. Please note on all applicable sheets that this is a footing and foundation permit only. All other sheets provided that will not be constructed under the footing and foundation permit should indicate “for reference only.”
- A2. Sheet A01.01: Please address the following:
 - A. Please provide a note on the plans identifying the required carbon dioxide detectors, per IBC 908.7.
 - B. Please provide occupant load calculations for each of the following uses: A, B, M, R, and S, per IBC 510.2 Item 4. The maximum occupant load of each of these uses cannot exceed 300. Please address.
 - C. Please be aware the dwelling units will be required to be Accessible units, Type A units, and Type B units, in accordance with Section 1107.6 of the IBC.
- A3. Sheet A01.02: Please address the following:
 - A. Detail 1: Please address the following:

- I. It appears that the lobby provided will be constructed as an Atrium, in accordance with IBC 404. Please verify.
 - a. Additional comments may be generated based upon the response.
- II. The stairs provided within the lobby appear to be constructed as exit access stairs. Please provide complete details showing compliance with IBC 1019.3 Item 4.
 - a. Comment applies to the stairs shown in Detail 3 and 2 within the restaurant.
- B. Detail 2: Please address the following:
 - I. Please clarify the intended use of the food hall. It appears that it has been classified as an M use group. If this area is a cafeteria, it should be classified as an A-2, per IBC 303.3. Please address.
- C. Detail 5: Please address the following:
 - I. Per Table 504.4, the maximum number of stories above grade plane permitted for an A-2 use group is 2. This A-2 group, however is noted to be on the 3rd story of the podium building. This is not permitted. Please address.
- A4. Sheet A04.10: Please address the following:
 - A. Detail 5: Please address the following:
 - I. Please revise the location of the toilet paper dispenser in accordance with Section 604.7 of ICC A117.1-09.



- II. Please show the location of the vertical side grab bar as provided for in Section 604.5.1 of ICC A117.1-2009. This comment also applies to Detail 3/A04.11.
- A5. Sheet A05.02: Please address the following:
 - A. IBC 1104.1 requires that an accessible route be provided from site arrival points to the building entrance. This includes the public street or sidewalk, the accessible parking, and loading zones.
 - I. The accessible route is required to have a running slope less than 5% and cross slope no more than 1:48 per Section 403.3 of ICC A117.1-09.
 - a. For running slopes greater than 5% a ramp or curb ramp shall be provided in accordance with Section 405 of ICC A117.1-09.
 - i. The slopes shown on Sheet C301 are much steeper than are permitted by Section 403.3 of ICC A117.1-09.
 - B. IBC 1105.1 requires that a minimum of 60% of all public entrances be accessible. Please clearly identify all accessible entrances.
 - C. Please provide details for the construction of the curb ramp. Verify that it will comply with the requirements of Section 406 of ICC A117.1-09.

A6. Fire Separation Distances: Please address the following on the Site Plan:

A. Please provide imaginary property lines between all structures on the site plan to show the fire separation distances between all buildings and structures on the site. This would include existing or proposed buildings on the site.

FIRE SEPARATION DISTANCE. The distance measured from the building face to one of the following:

1. The closest interior *lot line*.
2. To the centerline of a street, an alley or *public way*.
3. To an imaginary line between two buildings on the lot.

The distance shall be measured at right angles from the face of the wall.

B. Based upon the FSD, additional fire ratings for the exterior walls of the buildings may be required, in accordance with Table 602.

C. 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 Table 705.8.

I. *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*

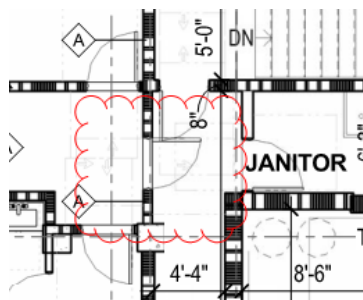
A7. Sheet A20.01: Please address the following:

A. Detail 1:

I. Mail Room:

- a. Please provide at least 5%, but not less than 1, of the mailboxes to be accessible per IBC 1109.9.
- b. Please ensure that these mailboxes are located along an accessible route in compliance with IBC 1109.9.2 and 1104.
- c. Please indicate the clear floor space provided for the mailboxes in compliance with ICC A117.1-09 Section 305.
- d. Please ensure that the mailboxes will be within the accessible reach ranges as required by ICC A117.1-09 Section 308, and all operable parts meet reach range requirements per Section 309.

