



## STRUCTECH ENGINEERING

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May 5, 2020

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Address: **Glenbriar Maintenance Building**

Structural Review By: Hamid Pouya

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Non-structural Review By: Frank Rainone

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Permit number: Com19-0012

Occupancy Type: B

Square Footage: 888.75

Construction Type: VB

Stories: 1

Sprinklers: Yes

Second Submittal

Scope of Work: **Maintenance Building Volume 6.**

The basis of the review is the following codes 2016 California Building Code (C.B.C.) structural only, 2016 California Residential Code (C.R.C.), 2016 California Mechanical Code (C.M.C), 2016 California Plumbing Code (C.P.C), 2016 California Electrical Code (C.E.C), 2016 California Energy Code (C.E.C.) (2016 Building Energy Efficiency Standards), 2016 California Green Building Standards Code (CGBSC), and the City of Tracy Ordinances.

### General comments:

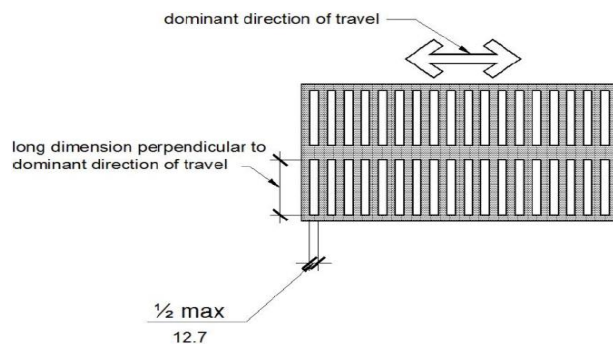
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1. Provide a note on the mechanical, plumbing, electrical plans for the protection of
2. **Provide a written response for each plan review comment noted below. Please address the red-line plan review comments on the plans as well.**
3. **The response letter should include the plan sheet number where each plan review item was corrected on the plan.**
4. **Cloud all changes on made on the plans due to the plan review and red-line comments.**
5. **See all red-line plan review comments on the plans and or calculations. These comments are also part of the plan review.**
6. **If red-line plans (review comments) are provided, these must be returned to the building division and Structech with each resubmittal.**

### Accessibility comments:

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2. On the accessibility site plan show this building has an accessible route of travel that connects all other buildings on the site per section 11B-206.2.2 CBC. **PC.2, new comment based on the revised plans. Provide an accessible route to the new exterior door serving the separated garage. In addition, adjust the civil plans.**
3. Provide accessible parking stall with an accessible route serving the maintenance building. **PC.2, see the comment at the foundation and site work portion of this permit.**
4. For the disabled parking, include appropriate details for the parking, ramps, domes and signage on the plans. **PC.2, see the comment at the foundation and site work portion of this permit.**
5. Provide an architectural site plan to include a dashed line showing the accessible route of travel from the building entrances(s) and required exits to the public right of way per section 1009.2 CBC. **PC.2, see the comment at the foundation and site work portion of this permit.**
6. The egress components along the dashed line shall include the location of ramps (domes), cross aisle, walkway and cross-walks with a minimum clear width of 48" per 11B-403 CBC. **PC.2, see the comment at the foundation and site work portion of this permit.**
7. Show the location and detail all walkways. All walkways & cross-walkways within the parking lot (cross aisles) shall have a maximum 5% slope in the direction of travel with a maximum 2% cross slope. Also, continuous gradients shall have a resetting area of 60" per section 11B-403.7 CBC. **PC.2, see the comment at the foundation and site work portion of this permit.**
8. Provide a note for all floor surfaces to be non-slip per section 11B-302.1 CBC. Grating & opening along the accessible path of travel comply with 11B-302.3 CBC. **PC.2, see the comment at the foundation and site work portion of this permit.**

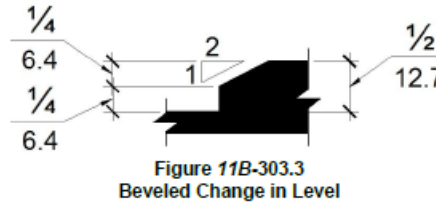


**Figure 11B-302.3**  
**Elongated Openings in Floor or Ground Surfaces**

12. Amend the plans and provide an accessible route of travel for *all elements* within the site per section 11B-206.2.2 CBC for the following: If trash enclosure(s) are provided, show an accessible path of travel to its location. Include details as required for accessible walkways, ramps and domes leading to this site element. **PC.2, see the comment at the foundation and site work portion of this permit.**
15. Provide 12" on the strike side of the door where both a latch and closer are provided. **PC.2, new comment based on the revised plans. Sheet A.06.111 was not included with the hard copy set of plans. Additional comments may be provided.**
16. Because of the concrete wall thickness, identify the locations on the plans and show the required maximum 8" from the edge of the wall or wall panel and the door jamb stop per

section 11B-404.2.4.3 CBC. **PC.2, new comment based on the revised plans. Sheet A.06.111 was not included with the hard copy set of plans. Additional comments may be provided.**

