CMI Contractors, Inc.

San Jose Office:
751 S. Bascom Ave,
San Jose, CA 95128

Headquarters:
7379 N. Adoline Ave
Fresno, CA 93711

Building 86

Building Code Evaluation for Building 86
Romberg Tiburon Center
Tiburon, CA 94920

Prepared for:

San Francisco State University
Office of Capital Planning, Design and Construction
1600 Holloway Avenue
San Francisco, CA 94132-4021

Prepared on: August 3, 2015

Prepared by: Roger M. Lenz, A20368

Inspection Date: July 29, 2015

Table of Contents

Code review of existing structure Building 86 at SFSU Campus Tiburon

This evaluation shall be based on the application of the California Building Code Title 24 Part 2 Volume 2 of 2 Section 34 (Existing Structures) and all subsequently referenced building codes under 2013 Title 24 CBC. Application specifically of Section 3404 identifies sections 3417 through 3422 shall apply to State owned buildings and shall determine if seismic retrofit will be necessary or applicable for alterations made. This decision and discussion is not within the scope of this report.

Site:

There is ample parking and a photovoltaic canopy. Currently, only one Van space is available and one car width space and no other ADA parking is demonstrated on site. Site lighting is unknown at this time. There are 2 dusk to dawn area lights on the south face of Building 86 (the subject of this review). There is no lighting on the west side of the structure and one area light on the north side of the structure above the roll up door. There is no discernable path of egress and no discernable front entrance. There are several exterior doors, three being roll-up style and 2 being man-doors: 1 single on North side and 1 double on the East side. The inspector performing this evaluation and report is not CASp Certified. This evaluation is not CASp equivalent. Any CASp required evaluation must be performed by a Certified CASp inspector.





Type of Construction and Occupancy: Building 86

The structure is steel framed, corrugated steel exterior with metal corrugated roof with multiple layers and cap sheeting. It is 11,600 sqft single story. The roof is supported by an open metal truss system. The building can be defined as a Type III B non-combustible construction with a fire separation of 30' depending on the lot line of this structure. The foundation appears to be pier under column with a separate slab on grade. The roof is supported by an open truss system. There are also rod braces diagonally in each bay between the supporting columns. The style of the structure is shed roof framed metal building. There appears to be no modification to the original construction/design of the shell and support system of the structure. There is a bridge crane that spans the short span of the structure that runs the long length. Wind and seismic loads are handled by the rod system in each bay and by the longitudinal brace running the entire length of the building. The columns are bolted to the pier foundation.






Exterior:

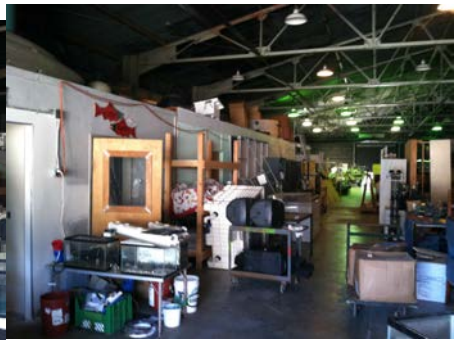
Building 86 shows signs of minimal exterior rust mostly located on the roof drip edge at perimeter of structure and along the bottom perimeter of the structure. There are multiple air handling units on the roof. They appear to be old exhaust fans, but are rusted, in some ways to the point of missing sections of metal. I cannot access the roof and as such, cannot verify if they are powered or if they operate. There is no gutter or downspouts and since it is a shed roof, there are no scuppers. The roof has been identified as a mixed-material roof. One of those materials is Plexiglas corrugated to match the existing corrugated metal roof. Information from others is that the roof has several layers and is potentially dangerous to access due to skylights being covered by the Plexiglas and imperceptible from roof top side.



