# 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 - Held over from ID 23427 (2/5/20) for additional information

| | |
|---|---|
| **Appeal ID:** 23538 | **Project Address:** 3330 SE 69th Ave |
| **Hearing Date:** 3/11/20 | **Appellant Name:** Tim Ayersman |
| **Case No.:** B-005 | **Appellant Phone:** 971-200-7213 |
| **Appeal Type:** Building | **Plans Examiner/Inspector:** John Cooley |
| **Project Type:** commercial | **Stories:** 3 **Occupancy:** E, B, A-2, A-3 **Construction Type:** II-B |
| **Building/Business Name:** Portland Public Schools - Kellogg Middle School | **Fire Sprinklers:** Yes - Fully-sprinklered throughout |
| **Appeal Involves:** Reconsideration of appeal | **LUR or Permit Application No.:** 19-130649-CO |
| **Plan Submitted Option:** pdf [File 1] [File 2] | **Proposed use:** Middle School (Grades 6-8) |

## APPEAL INFORMATION SHEET

### Appeal item 1

| | |
|---|---|
| **Code Section** | §703.2 Fire-resistance ratings |
| **Requires** | § 703.2 Fire-resistance ratings. 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 |
| **Code Modification or Alternate Requested** | This appeal was requested by BDS Plans Examiner, John Cooley.<br>The intent of the appeal is to confirm the fire-resistance-rated assembly of a fire wall proposal that does not have a UL/GA listed assembly. |
| **Proposed Design** | The proposed fire wall design is based on a listed GA shaft wall assembly (GA 7065.5) with an ~8" jog around the steel structure (W14x22) and an engineering judgement at the metal deck connection provided by Hilti. The required fire-resistance rating is met with is proposal and is improved at the low side beam and supporting columns which will now be protected with spray fire-resistant materials (SFRM) to the same fire-resistance rating as the fire wall assembly, in contrast to the permitted design that includes 1-hour fire-resistance rating for this structure. This proposal only occurs at the double structure running north-south adjacent to Gridline JJ between Gridline 5 and Gridline 8. All other fire wall conditions remain as permitted. This direction provides added protection to the structure versus the original permitted fire wall and creates a detail that is more accessible for inspection.<br>The following attachments have been arranged to walk through the proposal starting with architectural plans to wall section and architectural detail then followed by structural plans and details. |

SEE ATTACHED:
• ARCHITECTURAL
FOR INFORMATION: FLS PLAN SECOND FLOOR – SECTOR A&B (G-202)

Location of Fire Wall and appeal proposal.
1-hour rated roof assembly and supporting element extents.
FOR INFORMATION: WALL SECTION – FIRE WALL AT ADMIN (4/A-419)

Wall section at Fire Wall along Gridline JJ.
Location of revised Fire Wall detail.
Description of 1-hour rated roof assembly.
PROPOSED FIRE WALL REVISION CONCEPT

Fire Wall revision overview sketch.
N-S FIRE WALL AT LOW ROOF (2/A-718)

Proposed revised detail at Fire Wall.
ENGINEERING JUDGEMENT FIRESTOP DETAIL (352536b)

Fire Wall connection to deck detail.
FOR INFORMATION: Excerpt from GA-600-2015 FIRE RESISTANCE DESIGN MANUAL

Listing for GA WP 7065.5.
• STRUCTURAL
LOW ROOF FRAMING PLAN – SECTOR C (S-221C)

Location of low side column bracing at Fire Wall.
DETAIL AT FIRE WALL (12/S-605)

Melt-away clip location
Extent of Fire Wall enclosure
LOW COLUMN BRACING AT FIRE WALL (11/S-606)

Out-of-plane stability bracing of the low side column to the steel frame on Gridline JJ
per Structural Plans Examiner (Greg Wilken) request.

Reconsideration Text:
An Oregon Registered Professional Engineers Stamp has been added to the ENGINEERING JUDGEMENT FIRESTOP DETAIL (353536b), along with additional support documents per appeal decision dated 2/6/2020.
This has been attached as a separate PDF file: 2020-02-26Stamped EJ 352536bKMS PPS.pdf

**Reason for alternative** The alternate Fire Wall design provides equivalent fire protection, life safety, and structural capacity while improving inspection accessibility, sequencing of work for the contractor, and increases the level of fire protection on the structure for the low building at the building separation.