21. Show a maximum threshold height of  $\frac{1}{2}$ " at all doors as required. The threshold configuration is  $\frac{1}{4}$ " to  $\frac{1}{4}$ " to maximum  $\frac{1}{2}$ ". **PC.2, sheet A.06.801 was not included with the plan set. Additional comment may be provided.**



22. All pictorial and tactile signage shall be installed to meet the heights per 11B-703.4.1. **PC.2, the restroom door signage as not provided at sheet A.06.230. Additional comment may be provided**
25. Show all counters to have a maximum installation height of 34" AFF. Provide access to counters with sinks below. Provide a space of 30"x48" with required knee clearance under the sinks. Also ensure the door and kick to be integral. Add a note that all faucets are to lever type with a maximum operating pressure of 5#. All pipes under the sink shall be insulated. Include a detail on the plans. **PC.2, sheet A.06.901 was not included with the plan set. Additional comment may be provided.**
28. Provide information and details for the accessible restroom on the plans. Show compliance with section 11B-603 CBC, include the following but not limited to: Clearances and dimensions at all fixtures, and the door(s). The required 5'-0" circle within the restroom. At the single restroom, show 5'-0" clear space serving the toilet. Show the dimension measured at the wall serving the toilet to the edge of the sink. A minimum 5'-0" clear circle is required. Provide details for access to the and at the sink. Include the required signage per sections 11B-216.8.1, and 11B-703.7.2.6 CBC. **PC.2, new comment based on the revised plans. Sheet A.06.111 was not included with the hard copy set of plans. Additional comments may be provided.**
29. Provide a note for all floor surfaces to be non-slip per section 11B-302.1 CBC. Also, detail the maximum height of  $\frac{1}{2}$ " between different flooring material on the plans. **PC.2, the plans refer to sheet A.06.070. Provide a note or detail for the maximum flooring material to be  $\frac{1}{2}$ ".**
30. Show the location of all *tactile signs* on the plans per section 1013.4 CBC. Detail the installation of the signs per sections 11B-703.4.1 and 703.4.2 CBC. Note all signage shall be on the strike side of the door and with double doors show the signage on the right side of the door. **PC.2, show the location of the sign on the maintenance building floor plan.**
34. **PC.2, new comment based on the revised plans. Sheet A.06.111 was not included with the hard copy set of plans. Additional comments may be provided.**

### Architectural comments:

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7. Show the fire rating of all exterior walls per table 602 CBC. Provide construction details and UL listings for all rated wall construction on the plans. **PC.2, at sheet A.06.110 refer to the one-hour fire rated wall detail and wall tag 313A at the east property line wall.**
8. Provide a window schedule on the plans.
9. The door schedule is missing doors and is incomplete; see the redlines at sheet A.06.100. Doors 463 and E747 are missing. Also, include door elevations to verify some of the accessible door features. **PC.2, at the door schedule, identify lever type hardware at all doors.**
13. Provide a detail showing the required slab vapor barrier and the minimum thickness on the plans based on the soils report. **PC.2, at sheet S.06.110 no note for the required vapor barrier was found.**
22. When sizing the roof drains, overflow drains, scuppers leaders use tables 1105.1(1), 1105.1(2), 1101.8, 1101.12 or 1103.3 CPC. When sizing roof drainage systems, use 2" rainfall per hour. Please include this same information on the plumbing drawings. **PC.2, detail the required supper and over flow drain in the plans based on 2" rain fall per hour.**
23. Detail and size all roof drains, overflow drains, scuppers & leaders per sections 1503.4 CBC & 1101.12 through CPC. **PC.2, detail the required supper and over flow drain in the plans based on 2" rain fall per hour.**
24. Per section 1204 CBC, provide heating for the workroom. Amend the mechanical plans to justify the heating system.
25. Provide natural ventilation for the maintenance and garage areas per section 402.2 CMC. For buildings providing mechanical ventilation systems show compliance with section 402.3 CMC. Provide calculations for mechanical ventilation with minimum ventilation rates per table 402.1 CMC. Provide calculations for minimum exhaust rates per table 403.7 CMC. In addition, provide makeup air calculations and makeup vent locations on the plans for the loss of air due to the exhaust design. **PC.2, no ventilation calculations were found on the plans. No permanent ventilation opening was found on the plans.**
26. When calculating areas and when used for human occupancy use 15cfm per person per section 120.1 (b).2 CEC. **PC.2, no ventilation calculations were found on the plans. No permanent ventilation opening was found on the plans.**
29. Show and detail compliance with section 1210.2.1 and 1210.2.2 CBC, for wall and floor finishes within all restrooms. Include required green board and a minimum 4" base. **PC.2, the plans do not comply with the noted code sections.**
30. Add a note on the plans and showing all wall and ceiling finishes comply with table 803.11 CBC for maximum flame spread and smoke density. Provide testing information for showing compliance with such table. **PC.2, no note was found on the plans.**
31. Add a note on the plans showing all flooring materials comply with section 804.1 CBC. **PC.2, sheet A.06.70 was not included with the set of plans.**
32. Specifications, provide manufacturer's spec for the following installations: **PC.2, no spec's where provide with the hard copy of plans.**
  - a) Roofing material showing the minimum fire rating (with a UL listing)
  - b) Showing the CRRC number for the proposed roofing material
  - c) Building grooved siding
  - d) Exhaust fans
  - e) HVAC equipment