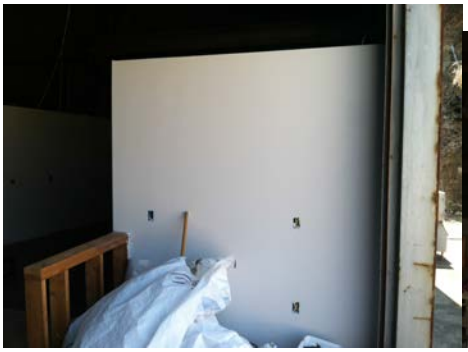
Interior:

I entered on the north side of the structure through the rollup door located in the center of the building. To my left are existing offices with approximately 8'-10" to 9' high walls. Some walls are newly modified; specifically, door openings have been created. Above these offices is a mezzanine made up of the ceiling structure of the offices, being used as storage. There have been many electrical and plumbing additions noticed in these older offices. None of this work was observed during installation and cannot be verified as constructed correctly. The many issues raised by the new construction are addressed below.






To my right as I enter from the north are new walls of unknown construction. They appear to be 2x6 with ½" sheetrock. Their insulation status is unknown. The walls are approximately 6-3/4" thick & 97-1/4" tall. These walls are unsupported and have no ceiling. These walls were not observed during construction and as such, I cannot determine or verify anchorage, nailing or material. The new wall construction creates a single room with a wood floor and an improperly installed electrical box in the center. There are many electrical boxes located through out the interior side and exterior side of these new walls. They are filled with conductors, are unidentified and not safed-off.



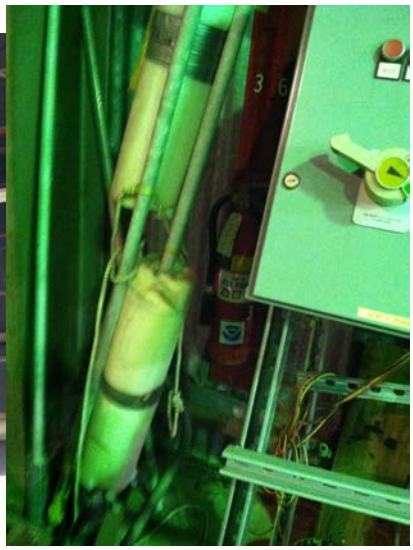
The remainder of the structure is open storage.

I am unable to verify, due to limited time and access, if the structure is sound. It will not meet code application for seismic compliance under Section 34 referenced above without modification. It appears, however, that all columns and beams are positively attached and show no signs of deformation, deterioration or degradation due to rust, seismic activity or physical impact. The posts are anchored to footings independent of the slab on grade. A structural engineer shall determine if this facility meets the criteria for seismic resistance per Title 24, CBC Chapter 34. This is my initial assessment, based upon my observations without benefit of testing or engineering calculations and design.

Code review and Fire Life Safety Issues:

Fire-Life Safety:

1. This structure is currently a mixed-use occupancy combining office space B occupancy and storage S-1 Moderate Hazard occupancy, see Section 508. No fire rated separation is required between these two occupancies; see Table 508.4 and no fire resistive construction is required see section 602.3.
2. However, for the S-1 Occupancy to be maintained, all hazardous flammable storage must be separated, see section 508.2.4 or removed per section 307.8 and 414.
3. There is no standpipe and no fire sprinkler system in the structure. The size (area) of the structure is 11,600 sqft and as such falls in the limitation of type IIIB construction per Chapter 5 (General Building Heights and Areas) table 503B. Stacked storage above the offices shall be removed or the area above the office shall be considered in addition to the sqft of the warehouse, which may exceed the area limitation causing additional fire protection to be added. i.e. Sprinkler system. Section 903.2.9 (S-1 >12,000 requires sprinkler)
4. The roof structure must be built to meet a class B roof. It has combustibles not a part of any assembly listed, section 1505.1.2 Additional structural supports may need to be designed by architect or engineer. This additional roofing design is outside of the scope of this report.
5. There currently is no fire alarm or fire detecting system within the structure. They are not required in the B occupancy per section 907.2.2 and not required in the S-1 occupancy.
6. The fire extinguishers within the structure are not placed per code nor are they kept up-to-date. Section 906 of the CBC and CFC and Title 19 Public Safety Code CCR.
7. There are no illuminated or self-illuminated exit signs within the facility. They are required per 1104.3 Cal. Fire Code
8. Storage was placed thought the storage area without access to electrical panels or pathways for emergency exiting. Stored material must be stacked to allow isle pathways designed per section 1104.22 Cal. Fire Code.
9. Flammable and combustible liquids must be stored according to Chapter 57 of the Cal Fire code or removed from site, if any.
10. Lighting is insufficient per CBC section 1006, et al to include no emergency lighting and insufficient lighting.