## APPEAL DECISION

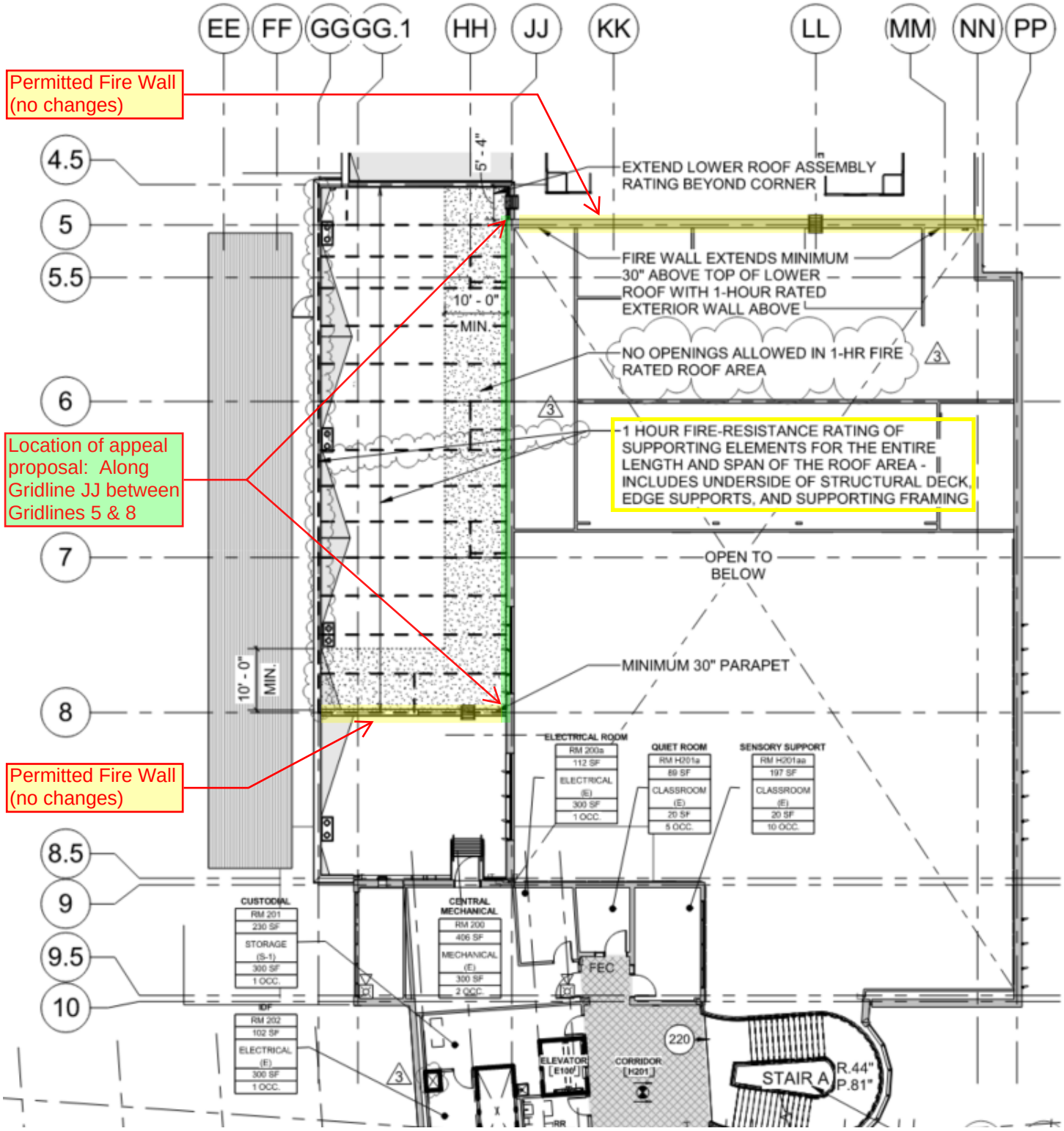
**Alternate 2 hour fire wall assembly with engineering analysis: Granted as proposed.**

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.

# FOR INFORMATION ONLY
Not to Scale

1




- Location of Fire Wall and appeal proposal.
- 1-hour rated roof assembly and supporting element extents.

