# Development Services

## From Concept to Construction

Phone: 503-823-7300 Email: bds@portlandoregon.gov 1900 SW 4th Ave, Portland, OR 97201
More Contact Info (http://www.portlandoregon.gov//bds/article/519984)

## APPEAL SUMMARY

**Status:** Decision Rendered

| | |
|---|---|
| **Appeal ID:** 23391 | **Project Address:** 2351 NE 51st Ave |
| **Hearing Date:** 1/29/20 | **Appellant Name:** Tom Jaleski |
| **Case No.:** B-010 | **Appellant Phone:** 9712385266 |
| **Appeal Type:** Building | **Plans Examiner/Inspector:** Kathy Aulwes, Corey Stanley |
| **Project Type:** commercial | **Stories:** 6 **Occupancy:** R-2, M, S-2 (ACCESSORY) **Construction Type:** III-B |
| **Building/Business Name:** Sandy.51 | **Fire Sprinklers:** Yes - Throughout |
| **Appeal Involves:** Erection of a new structure | **LUR or Permit Application No.:** 17-169659-CO |
| **Plan Submitted Option:** pdf [File 1] [File 2] [File 3] [File 4] [File 5] [File 6] [File 7] | **Proposed use:** Residential |

## APPEAL INFORMATION SHEET

### Appeal item 1

| | |
|---|---|
| **Code Section** | 704.10 |
| **Requires** | 704.10 Load bearing structural members located within external walls shall be provided with the highest fire –resistance rating as determined in Table 601.<br><br>703.3 Alternate methods for determining fire resistance.<br>The fire-resistance rating of building elements, components or assemblies shall be determined in accordance with the test procedures set forth in ASTM E 119 or UL 263 or in accordance with OSSC. Where materials, systems or devices that have not been tested as part of a fire-resistance-rated assembly are incorporated into the building element, component or assembly, sufficient data shall be made available to the building official to show that the required fire-resistance rating is not reduced. Materials and methods of construction used to protect joints and penetrations in fire-resistance-rated building elements, components or assemblies shall not reduce the required fire-resistance rating. |
| **Code Modification or Alternate Requested** | Sandy.51 is a new mixed-use/multi-family project being developed in Portland, Oregon. It will be under<br>the jurisdictional review of the City of Portland. The proposed design is six stories of Type III-B (Levels 2-6) over Type I-A (Level 1) construction. The design includes steel beams under an exterior load bearing wall which do not meet the prescriptive code requirements or do not match a tested fire restive assembly. Since they are structural members supporting exterior walls, they are required to be 2-hr fire resistance rated per 2014 OSSC Table §601.<br>An Engineering Judgment (EJ) to evaluate the proposed beam protection measures has been provided (Attached). |

**Proposed Design**

The proposed design assembly are for steel beams supporting the exterior wall above. The steel beams are to be individually encased and protected for a 2-hr fire resistance rated per 2014 OSSC §704.3.

As shown on Figure 1 (b-e), beams (Minimum W12x35) are protected with gypsum wallboard (GWB) only. Figure 1f adds Mineral Wool to extend the fire rating of Beam W12x26.

These beam assemblies supporting the exterior walls above (highlighted in Figure 1a) are required to be 2-hour fire-resistance rated per OSSC Table 601.

The proposed structural beams (W12x26(W/D=0.612) and W12x35 (W/D=0.81)) supporting the wall above in the Type IIIB portion of the building and are required to be protected for a 2-hr rating per OSSC, Table 601.
The steel beam supporting the exterior wall above will be protected as a unit assembly with the assumption the fire will be from the floor below per ASTM E119 testing. The support beams with a W/D ratio larger than 0.7 will match the basis of the UL testing per ULN501 (Fig. 2), While the W12x35 beam is 13% lighter than the UL tested assembly.
For this beam only, mineral wool will be added to the assembly to isolate the beam from external heating and extend the fire rating to meet OSSC minimum requirement. The joint between the vertical GWB and the plywood sheathing will be protected with a ¼" bead of fire calking to ensure the joint will not be compromised during a fire condition.

It should also be noted the assembly will be installed above a rated ceiling which will dramatically add to the fire resistance of the beam protection on these gridlines.

These protection measures for the beams, is analyzed in the EJ table #1. The additional protection measures for the thinnest beam, W12x26 are highlighted.The beam assembly protection as detailed above is a conservative application of ASTM, E119, UL N501, as the GWB encapsulation is provided above a rated ceiling.

**Reason for alternative**

The design includes steel beams under an exterior load bearing wall which do not meet the prescriptive code requirements or do not match a tested fire restive assembly. Since they are structural members supporting exterior walls, they are required to be 2-hr fire resistance rated per 2014 OSSC Table §601.

Protection is provided with a Type X GWB membrane, composed of 2 layers of 5/8" thickness and fire caulking at the joint adjacent the plywood sheathing. The assembly evaluation utilized protection guidelines as tested in UL N501, simultaneously exposed to heat on three sides. The protection level as proposed will be superior, as the modified assembly is only potentially exposed to fire from the interior (cavity) sides or below, while the exterior wall and roof above will allow for heat dissipation to exterior from the steel members.

As evaluated in the attached EJ, developed by an Oregon Registered Fire Protection Engineer, a combination of protection measures ensures the existing beam will be protected for the minimum 2-hour fire-resistance as required by the OSSC.

We ask that you review the attached EJ Letter and grant this appeal.

## APPEAL DECISION

**Alternate 2 hour beam assemblies with engineering analysis: Granted as proposed.**

The Administrative Appeal Board finds that the information submitted by the appellant demonstrates that the approved modifications or alternate methods are consistent with the intent of the code; do not lessen health,

safety, accessibility, life, fire safety or structural requirements; and that special conditions unique to this project make strict application of those code sections impractical.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 90 calendar days of the date this decision is published. For information on the appeals process, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.


# CODE UNLIMITED, LLC

## Engineering Judgement Letter

## Sandy 51 - EJ

Fire Protection-Steel Beam

Client Name: TVA Architects

Client Address: 920 SW Sixth Avenue, Suite 1500 Portland, OR 97204

Date: 1/22/2020

# Table of Contents

# 1 PROJECT OVERVIEW

Sandy.51 is a new mixed-use/multi-family project being developed in Portland, Oregon. It will be under the jurisdictional review of the City of Portland. The proposed design is six stories of Type III-B (Levels 2-6) over Type I-A (Level 1) construction. The design includes steel beams under an exterior load bearing wall which do not meet the prescriptive code requirements or do not match a tested fire resistive assembly. Since they are structural members supporting exterior walls, they are required to be 2-hr fire resistance rated per 2014 OSSC Table §601.
Code Unlimited has been asked to provide an Engineering Judgment (EJ) to evaluate the proposed beam protection measures.

# 2 APPLICABLE CODES, STANDARDS, AND GUIDES

- 2014 Oregon Structural Specialty Code

# 3 APPROACH

- The proposed assembly has been analyzed in accordance with 2014 OSSC §703.3 **Alternative Methods for Determining Fire Resistance**.
- Portions of the tested assembly are modified to suit the unique design condition. The modification is analyzed for equivalency using published fire test data and acceptable fire science principles.
- The proposed design has been evaluated by an Oregon Licensed Fire Protection Engineer.

# 4 PROPOSED DESIGN

The proposed design assembly are for steel beams supporting the exterior wall above. The steel beams are to be individually encased and protected for a 2-hr fire resistance rated per 2014 OSSC §704.3.

As shown on Figure 1 (b-e), beams (Minimum W12x35) are protected with gypsum wallboard (GWB) only. Figure 1f adds Mineral Wool to extend the fire rating of Beam W12x26.

These beam assemblies supporting the exterior walls above (highlighted in Figure 1a) are required to be 2-hour fire-resistance rated per OSSC Table 601.