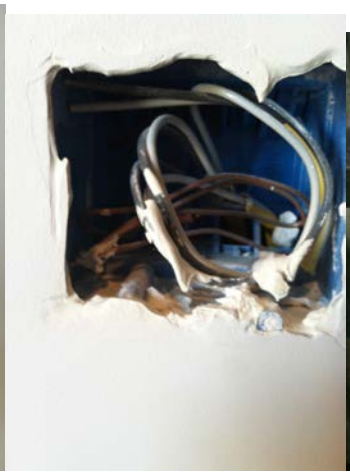
Electrical:

Code References violated by the electrical installation are multiple. Many violations identified have multiple codes that can be referenced in the same location. Below is a narrative of some issues that are in violation of the Cal Electrical Code. A summary of the defects indicates that the system should be removed, designed by an electrical engineer, installed with proper wire size and installation requirements, and said design is to include the interface with existing ungrounded electrical systems that demonstrate aged deterioration, insufficiency of installation and potential failure.

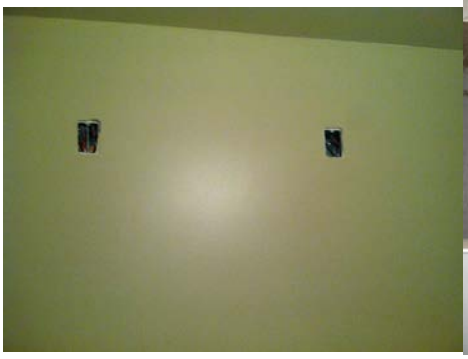
Codes referenced for the violations described below are found in Articles of the California Electrical Code.

1. Junction boxes are unsafe/not safed off. 110.27
2. There are multiple electrical panels around the structure. One such panel is located to the right just past the newly constructed walls on the west wall exterior see picture. This panel seems to be a sub distribution panel pulling electricity from a newly installed main distribution panel above the existing office space. This panel is not properly bonded or grounded, article 250 et al,
3. is open to access, 110.27
4. does not have sufficient clearance 110.26 and
5. is installed upside down 110.12.
6. The MAIN panel newly installed is unidentifiable due to access limitations, 110.26 and
7. I cannot verify proper grounding and bonding. 110.8 , 210.3, 210.8, 250, et al.
8. Neither panel is labelled properly. 110.3
9. These panels do not meet the clearance requirements around the panel. 110.26
10. Front not installed or open breaker location-110.27
11. There are multiple junction boxes throughout the facility that are open exposing wires. 110.27
12. Electrical boxes are improperly supported or unsupported completely. 110.13
13. Existing electrical system has no ground and is not properly bonded Article 200.3, 250, et al.
14. Contractor install PVC conduit on interior walls and ceilings accessible and available for damage.
15. Electrical circuits may be overloaded with too many outlets on one circuit. 210.6, 210.11, 210.19
16. Since no electrical circuit is properly labelled and there is no design of the system, it is unclear where these outlets are being fed from. 110.21
17. Mast on the weatherhead entrance to the building did not have supports per Article 225.17
18. Panels were installed without calculation wire sizing. 110.3, 210.11
19. Contractor utilized unit strut as conduit, this is a non-listed material for use as conduit. 110.2, 110.3,
20. Feeder sizes were unidentified and as such do not conform to Article 215 et al.
21. There was a feeder overhead that was unidentifiable in violation of Article 225.6 and without verification, 225.18
22. Main disconnect was unverifiable as to grounding, bonding, size 250.32
23. Romex wiring installed in violation of 334.