II. The door shown below reduces the required width of the hallway by more than half. Per Section 1005.7.1 this is not permitted. Please make all necessary corrections.



- a. A similar comment also applies to the double doors from Trash 106.



- b. The above door also interferes within the door from stairs 122. Please address.
 - III. The waste chute appears to be located within the stair shaft. Per IBC 713.13.4, waste chutes shall discharge into an enclosed room separated by fire barriers. Make necessary corrections to ensure the chute is located in a room separate from the stair shaft.
- B. Detail 2:
- I. A ramp down is shown. Please provide the following information and details for the ramp, per IBC 1012:
 - a. Please indicate the slope of the ramp, per IBC 1012.2. The slope shall be not steeper than 1:12 (8%) if it will be used as part of the means of egress.
 - b. The cross slope of such ramps shall be not steeper than 1:48 (2%) per Section 1012.3.
 - c. Please clarify the vertical rise of the ramp run. This rise shall be not more than 30 inches maximum. IBC 1012.4.
 - d. Please provide complete information on the minimum dimensions required for the ramp, per Section 1012.5:
 - i. Width of the ramp.
 - ii. Headroom provided.
 - iii. Any restrictions for the ramp.
 - e. Please provide complete information on the landings provided. These landings shall be at least as wide as the ramp served and be a minimum of 60 inches in length, per IBC 1012.7.
 - f. Any handrails provided shall comply with IBC Sections 1014 and 1012.8.
 - i. Please clearly indicate the height of the handrails provided comply with IBC 1014.2.
 - g. Please provide information on the edge protection provided, per 1012.10.
 - II. It appears that the below hallway provided is an exit passageway. Please address per IBC 1024:
 - a. Please indicate the minimum width of the exit passageway per IBC 1024.2.
 - b. Please provide fire rated construction for the exit passageway, per IBC 1024.3. This passage shall be provided with a minimum of 1-hour rated fire barriers.
 - III. Fire Riser Room has been provided beneath the exterior stairway. Per IBC 1011.7.4, these stairs must be provided with 1-hour rated construction. Please address.
- C. The opening provided within the restaurant to the distillery below will need to comply with IBC 712.1.9.
- I. Comment also applies to Detail 1/A20.02.
- A8. Sheet A20.02: Please address the following:
- A. A mezzanine level is shown. Please address and detail the following per IBC 505:



- I. Please provide area calculations for this space, per IBC 505.2.1. This area shall be no more than 1/3 the floor area of the room which it is located within.
- A9. Sheet A30.01: Please address the following:
- A. Key Note 055213: Please provide a callout for the detail showing the minimum height and opening requirements of the railing provided.
 - B. Please indicate where the address will be listed on the exterior of the building, as required by IBC 501.2.
- A10. Sheet A40.01: Please address the following:
- A. Please clearly indicate the fire rating of the floor/ceiling construction, as required by Section 420.3.
 - B. Show the location of the refuse chute.
- A11. 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.
- A12. Sheet A95.01: Please address the following:
- A. Detail 4: Please address the following concerning Type A and B Units to be provided within the building, per Section 1107.6.2 of the IBC.
 - I. Please verify that the patio is at the same elevation as the unit, per Section 1003.3.3 of ICC A117.1-09.
 - II. Indicate the elevation of the impermeable deck surface. Verify it will be no more than 4 inches below the interior floor elevation, per the Exception to Section 1004.4.2 of ICC A117.1-09.
- A13. Sheet A97.51 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.
- A14. 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.