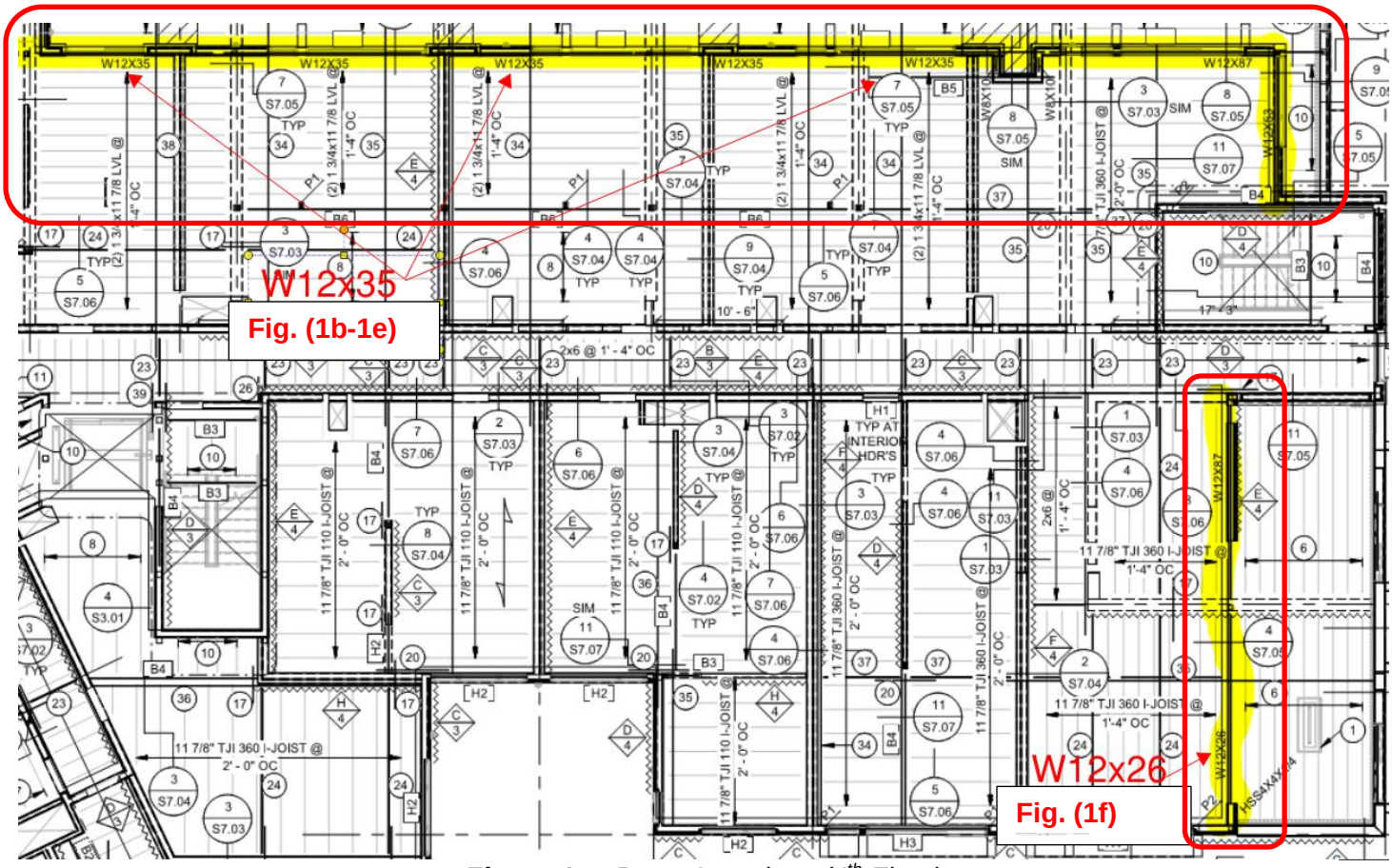



***Figure 1a:*** *Beam Locations (4th Floor)*

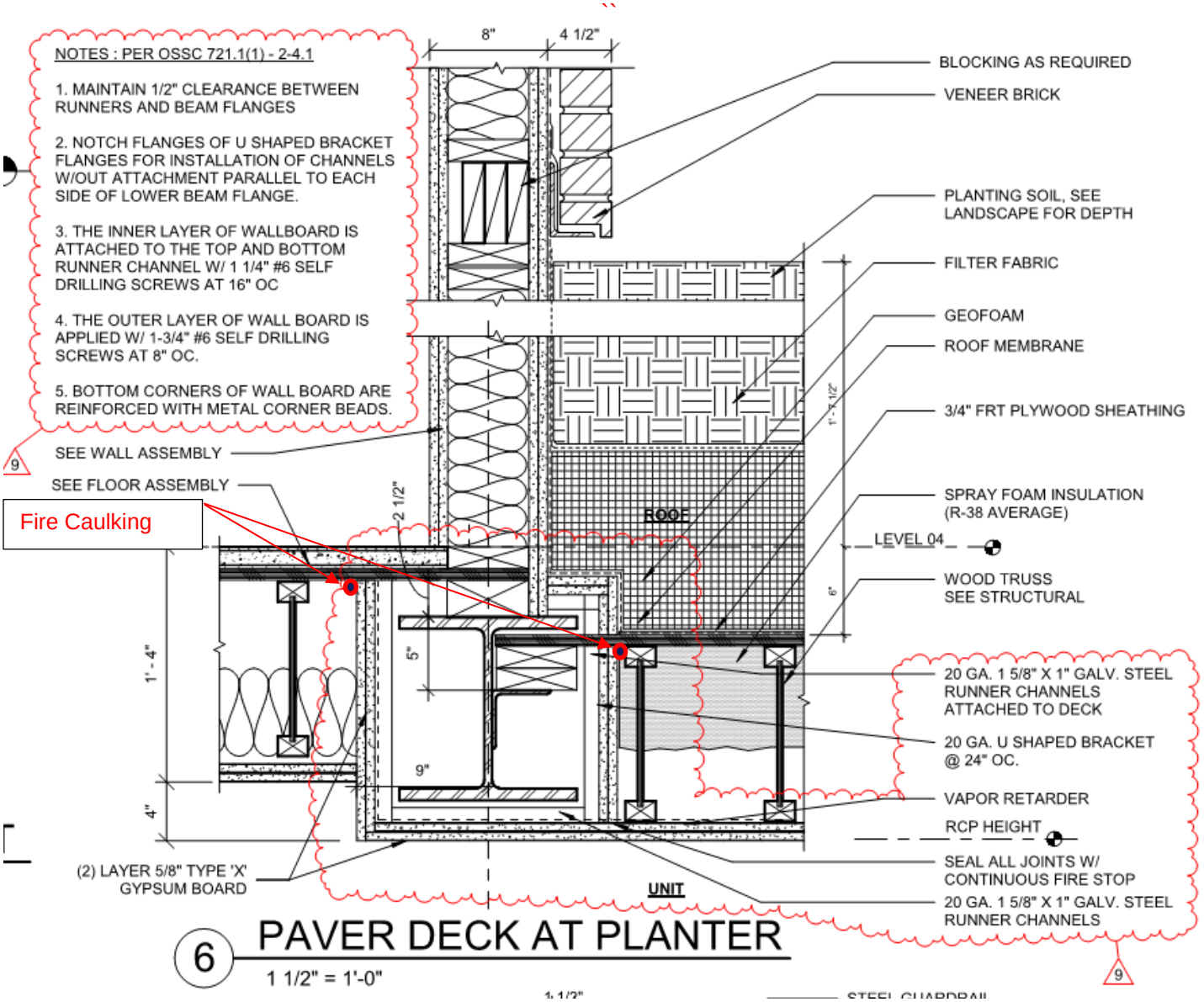



***Figure 1b:*** *Beam Protection (Condition B)*

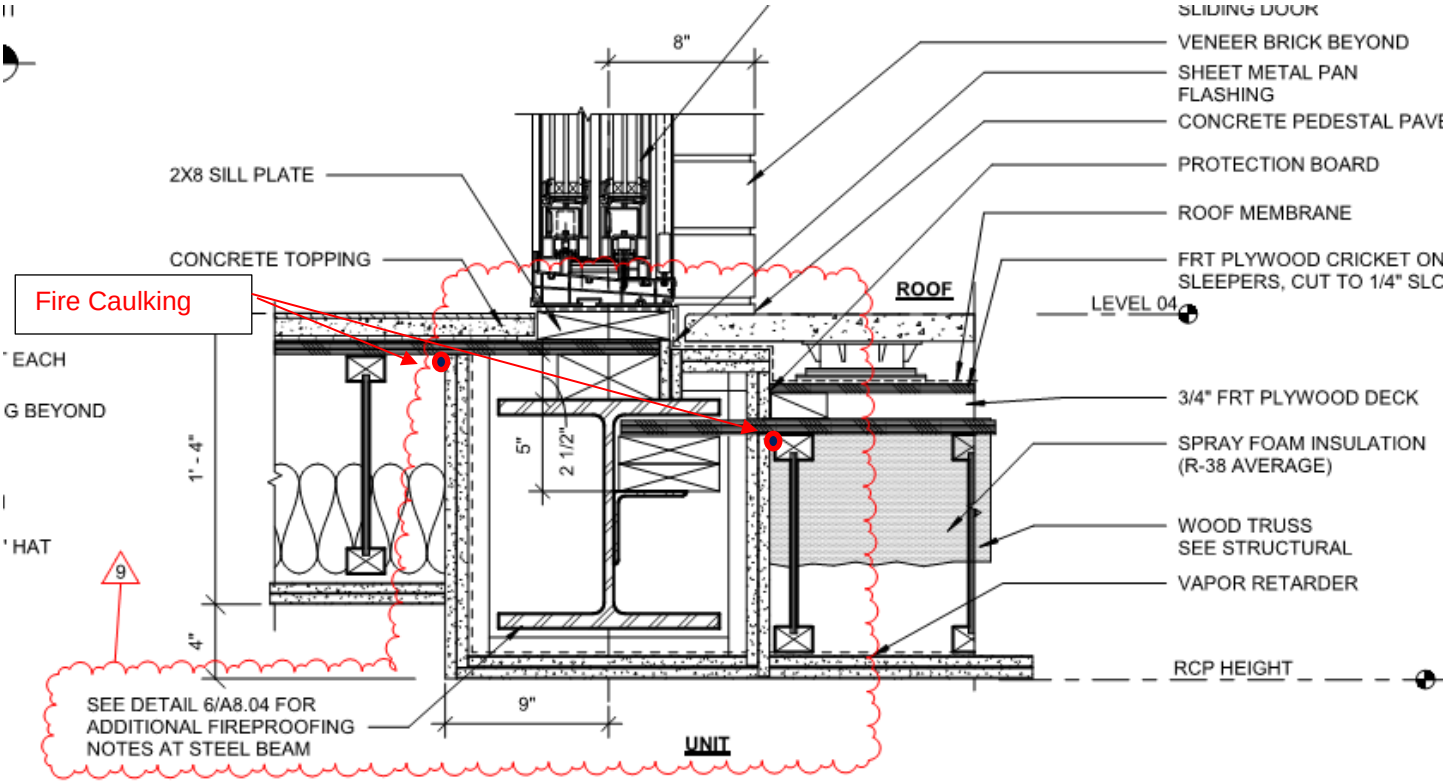



***Figure 1c:*** *Beam Protection (Condition C)*

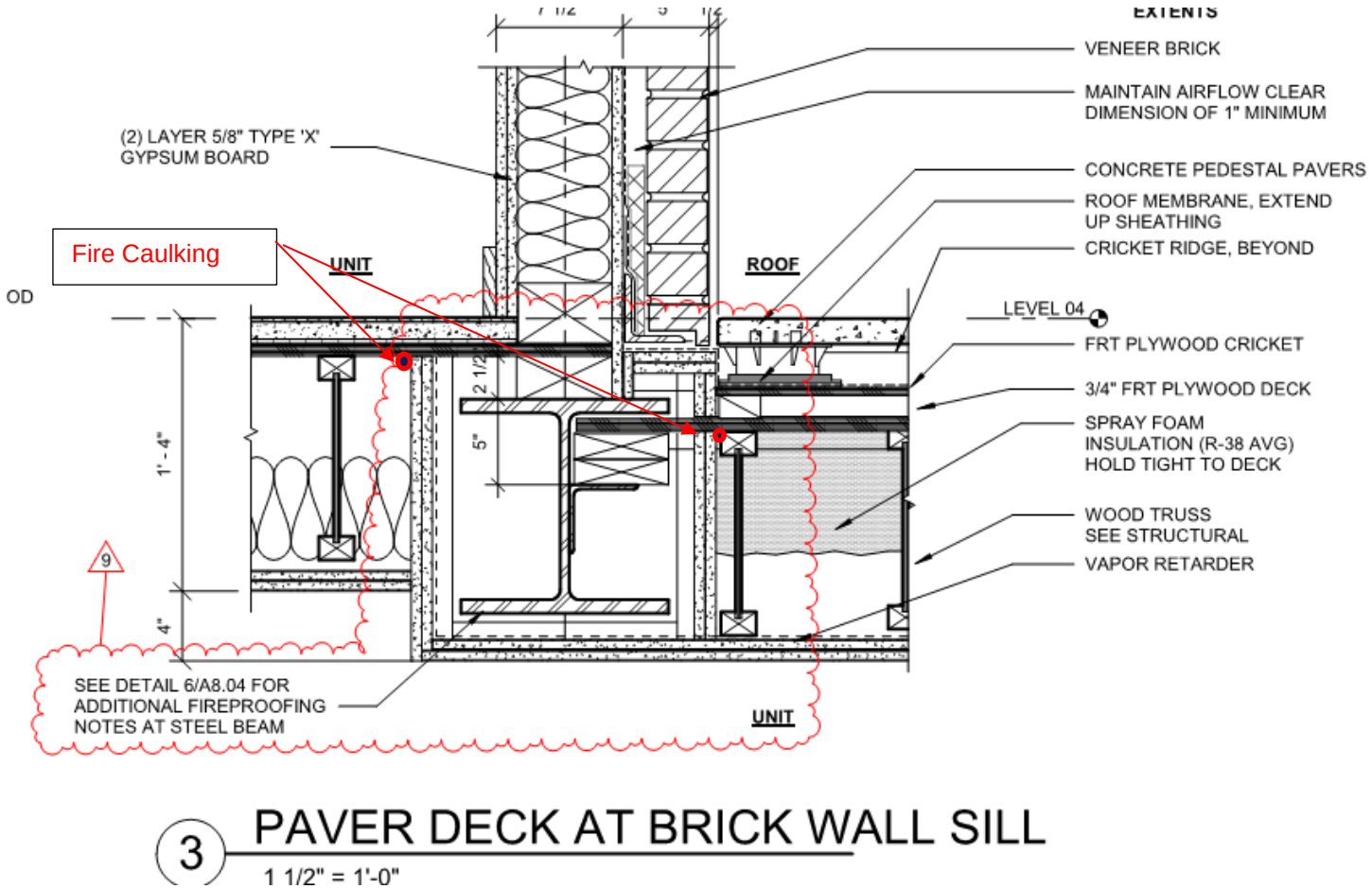



***Figure 1d:*** *Beam Protection (Condition D)*

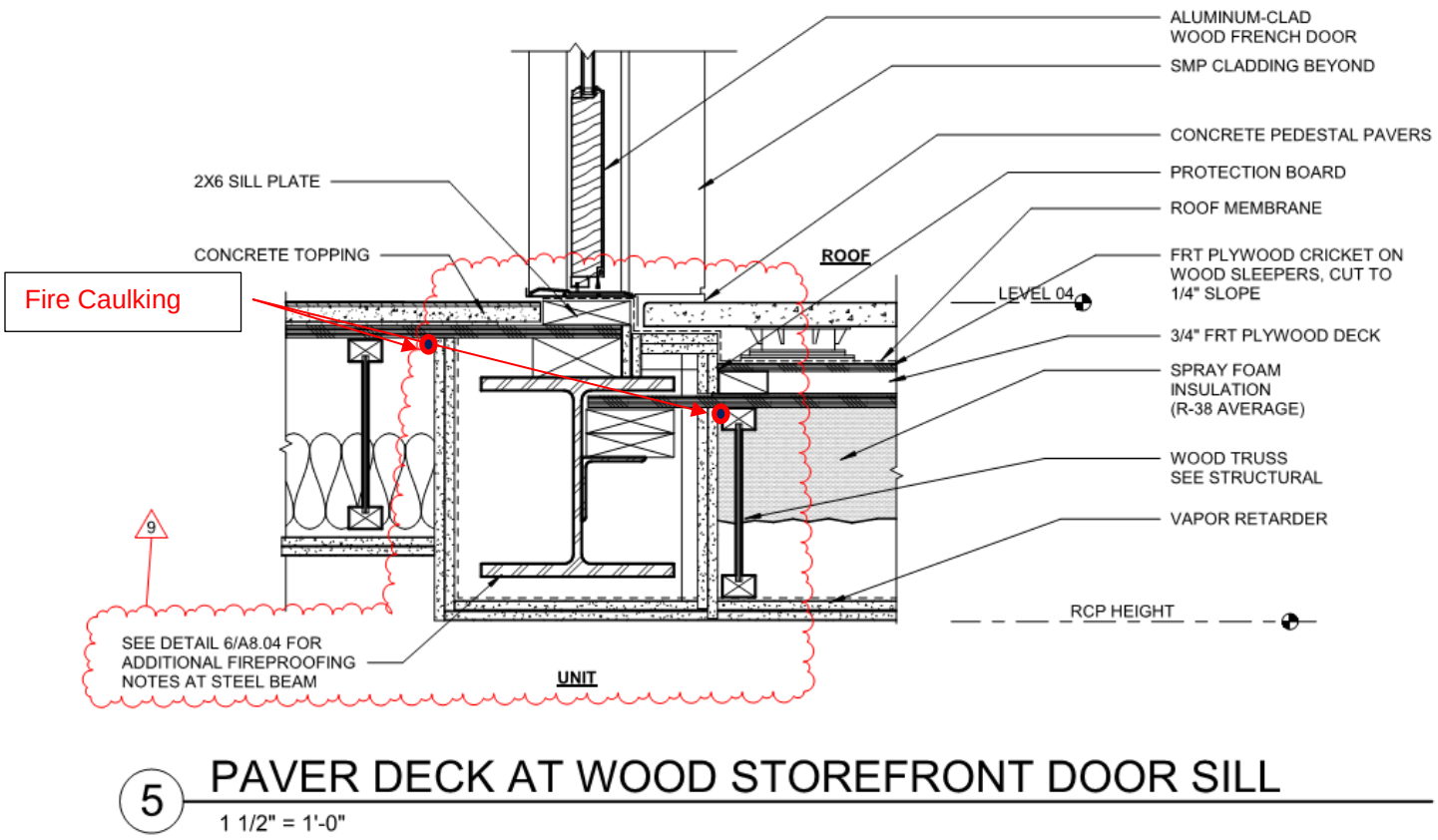



***Figure 1e:*** *Beam Protection (Condition E)*

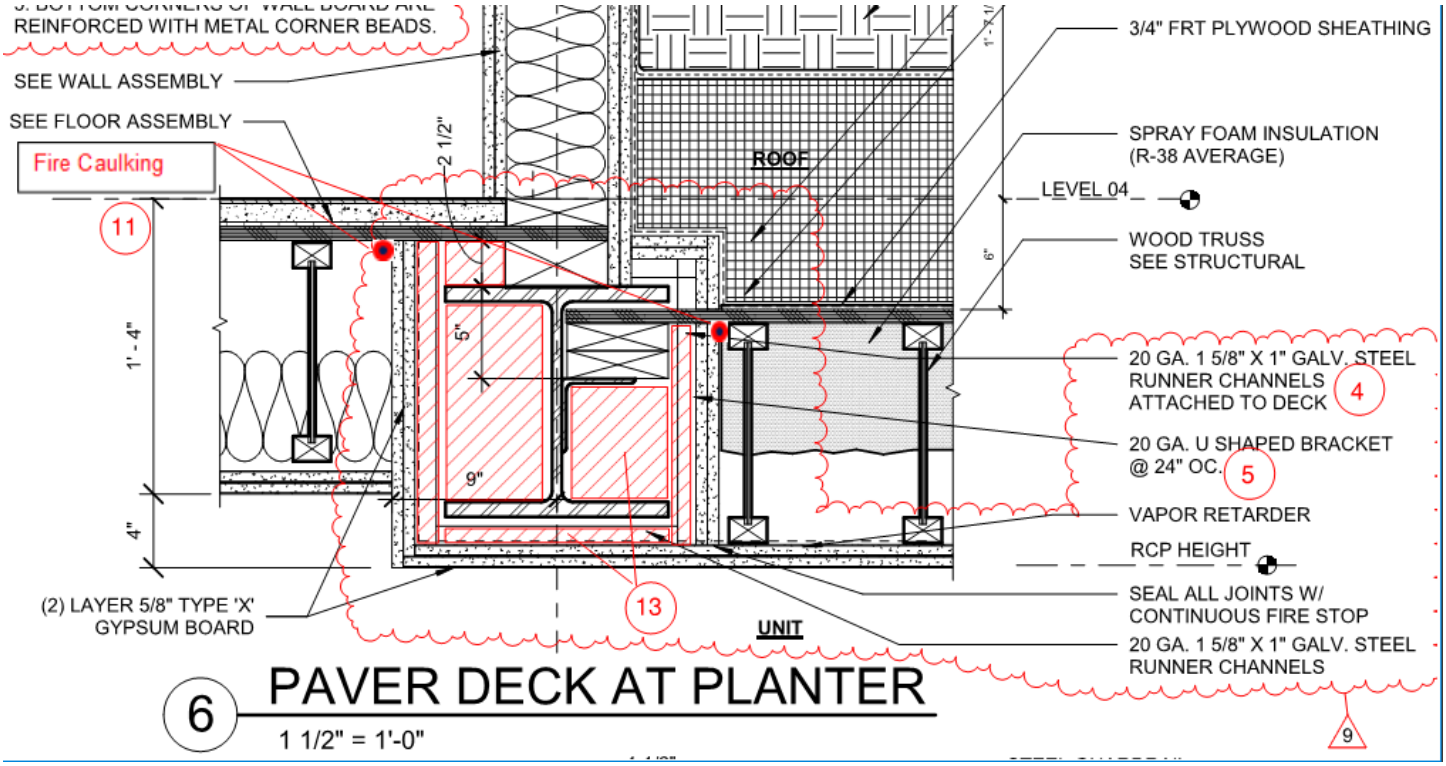



***Figure 1f:*** *Beam Protection (Condition F (**W12-26 Only**))*
***(Detail for Table Below)***

# Design No. N501

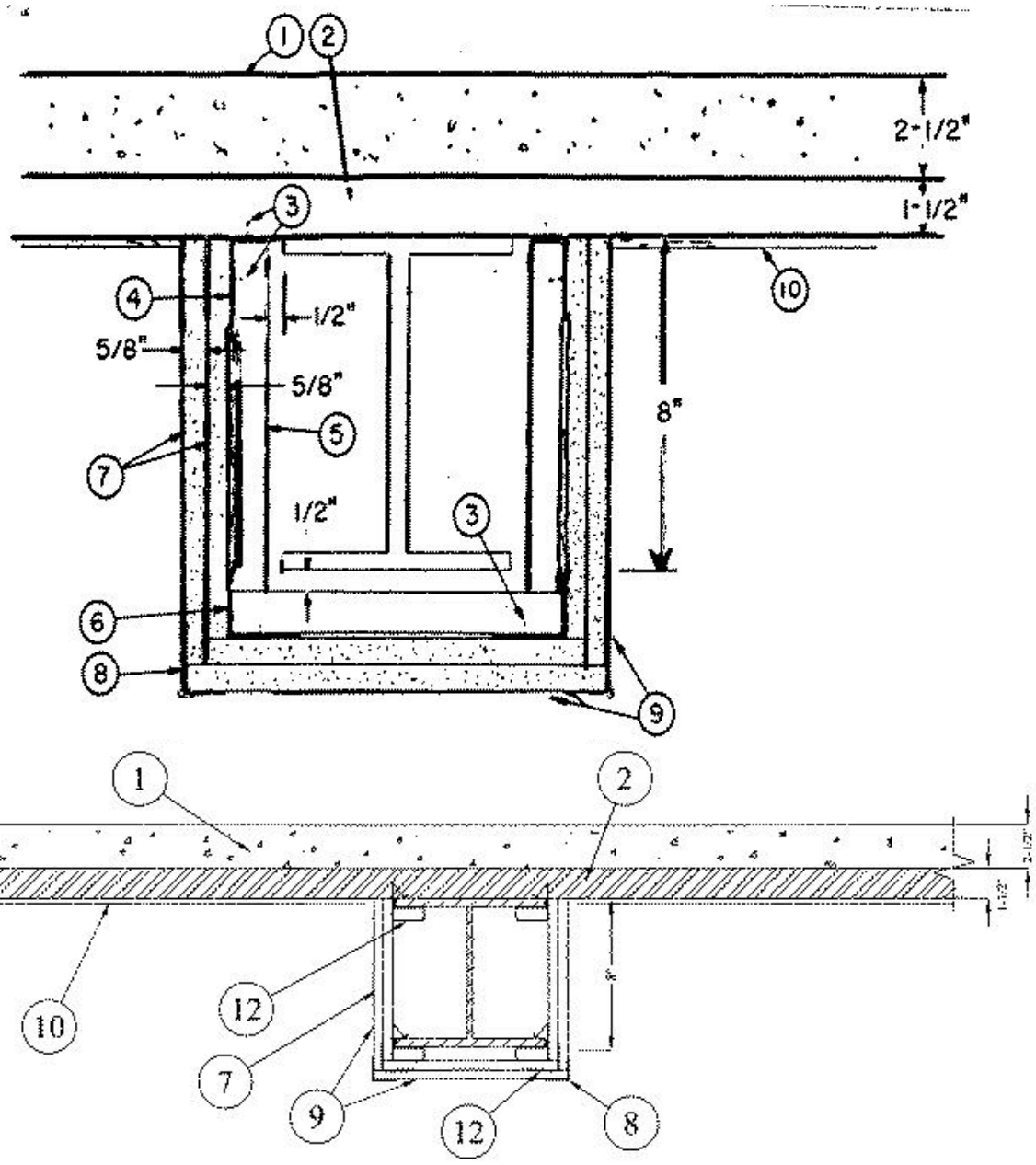
July 06, 2018

**Restrained Beam Rating — 2 Hr.**

**Unrestrained Beam Rating — 2 Hr.**

**This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7**

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



**Steel Beam** — Min size, a W8X24 with outside dimensions of 7-7/8x6-1/2 in. with a flange thickness of 3/8 in., a web thickness of 1/4 in., and a cross-sectional area of 7.06 sq in.

1. **Normal Weight Concrete** — 148 pcf.

2. **Steel Floor and Form Units*** — 1-1/2 in. fluted type, welded to beam.

3. **Drill Screw** — No. 8-18 by 1/2-in. long Phillips panhead drill screws, self-drilling and self-tapping, made of case-hardened steel.

4. **Runner Angle** — 24 MSG galv steel with 1 and 2-in. legs. Fastened to steel deck 12 in. O.C. with Item 3.

5. **Channel Bracket** — Fabricated from 25 MSG galv steel, 1-11/16 in. deep with 1-in. legs and spaced 24 in. O.C. Fastened to the runner angles with Item 3.

6. **Corner Angle** — Same material as Item 4, fastened to channel brackets with Item 3.

7. **Gypsum Board*** — 5/8 in. thick. First layer fastened with 1-1/4 in. long, 0.150 in. diam screws spaced 16 in. O.C. Second layer attached with 1-3/4 in. long, 0.150 in. diam screws spaced 8 in. O.C. Screws are self-drilling and self-tapping Phillips head made of case-hardened steel.