1/G-202

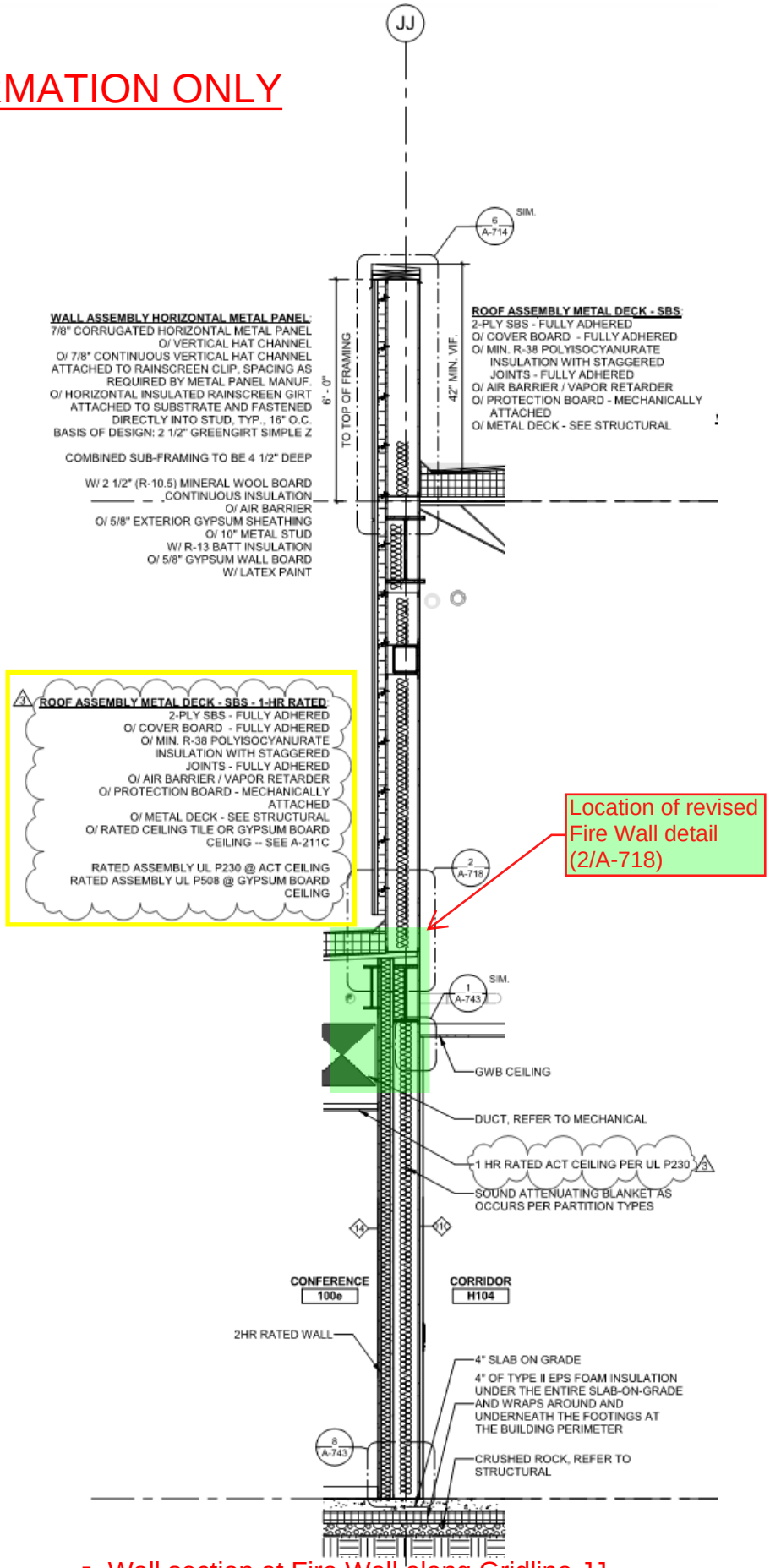
Oh

01/29/2020

FOR INFORMATION ONLY

Not to Scale

2




- Wall section at Fire Wall along Gridline JJ.
- Location of revised Fire Wall detail.
- Description of 1-hour rated roof assembly