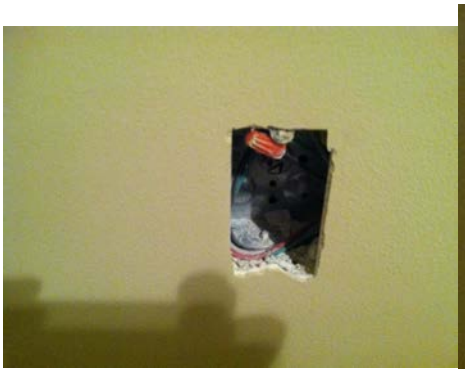


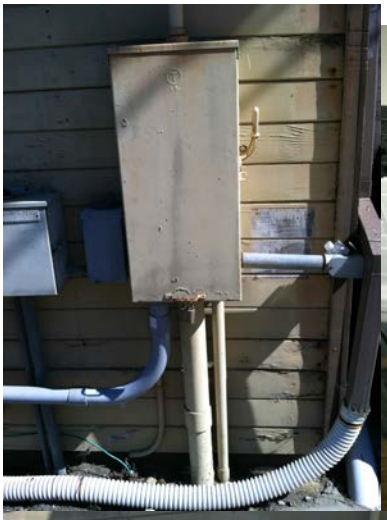



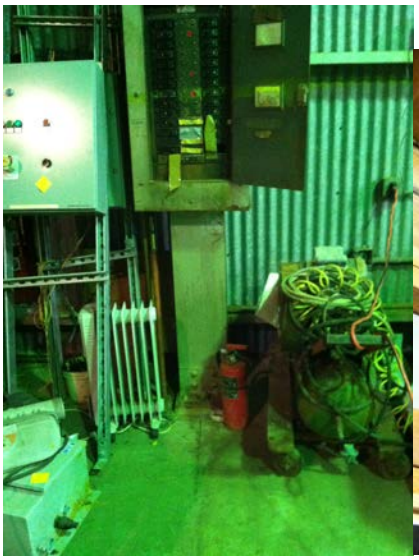










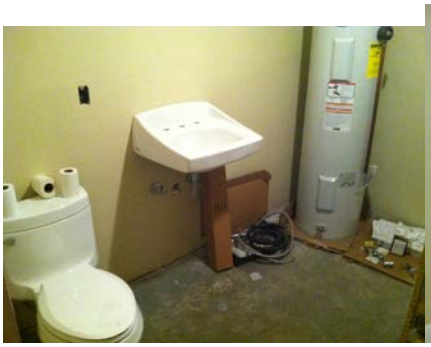
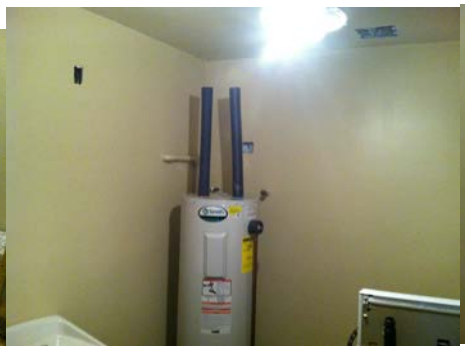




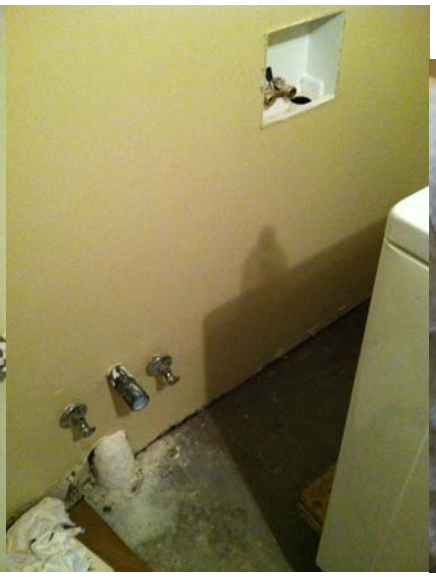
Plumbing and Mechanical:

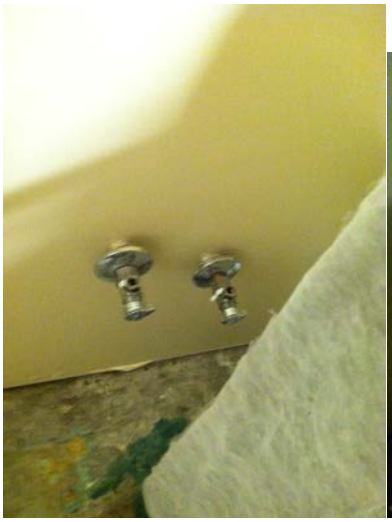
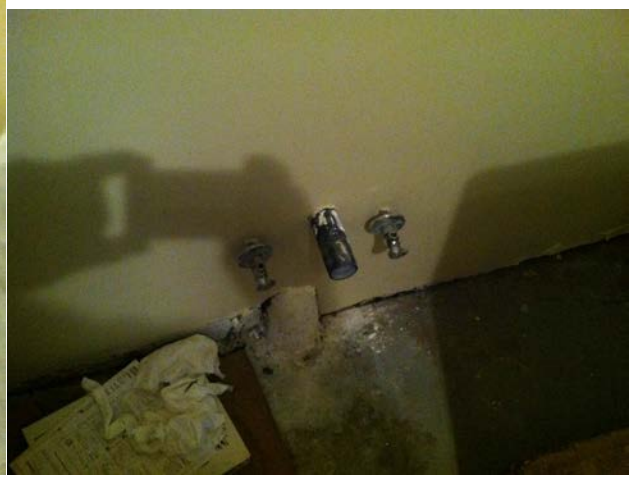
Someone began creating a bathroom on the left-hand side as I entered from the north.

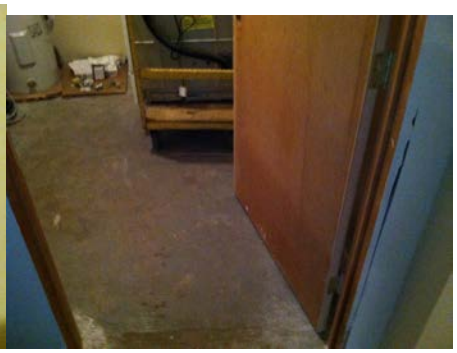
1. The bathroom has no clean out. Cal Plumbing Code 707
2. The domestic water, waste and vent are unverified. Chapter 1 Cal Plumbing Code
3. The exhaust fan is not vented through the roof or to the exterior of the structure.
4. A hot water heater is being installed and the installation stopped. The hot water heater is to be installed per Chapter 5 of the Cal Plumbing Code.
5. Toilet is not Ch 11B CBC compliant in location, height or grab bars
6. Sink does not meet Ch 11B CBC





Storage:

Currently the storage on the floor does not constitute “High Piled Combustible Storage” as defined in Cal Fire Code Chapter 32, however, continued use of the mezzanine above the offices as storage could be construed to meet the standards, especially based on the nature of the material stored. Further, the storage above the offices is not accessible (does not meet Ch11B) and there is no means of egress that complies with chapter 10 of the CBC. Until the mezzanine meets all the code requirements, the area should not be used for storage.

Conclusion and caveats:

After review of this building, it appears that if no modifications were made to the structure, all of it’s interior would need only minor demolition, minor lighting and life safety remediation. To accomplish this, the existing newly made modifications would need to be removed, since they increase the threat to life safety making the structure more unsafe than if no modifications occurred. The newly installed electrical system should be removed in its entirety. An electrical engineer should review the newly installed electrical system and design it so that the proper bonding, grounding, wire size and installation can be performed. Further, the existing electrical system should be closed at all open locations and tested for wire integrity. The conductors demonstrate age and deterioration based on discoloration and blackening. Further, there may exist a neutral cross somewhere in the system, proper electrical testing is required.

CMI’s inspection may not cover all code violations and not all codes were referenced when a deficiency was cited. This report is not complete in that several code sections were identified generically and not specific to the violation noted. CMI’s inspector is not a licensed engineer or architect. All proposed suggestions are merely that and no intent is made to endorse or promote any behaviour or action. CMI and its inspector is a third party and has no interest whatsoever in any building, structure, facility, owner, lessor, leasee or participant. If greater detail is required or additional explanation is needed for the specific code violated, please contact me at the contact information below:

CMI is grateful for the opportunity to provide this report. We look forward to working with San Francisco State University on future projects. With our dedication to you and your success, we can guarantee the highest level of service with a code of ethics unmatched.

Respectfully Submitted,

Roger M. Lenz, Principal/Chief Operations Officer

CONSTRUCTION MANAGEMENT INSPECTION

Quality

Integrity

Value