8. **Corner Bead** — Fabricated from 20 MSG galv steel to form an angle with 1-1/4 in. legs. Legs perforated with 1/4 in. diam holes approx 1 in. OC. Attached to wallboard with special crimping tool approx 6 in. OC. As an alternate, the bead may be nailed to the wallboard.

9. **Joint Compound** — 1/32 in. thick on bottom and sides of wallboard from corner beads and feathered out. Paper tape embedded in joint compound over joints with edges of compound feathered out.

10. **Protective Material — Spray-Applied Fire Resistive Materials*** — Spray applied to the underside of the steel floor units, filling the flutes of the units and providing a smooth ceiling which was 1/4 in. thick as measured from the bottom plane of the floor units.

See Spray-Applied Fire Resistive Materials (CHPX) category for names of manufacturers.

11. **Alternate Joint System** — (Not Shown) — For lath only. A 1/16 in. thickness of gypsum plaster applied to entire exposed surface over either paper tape on joints embedded in cementitious compound or 2 1/2 in. wide glass fiber tape stapled 8 in. OC on joints.

12. **Alternate Construction - Steel Framing Members*** — As an alternate to Items 3, 4, 5 and 6 steel clips attached to both sides of beam flanges 2 ft OC and at ends of beam. First layer of gypsum board fastened to steel clips with 1-1/4 in. long Type S drywall screws. 2 in. by 2 in. 25 MSG angle fastened to clips on bottom portion of assembly with 2 in. long Type S drywall screws. Second layer of gypsum board fastened to angle and steel clips with 2 in. long Type S drywall screws, spaced 2 ft OC. Screws are self-drilling and self-tapping Phillips head made of case-hardened steel.