4 WALL SECTION - FIRE WALL AT ADMIN
1/2" = 1'-0"

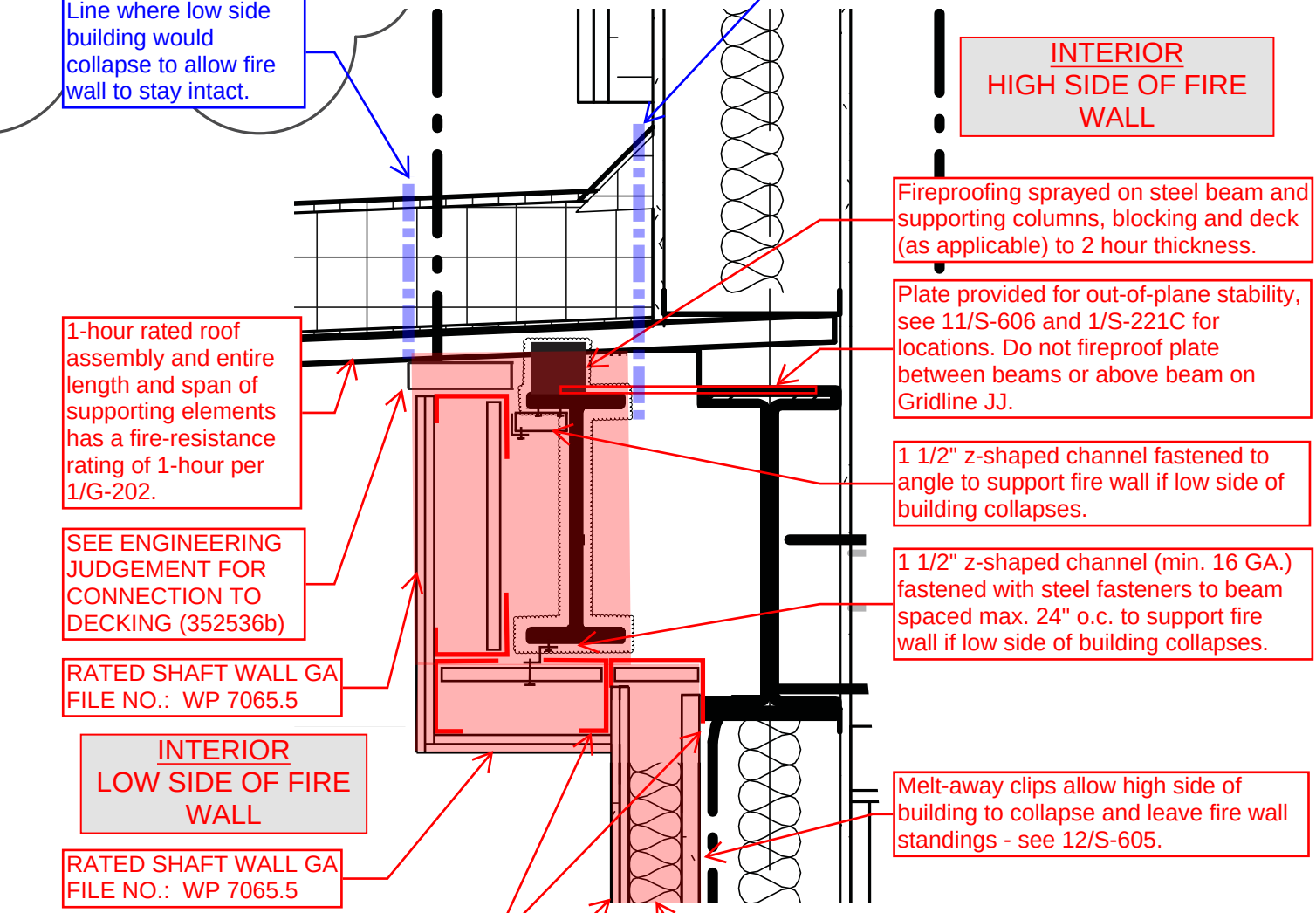
4/A-419

Oh

01/29/2020

# Proposed Fire Wall Revision Concept
Not to Scale

3




See 4/A-419 and 2/A-718 for:
- Exterior Wall and Roof Construction
- UL for Rated Roof - Ceiling Assembly
- GA Rated Shaft Wall Assembly