A15. Refuse Chutes: Please address the following in accordance with Section 713 of the IBC:

- A. Please provide a section view of the chute to clearly show the following:
 - I. Chute is required to be enclosed in fire barriers per IBC 713.4. Per IBC 707.5 the fire rating of these walls is required to be continuous through the floor framing to the underside of the floor or roof sheathing above.
 - II. Self-closing doors shall be provided between the trash chute and the adjoining access room per IBC 713.13.1. These doors are required to be protected per IBC Section 716.
 - III. A discharge door which is self- or automatic-closing is required to be located between the bottom of the chute and the discharge room at the bottom per IBC 713.13.1. This door is required to be fire rated per IBC 716.
- B. Per IBC 713.13.3 access rooms to chutes at all floor levels are required to be provided with 1-hour rated fire barriers per IBC 707.
 - I. Per IBC 707.5 the fire rating of these walls is required to be continuous through the adjoining floor framing. Provide details for both conditions of joists parallel and perpendicular to the walls to show how this is accomplished.
 - II. Per IBC 713.13.3, doors are required to be a minimum of ¾ hour rated and self-closing.

MECHANICAL REVIEW COMMENTS:

- M1. It does not appear that mechanical plans have been provided for review. Please provide complete plans for review. **Any additional information may result in additional comments.**
- M2. Please provide information showing where the gas meter(s) will be installed. Please show all protection as needed as indicated in Section 303 of the IFGC.
- M3. Provide heating and cooling load calculations in accordance with ASHRAE/ACCA Standard 183. This is required per Section 312 of the IMC.
- M4. Please provide automatic shutoffs when the when the return air has a design greater than 2000 cfm as provided for in Section 606 of the IMC.
- M5. Please provide complete plans for the kitchen including all hoods.

PLUMBING REVIEW COMMENTS:

- P1. It does not appear that plumbing plans have been provided for review. Please provide complete plans for review. **Any additional information may result in additional comments.**
- P2. Please provide complete utility plans showing where the sewer, ware, gas, etc. connects. Please indicated the slope of building sewer and type of pipe.
- P3. Please show water hammer arrestors at all quick closing valves, flushometers, ice machines, dishwashers and washing machines per IPC 604.9.



- P4. It appears that water sizing calculations have not been provided. Please specify the method used for sizing the water piping system, and please provide calculations to show that the system will adequately provide the proper gpm to each fixture, in accordance with Table 604.3 in the IPC.
- P5. Please indicate the maximum allowable flow rates for fixture in accordance with IPC 604.4 (e.g. 2.2 GPM at the lavatory).
- P6. Please provide the fixture unit calculations to show that each section of the drainage system is sized properly, in accordance with Section 710 of the IPC.
- P7. IPC 607.2 limits the developed pipe length from the source of hot water to the fixture to 50 feet. (recirculating piping may be considered a source for hot water.)
- P8. Please provide on the plans the following information concerning the grease interceptor:
- A. Please provide the maximum flow-through rating that will be provided to the interceptor and specify the capacity of the required interceptor to be installed, in accordance with IPC 1003.3.4.1.
 - B. Please specify that the grease interceptor is to be equipped with devices to control the rate of water flow so that the water flow does not exceed the rated flow of the interceptor, and such device must be vented in accordance with IPC 1003.3.4.2.
- P9. Please provide roof drain calculations and specify rainfall rate used for such calculations, in accordance with Section 1106 of the IPC.
- P10. Please specify seismic restraints for the water heater, in accordance with IPC 502.4 and IBC 1613.1.
- P11. Please provide complete information concerning the snowmelt systems. Some items are listed below.
- i. Please clearly indicate what type of material will be used (1202),
 - ii. how the pipe will be placed in or under the slabs (1209),
 - iii. how the system will be sloped (1206),
 - iv. What insulation will be used under the piping (1209).
 - v. Show the water hammer arrester (1206).
 - vi. Please show the location of the valves indicated in Section 1205 of the IPC.