**Figure 2:** UL N501

# 5 ASSEMBLY ANALYSIS

The proposed structural beams (W12x26(W/D=0.612) and W12x35 (W/D=0.81)) supporting the wall above in the Type IIIB portion of the building and are required to be protected for a 2-hr rating per OSSC, Table 601.

The steel beam supporting the exterior wall above will be protected as a unit assembly with the assumption the fire will be from the floor below per ASTM E119 testing. The support beams with a W/D ratio larger than 0.7 will match the basis of the UL testing per ULN501(Fig. 2), While the W12x35 beam is 13% lighter than the UL tested assembly. For this beam only, mineral wool will be added to the assembly to isolate the beam from

external heating and extend the fire rating to meet OSSC minimum requirement. The joint between the vertical GWB and the plywood sheathing will be protected with a ¼" bead of fire calking to ensure the joint will not be compromised during a fire condition.

It should also be noted the assembly will be installed above a rated ceiling which will dramatically add to the fire resistance of the beam protection on these gridlines.

These protection measures for the beams, is analyzed in the table below. The additional protection measures for the thinnest beam, W12x26 are highlighted.

**Table 1: Comparison between proposed (W12x26) beam assembly and UL Design No. N501**

| Elements | UL Assembly N501(Fig. 2) | Proposed Assembly (Figure 1f) |
|---|---|---|
| Steel Beam | W8x24 (W/D = 0.70) | The proposed design uses a W12x26 beam. (W/D = 0.61) **Less than tested beam W/D ratio.** |
| 1. Normal weight concrete. | 148 pcf | 704.3 in 2014 OSSC requires individual encasement protection on exposed faces. |
| 2. Steel floor and form units. | 1-1/2 in. fluted type, welded to beam. | Not applicable in analysis |
| 3. Drill screw | No. 8-18 by 1/2-in. long Phillips panhead drill screws, self-drilling and self-tapping, made of case-hardened steel. | No. 8-18 by 1/2-in. long Phillips panhead drill screws, self-drilling and self-tapping, made of case-hardened steel. |
| 4. Runner angle | 24 MSG galv steel with 1 and 2-in. legs. Fastened to steel deck 12 in. O.C. with Item 3. | 20 GA 1-5/8" x 1" Galv. Steel Runner Channels |
| 5. Channel bracket | Fabricated from 25 MSG galv steel, 1-11/16 in. deep with 1-in. legs and spaced 24 in. O.C. Fastened to the runner angles with Item 3. | 20 GA. U-Shaped Bracket @ 24" O/C. |
| 6. Corner angle | Same material as Item 4, fastened to channel brackets with Item 3. | Same material as Item 4, fastened to channel brackets with Item 3. |
| 7. Gypsum board | 5/8 in. thick. First layer fastened with 1-1/4 in. long, 0.150 in. diam screws spaced 16 in. O.C. Second layer attached with 1-3/4 in. long, 0.150 in. diam screws spaced 8 in. O.C. Screws are self-drilling and self-tapping Phillips head made of case-hardened steel. | (2) layers of 5/8" Type X GWB surrounding the (ceiling interior) left/right sides and bottom of the beam. |

| Elements | UL Assembly N501(Fig. 2) | Proposed Assembly (Figure 1f) |
|---|---|---|
| 8. Corner bead | Fabricated from 20 MSG galv steel to form an angle with 1-1/4 in. legs. Legs perforated with 1/4 in. diam holes approx 1 in. OC. Attached to wallboard with special crimping tool approx 6 in. OC. As an alternate, the bead may be nailed to the wallboard. | Corner Bead fabricated from 20 MSG galv steel to form an angle with 1-1/4 in. legs. Legs perforated with 1/4 in. diam holes approx 1 in. OC. Attached to wallboard with special crimping tool approx 6 in. OC. |
| 9. Joint compound | 1/32 in. thick on bottom and sides of wallboard from corner beads and feathered out. Paper tape embedded in joint compound over joints with edges of compound feathered out. | 1/32 in. thick on bottom and sides of wallboard from corner beads and feathered out. Joint tape embedded in joint compound over joints with edges of compound feathered out. |
| 10. Spray-applied fire resistive materials (SFRM) | Spray applied to the underside of the steel floor units, filling the flutes of the units and providing a smooth ceiling which was 1/4 in. thick as measured from the bottom plane of the floor units. | Not included in analysis. |
| 11. Alternate Joint System | (Not shown) For lath only. | Fire Caulking filling the Joint between GWB and Plywood Sheathing. (Ensures Gap Protection) |
| 12. Alternate construction – steel framing members | As an alternate to Items 3, 4, 5 and 6 steel clips attached to both sides of beam flanges 2 ft OC and at ends of beam. | Not included in analysis. |
| 13. Additional Protection | Not Provided | Mineral Wool insulation to be added fill gap around beam. **(W12x35 Beam Only-Fig. 1f)** |
| **Fire Resistance** | **2-Hour** | **2-Hour (minimum)** |

# 6 CONCLUSION

The beam assembly protection as detailed above is a conservative application of ASTM, E119, UL N501, as the GWB encapsulation is provided above a rated ceiling.

Protection is provided with a Type X GWB membrane, composed of 2 layers of 5/8” thickness and fire caulking at the joint adjacent the plywood sheathing. The assembly evaluation utilized protection guidelines as tested in UL N501, simultaneously exposed to heat on three sides. The protection level as proposed will be superior, as the modified assembly is only potentially exposed to fire from the interior (cavity) sides or below, while the exterior wall and roof above will allow for heat dissipation to exterior from the steel members.

Based on the above evaluation, along with the referenced UL tested assembly, the beams will be protected for an equivalent 2-hour fire resistance. Through a combination of protection measures, the beam assemblies will be conservatively protected for the minimum 2-hour fire-resistance.

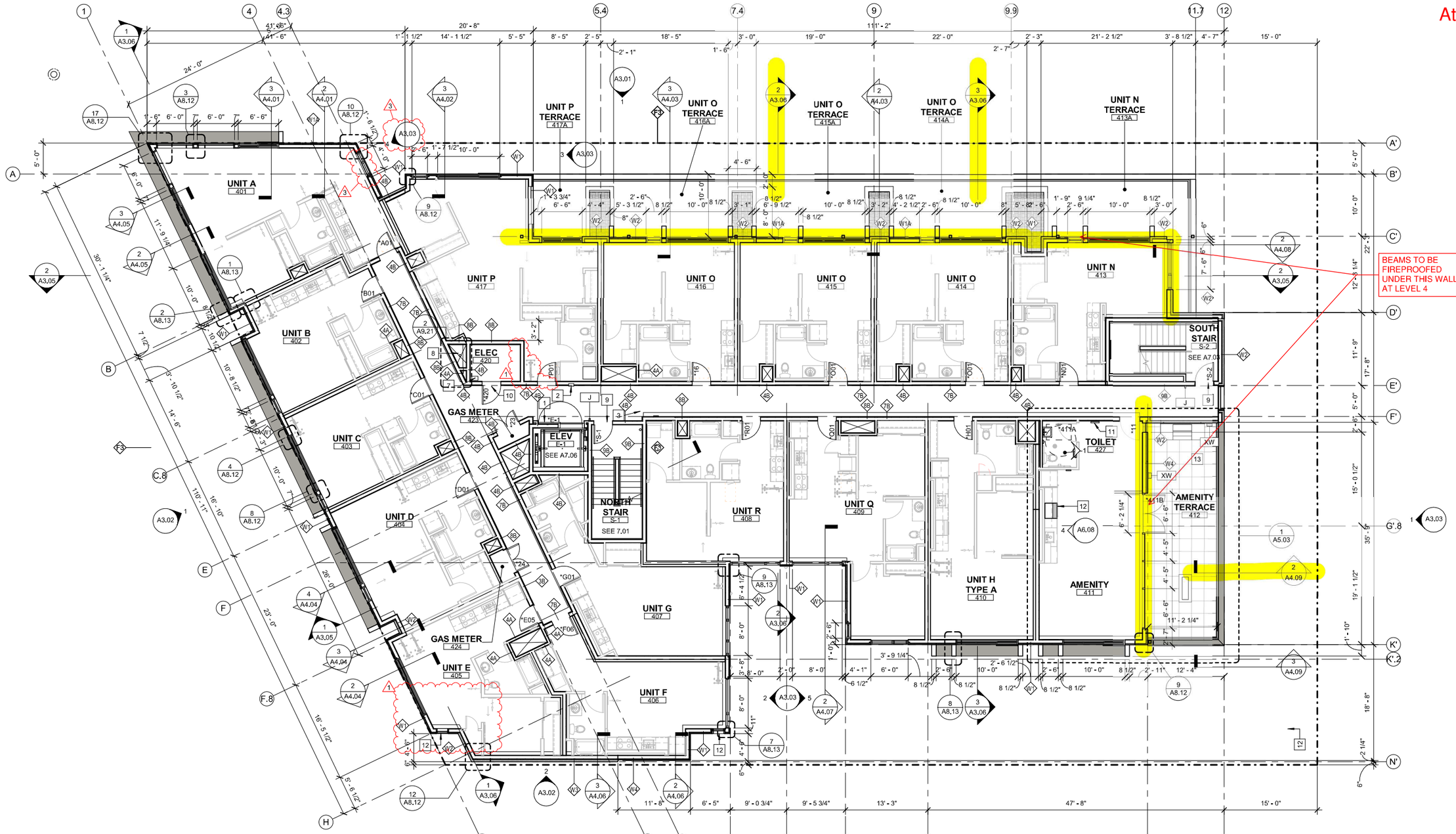

*Franklin Callfas*
Principal/Fire Protection Engineer
Code Unlimited

## FLOOR PLAN KEY NOTES - LEVELS 2-6

1. ELEVATOR SMOKE DOOR: GASKETED HM DOOR AND FRAME, WITH PASSAGE LEVER SET, DOOR CLOSER AND ON MAGNETIC HOLD OPEN COMPLIANT WITH UL 228, TIED TO BUILDING FIRE DETECTION AND ALARM SYSTEM. MAGNETIC HOLD OPEN TO RELEASE UPON FIRE ALARM ACTIVATION. DOOR IS COMPLIANT WITH GSSN UL 10C, NFPA 105, PER OSSC 715.5.3.1. SMOKE GASKETS ON DOORS COMPLIANT WITH UL 1784-01.
2. 2 WAY COMMUNICATION STATION, ADJACENT TO ELEVATOR, TYP, SEE ELECTRICAL E1.00 TO E3.00.
3. FIRE STAND PIPE, SEE DEFERRED SPRINKLER SUBMITTAL FOR ADDITIONAL INFORMATION. STAND PIPE HOSE CONNECTIONS TO BE ORIENTED TO ALLOW FOR EASE OF CONNECTING AND OPERATING FIRE HOSE.
4. ELECTRICAL CONDUIT IN 2-HR RATED SHAFT. LEVEL 2 ONLY.
5. HSS COLUMN, SEE S2.03. WHEN INSTALLED IN RATED EXTERIOR WALL, PROVIDE MINERAL WOOL INSULATION FIREBLOCKING IN STUD CAVITIES ADJACENT TO COLUMN.
6. ROOF HATCH ACCESS LADDER, LEVEL 6 ONLY.
7. DAS SYSTEM IN ELECTRICAL ROOM, LEVEL 4 ONLY.
8. DAS CONDUIT IN 2 HR. SHAFT, ON LEVEL 2, XRAY PT-SLAB FOR DAS CONDUIT CORE THROUGH SLAB.
9. 1 1/2 HR. STAIR EXIT DOOR WITH CLOSER, LEVER HARDWARE, AND SMOKE GASKETS, COMPLIANT WITH OSSC 1008.1.9.11. PROVIDE CODE-REQUIRED STAIR ACCESS SIGNAGE. PROVIDE SIGNAGE AT LEVEL ONE EXTERIOR AND AT EACH FLOOR LEVEL STATING STAIRWAY CONTINUES TO ROOF, TYPICAL, NORTH AND SOUTH STAIRS.
10. PROVIDE PORTLAND FIRE BUREAU APPROVED SIGNAGE IDENTIFYING ALL ROOMS HAVING FIRE PROTECTION, ELECTRICAL, MECHANICAL AND ELEVATOR EQUIPMENT/MACHINERY. 1-HOUR RATED ELECTRICAL ROOM DOOR AND PLAINLY VISIBLE AND LEGIBLE SIGN STATING "ELECTRICAL ROOM" REQUIRED AT LEVELS 1 ELECTRICAL ROOM AND ELEVATED FLOOR LEVEL ELECTRICAL CLOSETS. PROVIDE PANIC HARDWARE ON MAIN ELECTRICAL ROOM DOOR COMPLIANT WITH NEC 110.26(c)(2).
11. ASSEMBLY OCCUPANCY SIGN POSTING PER PFC 1004.3: MAXIMUM 39 OCCUPANTS
12. TYPE I KITCHEN HOOD WITH FIXED EXTINGUISHING SYSTEM. SEE MECHANICAL.
13. GC TO COORDINATE GAS LINE STUB LOCATION FOR FUTURE FIRE TABLE AND/OR BBQ WITH PLUMBING AND ELECTRICAL DESIGN BUILDERS AT LEVEL FOUR AMENITY DECK. SEE DETAIL 4/P3.00 FOR FUEL ALARM INTERLOCK AND SHUTOFF.