## Green building comments:

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2. Provide protected entrances with an overhang or awing per section 5.407.2.2.1 CGBC. **PC.2, sheet A.06.xxx could not be found. Sheet A.06.111 was not included with the hard copy set of plans. Additional comments may be provided.**
6. Comply with section 5.106.8 for light pollution. See table 5.106.8 show compliance on the plans and submit information about the lighting fixtures. **PC.2, ensure and show the electrical site plan complies with this requirement, which may be part of the foundation and site improvement portion of the permit.**
7. Show compliance with sections 5.303.3 for water conserving plumbing fixtures:
  - b) Lavi's 0.5gal **PC.2, no maximum GPM were found at sheet P.06.030.**
  - c) Kitchen faucets 1.8 **PC.2, no maximum GPM were found at sheet P.06.030.**
9. Amend the plans and comply with section 5.507.4 for environmental comfort due to exterior noise transmission. In addition, provide a letter from your noise consultant showing compliance with the noted code section. **PC.2, the report at sheet G.06.220 calls for specific wall, ceiling and window STC requirements. The STC rating shown at the window schedule and the wall and ceiling details do not comply with the report. Revise the plans showing compliance.**

<b>Mechanical, Electrical &amp; Plumbing Plan Review Comments</b>
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## Mechanical comments:

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3. Per section 1204 CBC, provide heating for the workroom. Amend the mechanical plans to justify the heating system. **PC.2, no ventilation calculations were found on the plans. No permanent ventilation opening was found on the plans.**
4. Provide natural ventilation for the for the maintenance and garage areas per section 402.2 CMC. For buildings providing mechanical ventilation systems show compliance with section 402.3 CMC. Provide calculations for mechanical ventilation with minimum ventilation rates per table 402.1 CMC. Provide calculations for minimum exhaust rates per table 403.7 CMC. In addition, provide makeup air calculations and makeup vent locations on the plans for the loss of air due to the exhaust design. **PC.2, no ventilation calculations were found on the plans. No permanent ventilation opening was found on the plans.**

## Electrical comments:

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4. Show the locations of the maintenance panel, panel H-11 and the electrical service providing power to maintenance panel, panel H-11. **PC.2, at sheet E.06.110 show the location and label panel H-11 on the plans.**
5. Provide the following for bonding and grounding of the electrical system as required by article 250.50 & table 250.66 CEC. Show the size and type of all conductors on the plans. **PC.2, at sheet E.06.511 the sheet notes are missing.**
  - a) The metal underground piping, show the size of all conduits and conductors within 5' of the entrance of the building. Add a note for the GEC connected to the metal underground piping shall be within 5' of the entrance of the building.

- b) Metal building or structure; show the size of all conduits and conductors
  - c) Concrete encased electrode, (UFER) show the size and length of the conductor
  - d) Supplemental electrodes, show the size of all conduits and conductors
6. The main electrical service and panel H-11, providing power to the maintenance building will be amended with comments under a different cover. Provide the supply bond jumper and load side bond jumper of the electrical system as required by table 250.102 (c) (1) for supply side & table 250.122 CEC. **PC.2, at sheet E.06.511 show the size of the main bond jumpers at all locations.**

### **Plumbing comments:**

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- 2. The civil plans were not complete, so the drainage from the building is still under the review and approval process. **PC.2, the foundation and site improvement plans are not approved.**
- 7. Per sections 707 & 719 CPC, show the location on the plans for required cleanouts: **PC.2, provide a cleanout at the kitchen sink.**
  - 1. End of line and a change of direction of 135degrees
  - 2. Outside the building foundation
- 20. Provide form NRCC-PLB-01-E for the water heater installation on the plans. **PC.2, no water heater form was found at sheet P.06.030.**
- 24. The water heater shall be elevated a minimum 3" stand AFF per section 507.3 CPC. **PC.2, no note was found at sheet P.06.210.**
- 26. Provide an **expansion tank** if the water system is a closed loop with backflow device. **PC.2, the size of the tank was not shown on the plans and not included at the water heater equipment schedule.**

### **Energy indoor lighting comments:**

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- 1. Provide Title 24 energy compliance for the proposed indoor lighting, with signed forms on the plans per section 10-103 (a) 2A CEC. **PC.2, the proposed 370watts of indoor lighting exceeds allowed indoor lighting wattage per the energy calculations of 252watts.**

### **Energy outdoor lighting comments:**

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- 1. Provide Title 24 energy compliance for the proposed outdoor lighting, with signed forms on the plans per section 10-103 (a) 2A CEC. **PC.2, the energy calculations did not include any allowed outdoor lighting wattages.**

<b>Civil Plan Review Comments</b>
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### **Civil comments:**

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**PC.2, see the outstanding comments at the foundation and site improvement comments for PC.3.**

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**END**