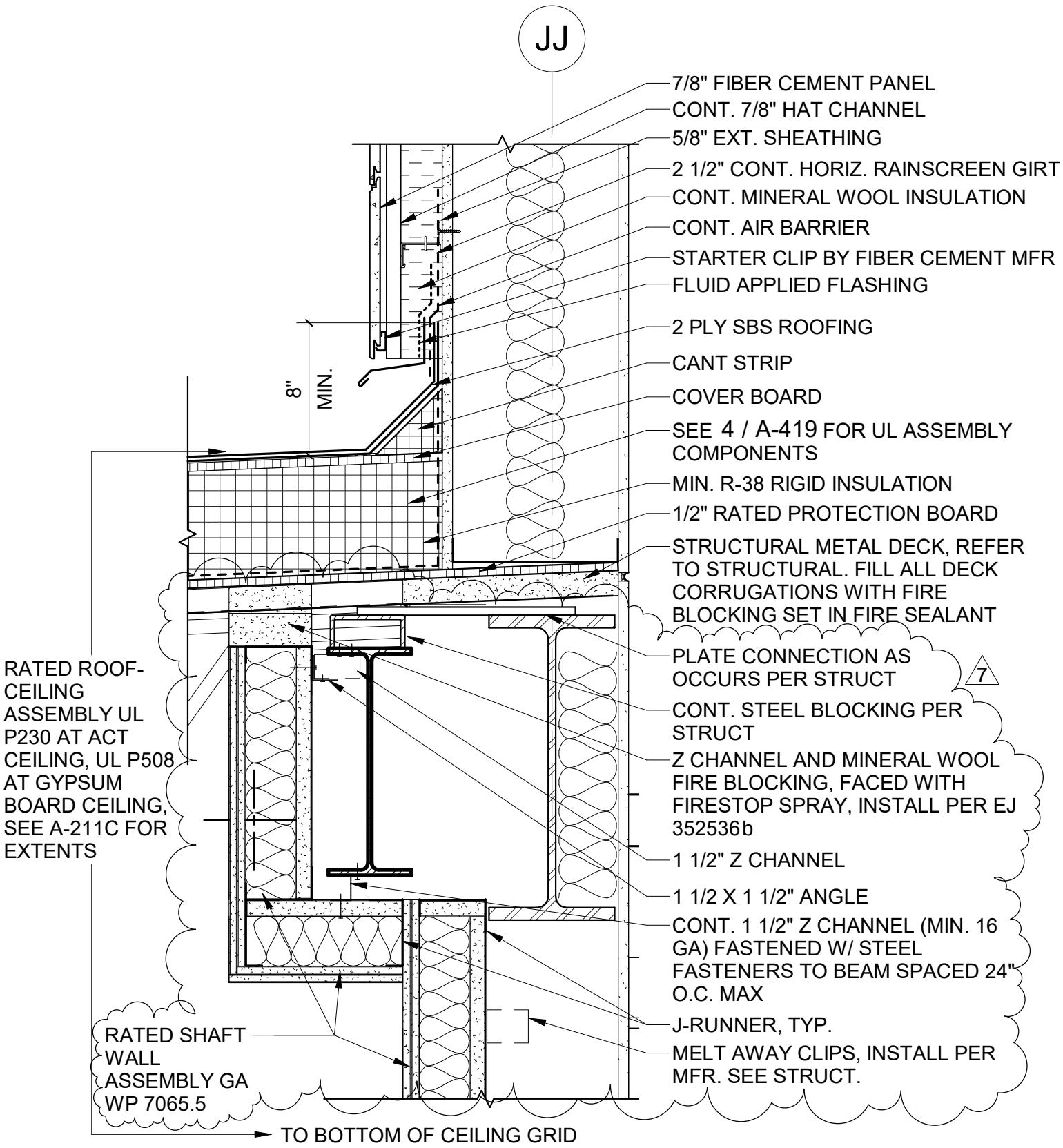
- Fire Wall revision overview sketch.