## FLOOR PLAN GENERAL NOTES

1. DATUM ELEVATION 0'-0" EQUALS USGS ELEVATION 198'-0"
2. ALL INTERIOR NON-BEARING PARTITION DIMENSIONS ARE TO FACE OF FINISH.
3. ALL UNIT-UNIT DEMISING WALL DIMENSIONS ARE TO CENTERLINE OF PARTITION. SEE DETAIL 5/A8.07 FOR GRIDLINE RELATION TO FRAMING.
4. EXTERIOR DIMENSIONS ARE TO FACE OF CONCRETE OR CLADDING, UNLESS OTHERWISE NOTED.
5. SEE STRUCTURAL DRAWINGS FOR ALL EXTERIOR WALL FRAMING.
6. ALL TYPE 1 WALL ASSEMBLIES TO BE TYPE 21A AND ALL TYPE 3 WALL ASSEMBLIES TO BE TYPE 2A UNLESS NOTED OTHERWISE. SEE SHEETS A0.10/A0.11 FOR PARTITION TYPES.
7. FLOOR FINISH TRANSITIONS TO OCCUR AT CENTERLINE OF DOOR.
8. SEE DETAILS FOR FLOOR FINISH TRANSITIONS.
9. REFER TO SHEET A7.01 AND A7.03 FOR ENLARGED STAIR PLANS
10. REFER TO BICYCLE STORAGE DETAILS FOR BIKE RACK MOUNTING INFORMATION, SEE SHEET A5.07.
11. SEE SHEET A0.12 FOR FIRE RATED EXTERIOR WALL ASSEMBLIES.




1 LEVEL 04 FLOOR PLAN
1/8" = 1'-0"

N

tva architects inc.
920 sw sixth avenue | suite 1500
portland, oregon 97204
phone: 503 220 0668
www.tvaarchitects.com

Attachment #2

REGISTERED ARCHITECT
ROBERT L. THOMPSON
PORTLAND, OR
STATE OF OREGON

Sandy.51
2351 NE 51ST AVE

Revisions:

| No. | Date | Description |
|---|---|---|
| 1 | 04.15.2019 | Mod 01 |
| 3 | 07.12.19 | RFI 13 |

CONSTRUCTION SET

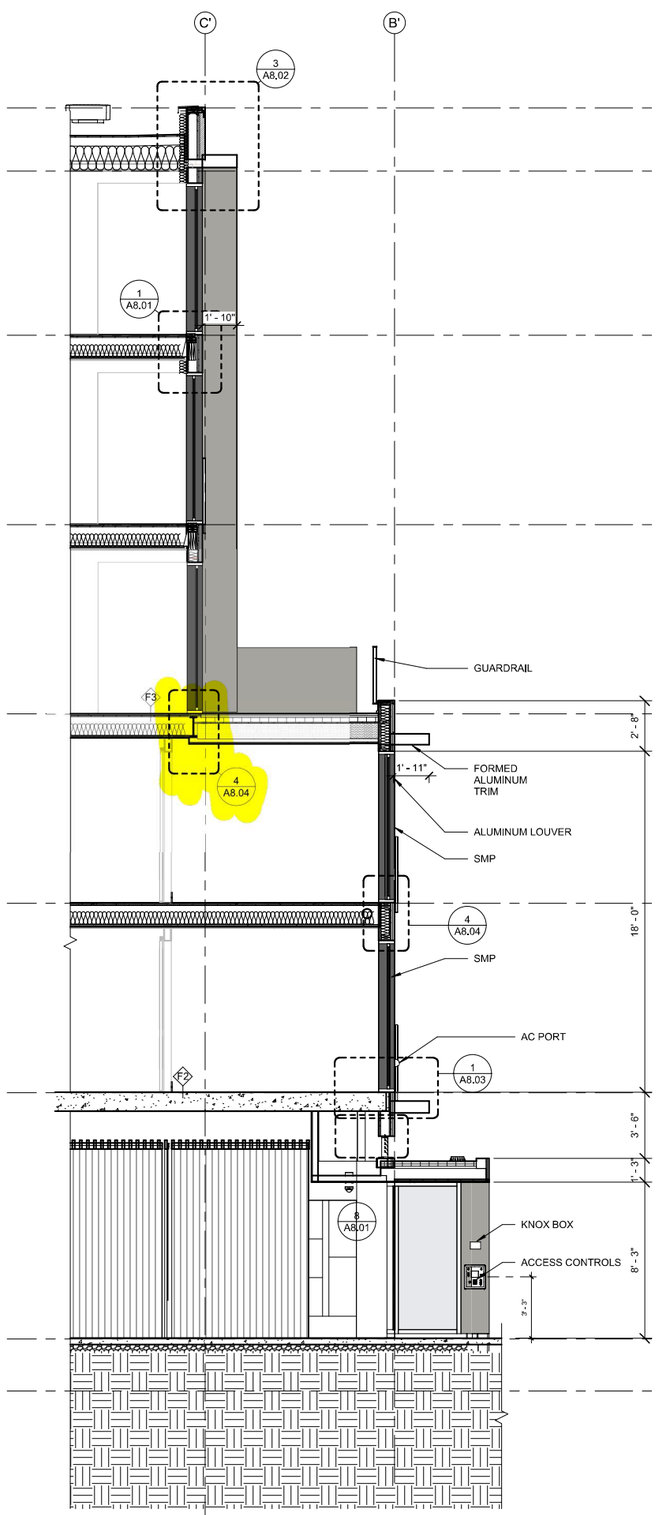
LEVEL 04 FLOOR PLAN

Project # 14021 - S

A2.03

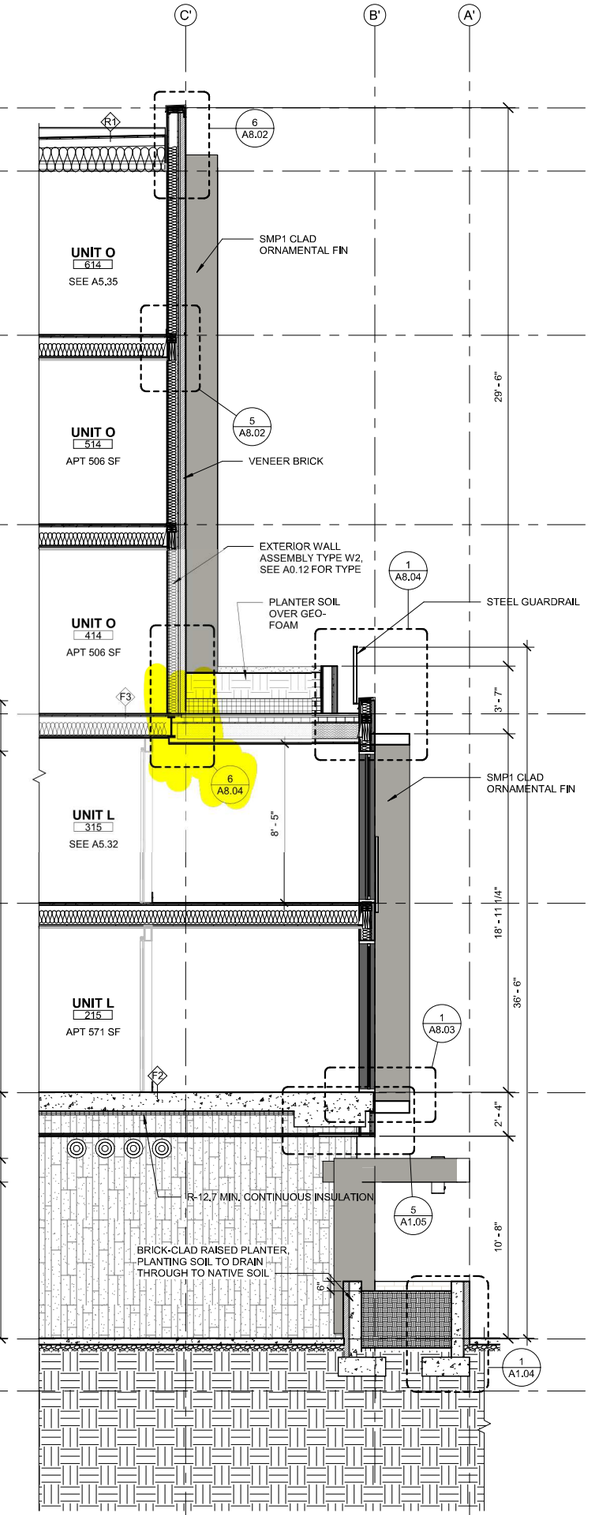
Date: 02.08.19

Attachment #3




3 Section 9

1/4" = 1'-0"




2 Section 4

1/4" = 1'-0"


1 EAST BAY ELEVATION

1/4" = 1'-0"


tva

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REGISTERED ARCHITECT
ROBERT L. THOMPSON
PORTLAND, OR
STATE OF OREGON

Sandy.51
2351 NE 51ST AVE

Revisions:

| No. | Date | Description |
|---|---|---|

CONSTRUCTION SET

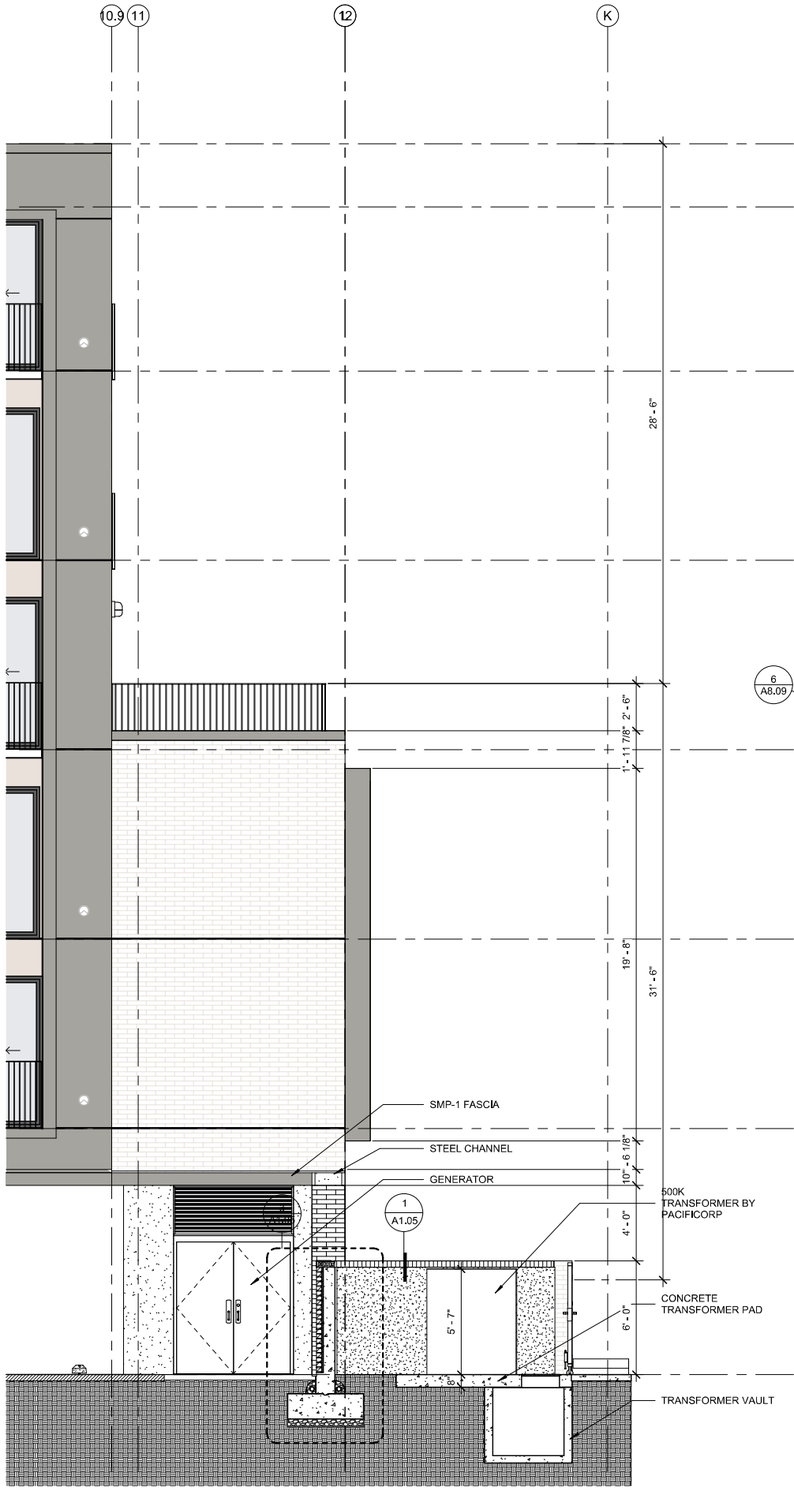
WALL SECTIONS

Project # 14021 - S

A4.03

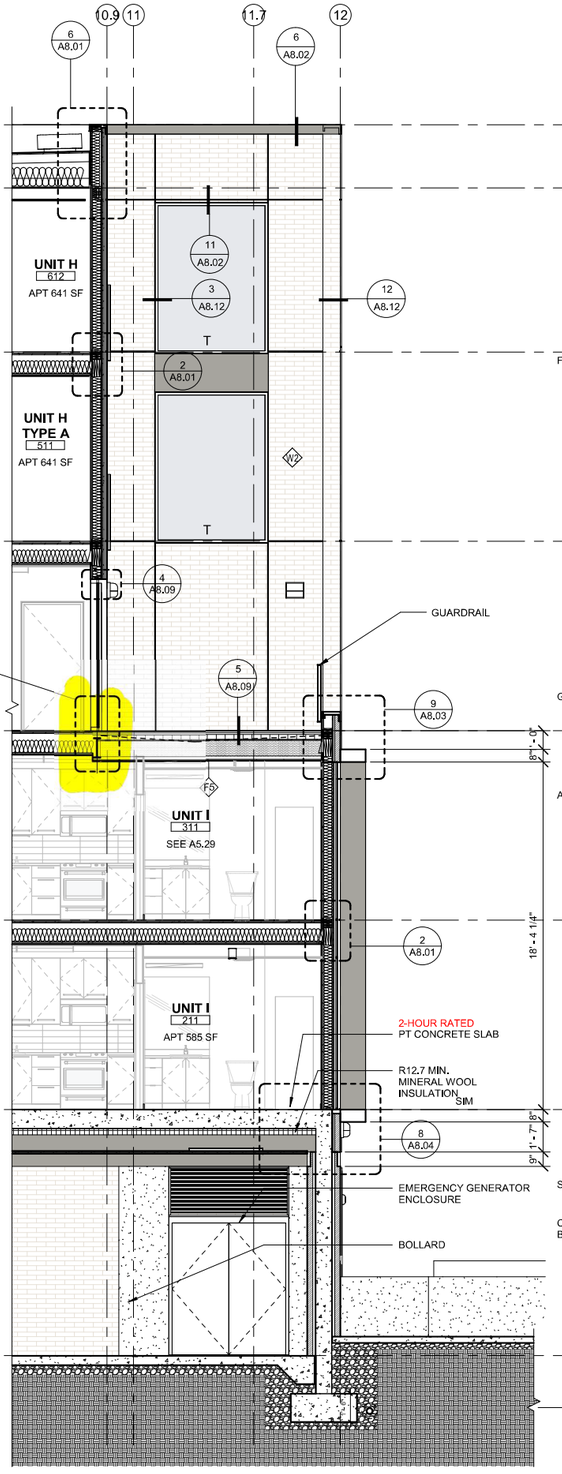
Date: 02.08.19

Attachment #4



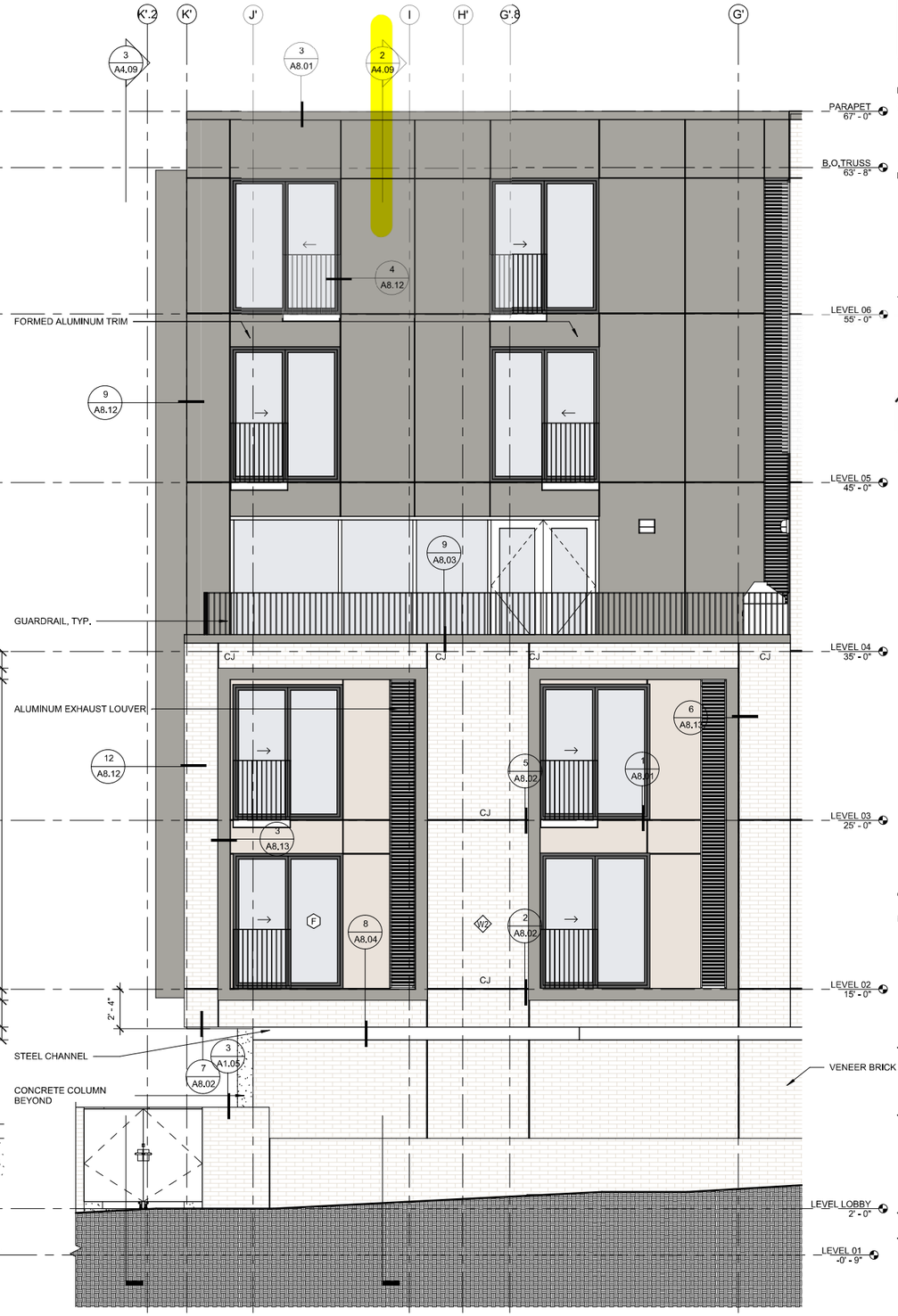

3 SOUTH SECTION - TRANSFORMER

1/4" = 1'-0"




2 SOUTH SECTION - MID BAY 2

1/4" = 1'-0"




1 SOUTH ELEVATION - MID BAY

1/4" = 1'-0"

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REGISTERED ARCHITECT
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STATE OF OREGON

Sandy.51
2351 NE 51ST AVE

Revisions:

| No. | Date | Description |
|---|---|---|

CONSTRUCTION SET

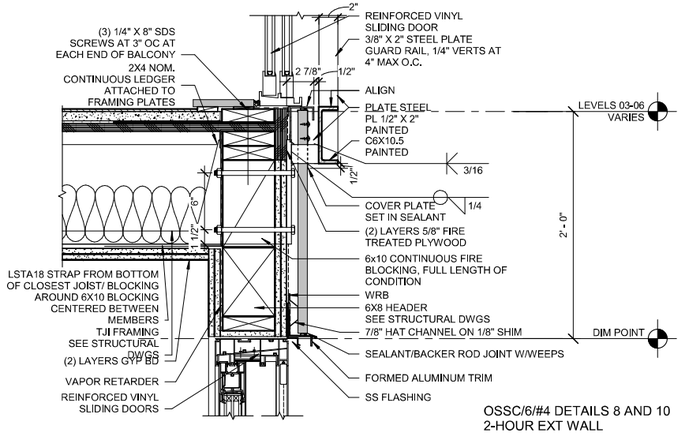
WALL SECTIONS

Project # 14021 - S

A4.09

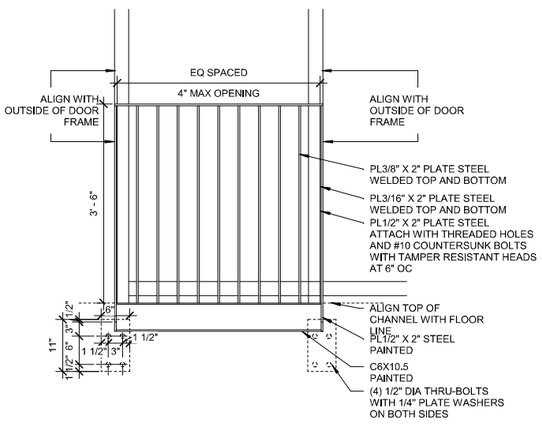
Date: 02.08.19

Attachment #5



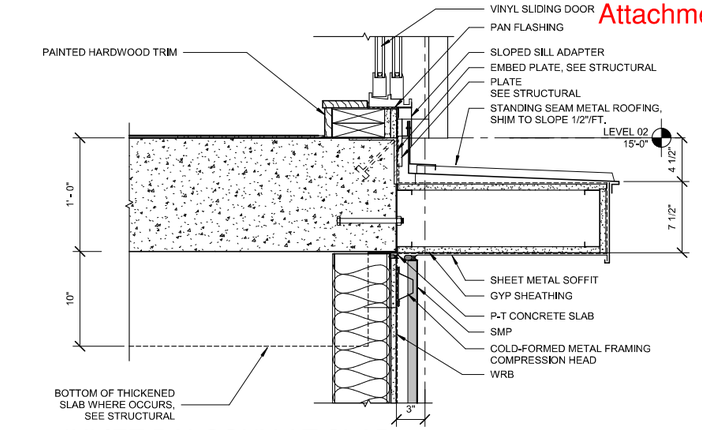

## 8 JULIET BALCONY CONNECTION

1 1/2" = 1'-0"



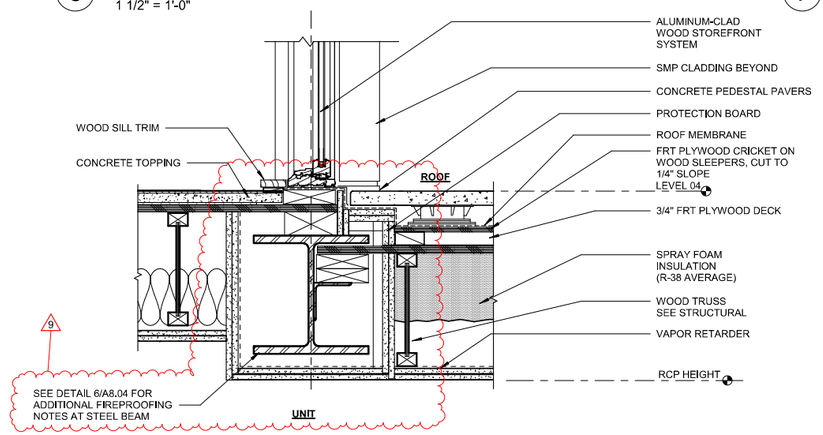

## 7 JULIET BALCONY ELEVATION

3/4" = 1'-0"