ELECTRICAL REVIEW COMMENTS:

- E1. It does not appear that electrical plans have been provided for review. Please provide complete plans for review. **Any additional information may result in additional comments.**
- E2. Please provide complete and detailed available fault current calculations (in accordance with NEC 110.9 and 110.10) and show the following on the plans:
- a. Specify the KVA rating and impedance of the utility transformer. If this information cannot be obtained from the power company, please base the calculations off of the worst-case scenario per the infinite bus method using the largest KVA rated transformer required for the service and figure such transformer with an impedance of 2% or less.
 - b. Show lengths and types of all conductors in the calculations and specify the resistance of such.
 - c. Specify the amount of available fault current that could be provided to each panel and each piece of electrical equipment based on the calculations.



- d. Show the fault current rating of each switchgear and each panelboard.
 - e. Specify on the plans the short circuit current ratings of all overcurrent protection devices, or add a note on the plans that all overcurrent protection devices will have the same fault current rating as the rating of the panel or switchgear they are located within.
 - f. Please indicate on the plans that the calculated available fault current that could be provided to each equipment will be field marked as required by NEC 110.24(A).
- E3. Please show or note on the plans that this building is required to have a Ufer ground and the main panel grounding bus bar must have a grounding electrode conductor extend from it to the ufer ground. Also please note that the grounding electrode conductor for the transformer will connect to building steel. NEC 250.
- E4. Please show emergency lights at the exterior side of all required exits. IBC 1008.3.2 #5 requires where buildings are required to have two or more exits, emergency power for illumination shall be provided at all exit doors.
- E5. Please specify on the plans the size of all grounding electrode conductors (GEC) that are required at each transformer, and specify the grounding electrode(s) that the GEC will connect to, per the requirements of NEC 250.30. This information must be specified on the plans to eliminate any confusion for the installer and inspectors.
- E6. If Heat tape is to be provided for roof drains, please specify that all circuit breakers protecting such heat tape is ground fault protection of equipment (GFPE) type, per NEC 426.28.
- E7. Please show GFCI protected receptacles within 25' of each rooftop unit, as required by NEC 210.63.
- E8. Please provide a GFCI protected outlet for the drinking fountain outside of WMNS 321. NEC 422.52
- E9. Tamper-Resistant Receptacles need to be installed in all Dwelling Units as provided for in Article 406.12 of the NEC. Please address.

ENERGY REVIEW COMMENTS:

No energy review comments for the footing and foundation phase.

STRUCTURAL COMMENTS:

General:

- S1. Only those items affecting the footing/foundation were reviewed. A thorough review of the details and calculations for the rest of the structure was not done and will need to be done prior to issuing a permit for work beyond the footing/foundation portion.
- S2. 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.

Structural Drawings:

- S3. Not all of structural sheets have not been sealed, signed, or dated by the engineer of record. It appears that the intent was to only stamp those sheets pertaining to the footing/foundation permit. The sheets showing column and wall reinforcing details have not been stamped. Please verify the completeness of the



information on these sheets and provide stamps with signatures as this information affects the footings and foundations.

- S4. Please confirm that the drawings and details show the exterior footings bearing below the required 42 inch frost depth.
- S5. Sheet S30.11: The concrete wall pier anchor schedule is not complete. Please verify whether the vertical bars in these piers will have matching dowels into the footing that will be needed for the foundation package.
- S6. Sheet S60.01: Section 18.13.3.2 of ACI 318-14 requires closed ties at a spacing not to exceed the lesser of one-half the smallest orthogonal cross-sectional dimension and 12 inches. This requirement does not appear to have been met in the grade beam details. Please address.

Structural Calculations:

- S7. Please address the failures on calculation pages CSW - 13, 16, 17, 31, 70, 78, 79, 85, 86, 94, 101, 111, 118, 198, 214, 215, 219, 222, 242, 243, 263, 266, 268, 283, 284, 287, 289, 305, 307, 324, 326, 327, 328.
- S8. 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.
- S9. Please provide a summary of building irregularities as defined by Tables 12.3-1 and 12.3-2 of ASCE 7-10 and confirm that the requirements for the different irregularity types have been met.

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

[END]