Oh

01/29/2020

# Proposed Fire Wall Detail
1 1/2" - 1'-0"

4




## 2 N-S FIRE WALL AT LOW ROOF
1 1/2" = 1'-0"

- Proposed revised detail at Fire Wall

2/A-718


**OH** PLANNING+DESIGN, ARCHITECTURE

115 NW 1st Ave, Ste. 300
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t 503.280.8000
f 503.224.5442


# KELLOGG MIDDLE SCHOOL

3330 SE 69TH AVE. PORTLAND, OR 97206

| | |
|---|---|
| REVISION: ASI-019 | DATE: |
| SCALE: As indicated | DRAWN BY: MHB |
| REFERENCE SHEET NUMBER: | A-718 |

**RA-67**

Project # 90031

DJ

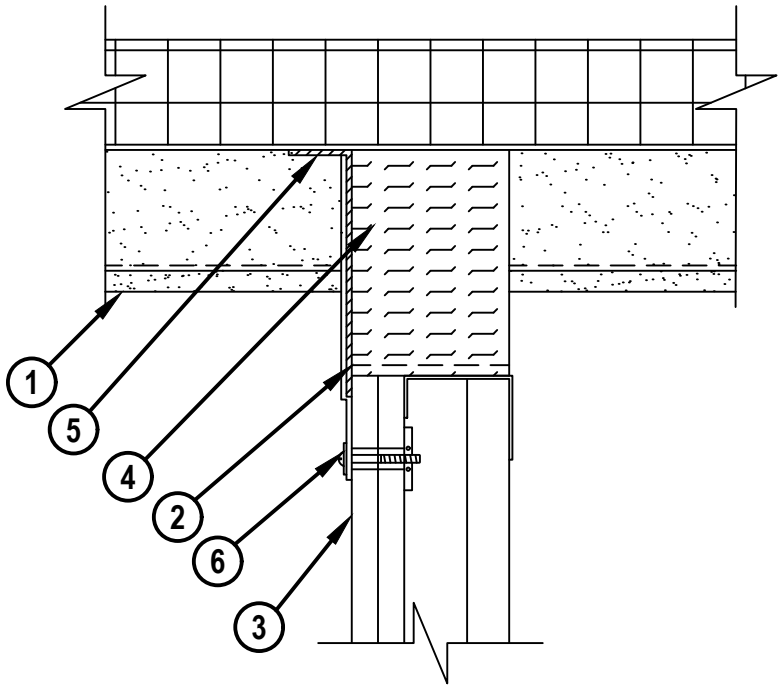
# ENGINEERING JUDGMENT FIRESTOP DETAIL

5

**PROJECT : KELLOGG MIDDLE SCHOOL**
**CONTRACTOR : CASCADE ACOUSTICS**

**F-RATING = 1-HR. OR 2-HR. (SEE NOTE NO. 3 BELOW)**

## CROSS-SECTIONAL VIEW




1. BUILT UP METAL ROOF DECK ASSEMBLY (MIN. 22 GA.) (NON FIRE-RATED).
2. Z-SHAPED CLIPS (MIN. 20 GA.) WITH THE FOLLOWING DIMENSIONS : MINIMUM 1" WIDE (BUT NOT EXCEEDING THE WIDTH OF THE WALL) WITH 2" UPPER AND LOWER LEGS, HEIGHT OF CLIPS TO BE EQUAL TO THE REQUIRED THICKNESS OF SPRAY APPLIED FIREPROOFING ON THE METAL DECK. LEGS OF CLIPS FASTENED TO BOTTOM OF METAL DECK (PRIOR TO APPLYING FIREPROOFING) AND TOP OF CEILING RUNNER WITH STEEL FASTENERS OR WELDS. CLIPS SPACED MAXIMUM 24" OC.
3. GYPSUM SHAFT WALL ASSEMBLY (UL/cUL CLASSIFIED) (1-HR. OR 2-HR. FIRE-RATING)(2-HR. SHOWN).
4. MINERAL WOOL SAFING (MIN. 4 PCF DENSITY) COMPRESSED 50%, TO COMPLETELY FILL JOINT AND FLUTE, FLUSH WITH WALL SURFACES.
5. MINIMUM 1/8" (WET) THICKNESS HILTI CFS-SP WB FIRESTOP JOINT SPRAY TO COMPLETELY COVER MINERAL WOOL, OVERLAPPING MINIMUM 1/2" ONTO GYPSUM WALL ASSEMBLY AND MINIMUM 2" ONTO FIREPROOFING.
6. SHEET METAL COVER PLATE (MIN. 18 GA.) COMPLETELY COVER JOINT, RECESSED 1/4" TO 3/4" FROM METAL DECK/Z-CLIP AND ATTACHED TO WALL WITH THE APPROPRIATE HILTI ANCHORS.