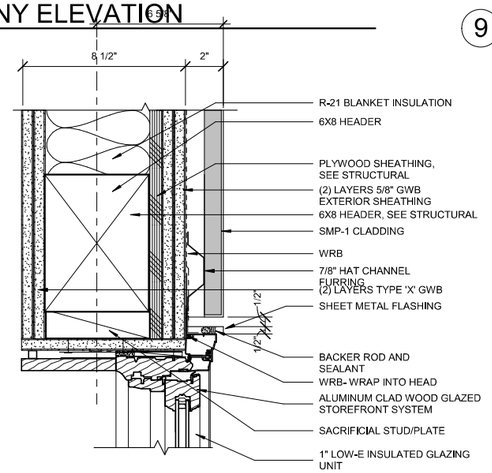

## 9 JULIET BALCONY AT SLAB

1 1/2" = 1'-0"




## 6 PAVER DECK AT WOOD STOREFRONT WINDOW SILL

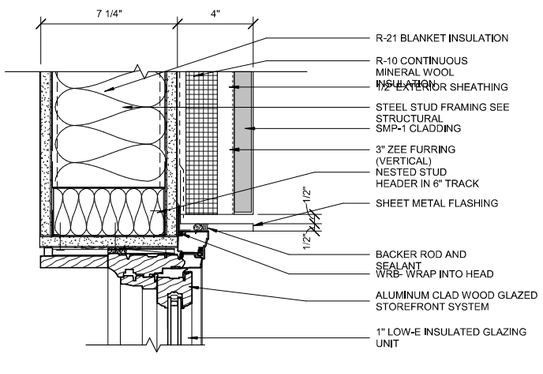
1 1/2" = 1'-0"




## 4 STOREFRONT HEAD @ SMP1 (WOOD FRAMING)

3" = 1'-0"

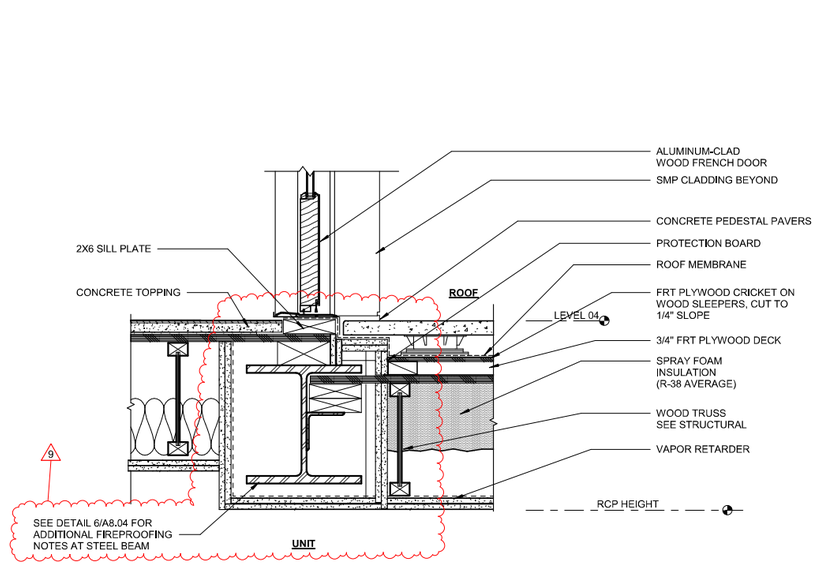
JAMB SIM




## 3 STOREFRONT HEAD @ SMP1 (METAL FRAMING)

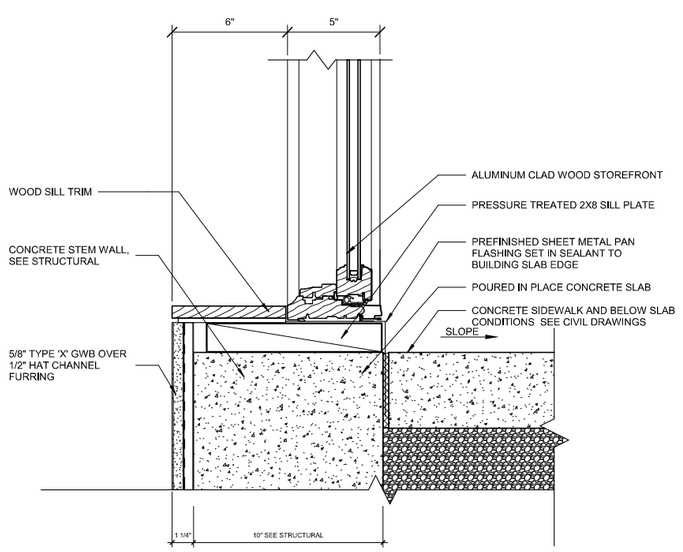
3" = 1'-0"

JAMB SIM



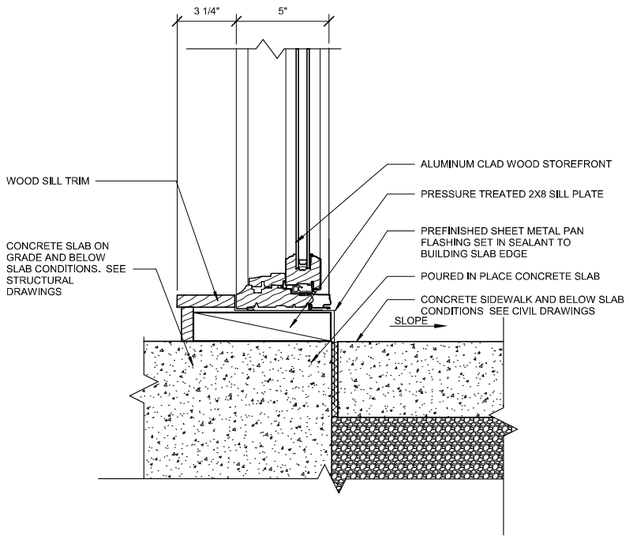

## 5 PAVER DECK AT WOOD STOREFRONT DOOR SILL

1 1/2" = 1'-0"




## 2 STOREFRONT SILL AT STEM WALL

3" = 1'-0"




## 1 STOREFRONT SILL AT SLAB

3" = 1'-0"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Revisions:

| No. | Date | Description |
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| 9 | 12/10/19 | ASI 05 |

**CONSTRUCTION SET**

EXTERIOR DETAILS

Project # 14021 - S

**A8.09**

Date: 02.08.19

Attachment #6

| WOOD WALL SCHEDULE | |
|---|---|
| TYPE | WALL ASSEMBLY |
| W1 | DOUBLE 2x6 @ 16" OC |

| POST SCHEDULE | |
|---|---|
| TYPE | POST |
| P1 | (3) 2x6 DF#2 |
| P2 | 6x6 DF#1 |
| P3 | 6x8 DF#1 |
| P4 | (6) 2x6DF#2 |

## WOOD FLOOR FRAMING PLAN NOTES

A VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS.

B DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION METHODS FOR THIS STRUCTURE. CONNECTIONS, DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ARCHITECT / ENGINEER FOR THE CLARIFICATION IN A TIMELY MANNER PRIOR TO BID OPENING.

C REFERENCE DETAIL 10/S7.01 FOR THE CONNECTION OF NON-LOAD BEARING PARTITION WALLS TO THE UNDERSIDE OF FLOOR FRAMING STRUCTURE.

D REFERENCE DETAIL1/S7.01 FOR TYPICAL DOUBLE TOP PLATE LAP SPLICE REQUIREMENTS, TYPICAL UNLESS NOTED OTHERWISE.

E ALL LOAD BEARING AND NON-LOAD BEARING WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAIL 5/S7.01.

F REFERENCE DETAIL 11/S7.01 FOR TYPICAL HEADER CONSTRUCTION AT ALL WINDOW AND DOOR OPENINGS, TYPICAL UNLESS NOTED OTHERWISE.

G WHERE A SHEAR WALL HOLDOWN OCCURS ADJACENT TO A WALL OPENING, PROVIDE THE GREATER OF THE KING STUD OR HOLDOWN POST AT THE KING STUD LOCATION, NAIL THE TRIMMER STUD TO THE KING STUD OR HOLDOWN POST WITH (2) 0.148" DIA x 3" AT 1'-6" OC.

H ALL MULTI-PLY STUDS AND POSTS IN UPPER WALLS SHALL ALIGN WITH A MULTI-PLY STUD OR POST OF AT LEAST EQUAL SIZE IN LOWER WALLS ALL THE WAY TO THE PT SLAB OR TRANSFER BEAM. TYPICAL UNLESS NOTED OTHERWISE.

I CONNECT ELEVATOR RAILS TO STRUCTURE BETWEEN UPPER FLOOR LEVELS IN ACCORDANCE WITH 7/S7.03. CONNECT ELEVATOR RAILS TO STRUCTURE AT UPPER FLOOR LEVELS IN ACCORDANCE WITH 8/S7.03.

J THE JOIST MANUFACTURER SHALL PROVIDE A DOUBLE JOIST BENEATH PARALLEL PARTITION WALLS, WHERE PARALLEL PARTITION WALL EXCEEDS 1/3 OF THE JOIST SPAN. DOUBLE JOISTS MAY BE OFFSET RELATIVE TO PARALLEL PARTITION WALL IN ACCORDANCE WITH 9/S7.01.

## BEAM AND HEADER SCHEDULE

| MARK | BEAM SIZE | COLUMN TYPE (UNO) | HANGERS | COMMENTS |
|---|---|---|---|---|
| H1 | 4x6 | (1) 2x STUD | | |
| H2 | 6x8 | (2) 2x STUD | | |
| H3 | GL 5-1/2"x10-1/2" | (2) 2x STUD | | |
| H4 | GL 5-1/2"x15" | (2) 2x STUD | | |
| H5 | GL 5-1/2"x24" | (2) 2x STUD | | |
| B1 | GL 5-1/2"x6" | (2) 2x STUD | SIMPSON HU OR HUC | |
| B2 | GL 6-3/4"x7-1/2" | (2) 2x STUD | SIMPSON HU OR HUC | |
| B3 | GL 3-1/2"x11-7/8" | | | |
| B4 | GL 5-1/2"x11-7/8" | | | |
| B5 | GL 6-3/4"x11-7/8" | | | |
| B6 | (5) PLY 1-3/4"x11-7/8" LVL | | | REF DETAILS 7 & 8/S7.04 |
| B7 | GL 5-1/2"x15" | (2) 2x STUD | | |

BEAM SCHEDULE NOTES:

1. HANGERS ARE TO BE USED AT LOCATIONS WHERE THE BEAM FRAMES INTO AN ADJACENT BEAM ONLY.
2. A SUFFIX OR PREFIX OF 'PT1' INDICATES PRESERVATIVE TREATMENT WITH HI-CLEAR II, STAINED + FINISHED, REF ARCH ALL HARDWARE (CONNECTORS, BOLTS, ETC) IN CONTACT W/ THESE MEMBERS SHALL USE HOT DIPPED GALVANIZED.
3. A SUFFIX OR PREFIX OF 'PT2' INDICATES STANDARD PRESERVATIVE TREATMENT.
4. HU & HUC HANGERS SHALL BE INSTALLED WITH"MAX" NAILING NOTED BY MANUFACTURER.

## KEYED NOTES

| | |
|---|---|
| 1 | PLANTER BOX, REF ARCH |
| 6 | (2) 11 7/8" TJI 560 @ 16" OC. |
| 7 | (2) 11 7/8" TJI 110 @ 2'-0" OC. |
| 8 | 11 7/8" TJI 360 @ 2'-0" OC. |
| 10 | 11 7/8" TJI 110 @ 2'-0" OC. |
| 11 | 2x6 @ 1'-4" OC. |
| 17 | MSTI86 STRAP WITH (36) 0.148" DIA 10D X 1-1/2" NAILS APPLIED OVER SHEATHING, MEMBER-TO-MEMBER OR MEMBER-TO-DOUBLE TOP PL. |
| 20 | MST72 STRAP WITH (54) 0.162" DIA x 3-1/2" 16D COMON NAILS, CENTER OVER CONNECTION |
| 22 | (2) CMST12 COIL STRAPS SIDE-BY-SIDE APPLIED OVER FLOOR SHEATHING. NAIL TO 3x FLAT BLKG BETWEEN JOISTS IN ACCORDANCE WITH 5/S7.06. USE 0.148" DIA x 3" 10D COMMON NAILS @ 4" OC TO BLKG AND EVERY HOLE TO BEAM, END LENGTH AS DIMENSIONED. |
| 23 | ALIGN 6x6 DF#2 WITH SHEAR WALL AND STRAPS FOR NAILING STRAPS TO. REF. DETAILS WHERE APPLICABLE. |
| 24 | ALIGN ADDITIONAL JOIST WITH SHEAR WALL AND STRAPS SHOWN ON PLAN. |
| 26 | MSTI86 STRAP WITH (36) 0.148" DIA 10D x 1-1/2" NAILS APPLIED FROM SIDE OF BEAM TO SIDE OF DOUBLE TOP PLATE. |
| 28 | HATCH INDICATES BLOCKED DIAPHRAGM. BLOCK ALL PANEL EDGES. FASTEN WITH 0.148 " DIA AT 2-1/2" OC AT PANEL EDGES & 4" OC AT INTERMEDIATE FRAMING MEMBERS AND BLOCKING. |
| 34 | CMSTC16 COIL STRAP TO PERIMETER OF BUILDING PLUS 2'-0" END LENGTH ON BEAM (REF KEYED NOTE 23), APPLIED OVER FLOOR SHEATHING. NAIL TO 3x FLAT BLKG BETWEEN JOISTS IN ACCORDANCE WITH 5/S7.06 USING 0.148" DIA x 3" NAILS @ 4" OC. FILL ALL HOLES IN 2'-0" END LENGTH OVER BEAM. |
| 35 | CMSTC16 COIL STRAP TO PERIMETER OF BUILDING PLUS 2'-0" END LENGTH ON FLOOR BEAM, APPLIED OVER FLOOR SHEATHING. NAIL TO 3x FLAT BLKG BETWEEN JOISTS IN ACCORDANCE WITH 5/S7.06 USING 0.148" DIA x 3" NAILS @ 4" OC. FILL ALL HOLES IN 2'-0" END LENGTH OVER BEAM. |
| 36 | CMSTC16 COIL STRAP AS DIMENSIONED ON PLAN PLUS 2'-0" END LENGTH ON DOUBLE TOP PLATE, APPLIED OVER FLOOR SHEATHING. NAIL TO 3x FLAT BLKG BETWEEN JOISTS IN ACCORDANCE WITH 5/S7.06 USING 0.148" DIA x 3" NAILS @ 4" OC. FILL ALL HOLES IN 2'-0" END LENGTH OVER DOUBLE TOP PLATE. |
| 37 | 3-1/2" x 11-7/8" LSL DRAG STRUT TO BE ALIGNED WITH STRAPS AND SHEAR WALL. HANG WITH HUCQ1.81/11-SDS OR ITS1.81-11.88 HANGERS. |
| 38 | CMST14 COIL STRAP TO PERIMETER OF BUILDING PLUS 3'-0" END LENGTH ON BEAM (REF KEYED NOTE 23), APPLIED OVER FLOOR SHEATHING. NAIL TO 3x FLAT BLKG BETWEEN JOISTS IN ACCORDANCE WITH 5/S7.06 USING 0.148" DIA x 3" NAILS @ 4" OC. FILL ALL HOLES IN 3'-0" END LENGTH OVER BEAM. |
| 39 | (2) MSTI36 STRAPS WITH (36) 0.148" DIA 10D X 1-1/2" NAILS APPLIED IN ACCORDANCE WITH 6/S7.06. ONE STRAP TO OCCUR AT EACH FACE OF STRUT AND DBL TOP PL. |

1 LEVEL 04 FRAMING PLAN
S2.04 1/8" = 1'-0"

N


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2351 NE 51st Ave.

Revisions:

CONSTRUCTION SET

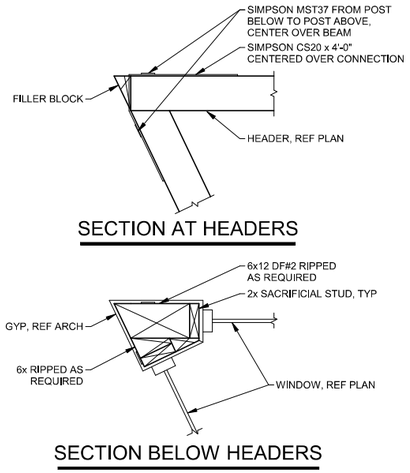
LEVEL 04 FRAMING PLAN

Project # 14021 - S

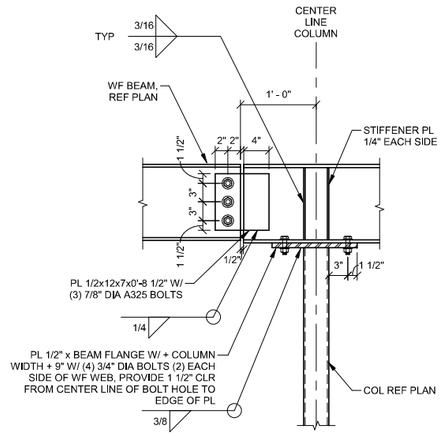
S2.04

Date: 02.08.19

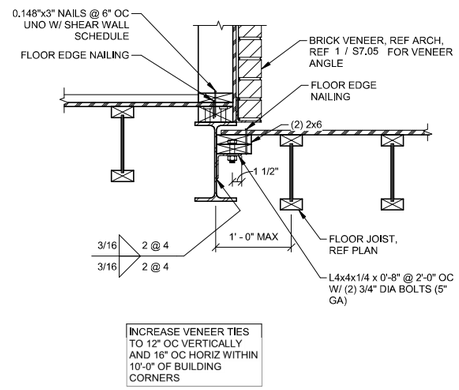
Attachment #7



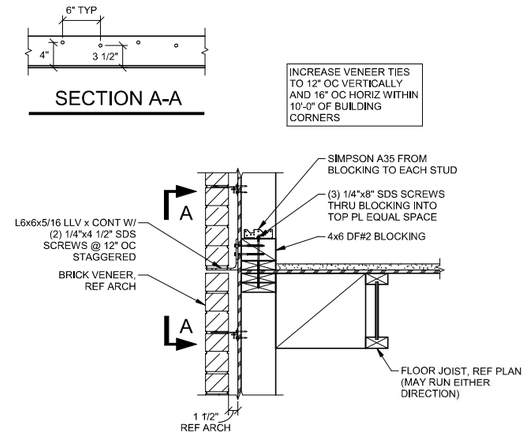

10 S7.05 DIAGONAL WOOD POST
1" = 1'-0"



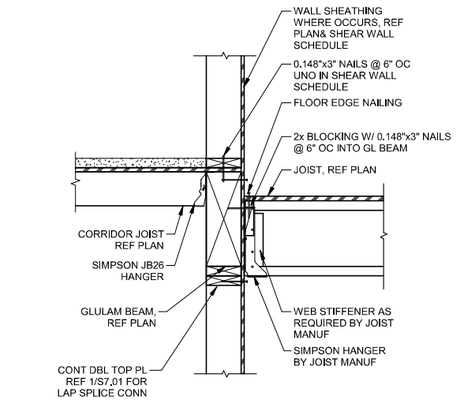

7 S7.05 COLUMN CANTILEVER
1" = 1'-0"



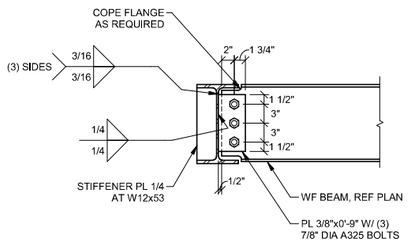

4 S7.05 DECK JOIST PARALLEL TO WF BEAM
1" = 1'-0"



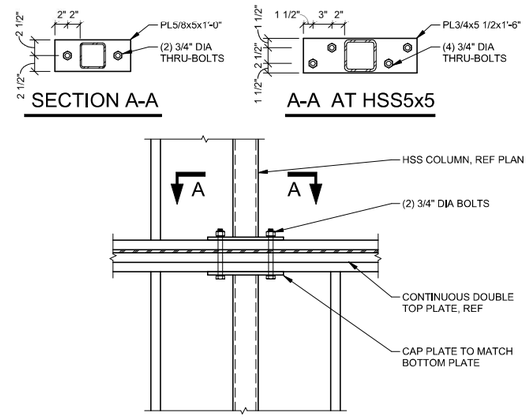

1 S7.05 BRACE ANGLE AT FLOOR LEVEL
1" = 1'-0"



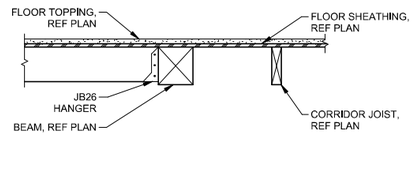

11 S7.05 DECK JOIST TO WALL
1" = 1'-0"



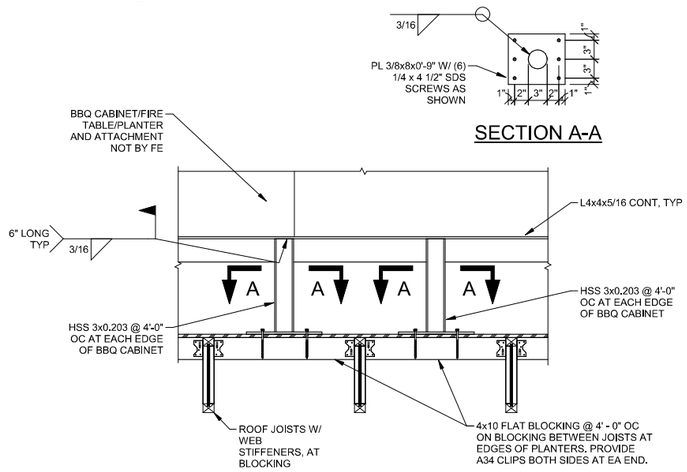

8 S7.05 WIDE FLANGE BEAM CONNECTION
1" = 1'-0"



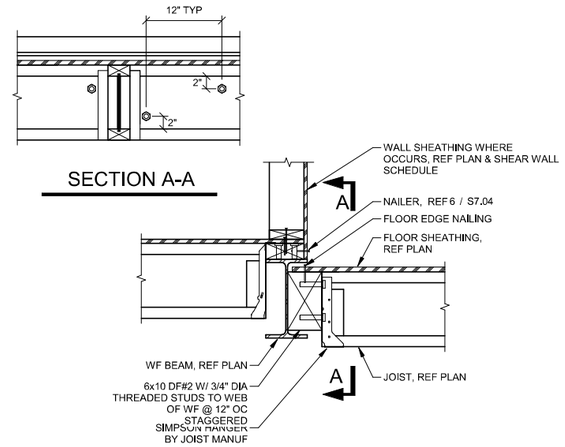

5 S7.05 HSS COLUNM AT DOUBLE TOP PLATE
1" = 1'-0"



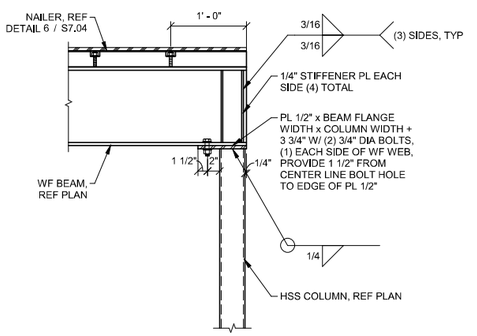

2 S7.05 CORRIDOR JOISTS AT BEAM
1" = 1'-0"



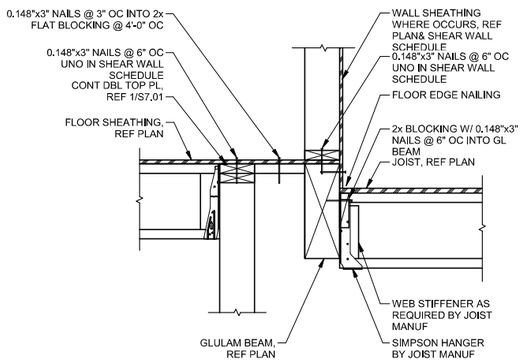

12 S7.05 ROOF TOP BBQ CABINET SUPPORT
1" = 1'-0"




9 S7.05 DECK JOIST TO WF BEAM
1" = 1'-0"




6 S7.05 WF BEAM CONNECTION TO TOP OF HSS COLUMN
1" = 1'-0"




3 S7.05 DECK JOIST TO GLULAM BEAM
1" = 1'-0"

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STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 51411PE OREGON SEPT. 22, 1995 TIMOTHY T. TERICH EXPIRES: 6-30-19

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Revisions:

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FRAMING DETAILS

Project # 14021 - S

S7.05

Date: 02.08.19