**NOTES : 1. MAXIMUM WIDTH OF JOINT = 2".**
**2. THIS SYSTEM IS DESIGNED BASED UPON CANADIAN TEST STANDARD CAN/ULC-S115-11.**
**3. FIRE-RATING OF ASSEMBLY IS DEPENDENT UPON THE PERFORMANCE OF Z-CLIPS AND METAL DECK UNDER FIRE CONDITIONS.**

**THIS ENGINEERING JUDGMENT REPRESENTS A FIRESTOP SYSTEM THAT WOULD BE EXPECTED TO PASS THE STATED RATINGS IF TESTED.**
**(REFERENCE : UL/cUL SYSTEM NO. HW-D-0750 & HW-D-0571; UL SYSTEM NO. CJ-D-0004)**

| | | | |
|---|---|---|---|
| HILTI<br>Hilti Firestop Systems | HILTI, Inc.<br>Plano, Texas USA (800) 879-8000<br>*Designed by* | *Sheet* 1 of 1<br>*Scale* 7/32" = 1"<br>*Date* Jan. 23, 2020 | *Drawing No.*<br>352536b |

***Saving Lives through Innovation and Education***

- Fire Wall connection to deck detail.

## SHAFT WALLS

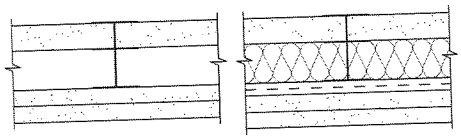
| GA FILE NO. WP 7065.2 | PROPRIETARY* | 2 HOUR FIRE | 50 to 54 STC SOUND |
|---|---|---|---|

### GYPSUM PANEL PRODUCTS, STEEL C-H, C-T, OR I STUDS

One layer 1" x 24" proprietary type X glass mat gypsum panels inserted between 2-1/2" floor and ceiling runners with tab-flange section of 2-1/2" steel C-H, C-T, or I studs between panels.

OPPOSITE SIDE: **Base** layer 5/8" proprietary type X glass mat gypsum substrate applied parallel to studs with 1" Type S drywall screws 24" o.c. **Face** layer 5/8" proprietary type X glass mat gypsum substrate applied parallel to studs with 1-5/8" Type S drywall screws 12" o.c.

Sound tested with resilient channels 24" o.c. and 1-1/2" glass fiber insulation friction fit in stud space. **(NLB)**



Thickness: 3-3/4" (Fire)
4-1/4" (Sound)
Approx. Weight: 9 psf
Fire Test: UL R3501, 08NK58332, 12-12-08; 07NK17992, 12-12-07; UL Design U497; 13NK02062, 1-14-13, UL Design W419, System B;
Sound Test: KAL 437362, 11-3-76

### PROPRIETARY GYPSUM PANEL PRODUCTS

National Gypsum Company ..... 5/8" Gold Bond® Brand eXP® Interior Extreme® Gypsum Panels
1" Gold Bond® Brand eXP® FIRE-SHIELD® Shaftliner

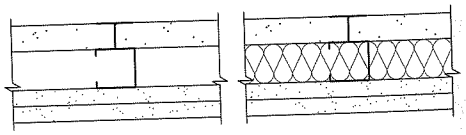
| GA FILE NO. WP 7065.5 | PROPRIETARY* | 2 HOUR FIRE | 50 to 54 STC SOUND |
|---|---|---|---|

### GYPSUM PANEL PRODUCTS, STEEL C-H, C-T, OR I STUDS

One layer 1" x 24" proprietary type X gypsum panels inserted between 2-1/2" floor and ceiling runners with tab-flange section of 2-1/2" steel C-H, C-T, or I studs between panels.

OPPOSITE SIDE: **Base** layer 5/8" proprietary type X gypsum wallboard applied parallel or at right angles to studs with 1" Type S drywall screws 24" o.c. **Face** layer 5/8" proprietary type X gypsum wallboard applied parallel to studs with 1-5/8" Type S drywall screws 12" o.c.

Sound tested with 1-1/2" mineral fiber insulation friction fit in stud spaces. **(NLB)**



Thickness: 3-3/4"
Approx. Weight: 8.5 psf
Fire Test: UL R6937, 09CA38295, 10-27-09, UL Design V493
Sound Test: RAL TL08-288B, 10-10-08

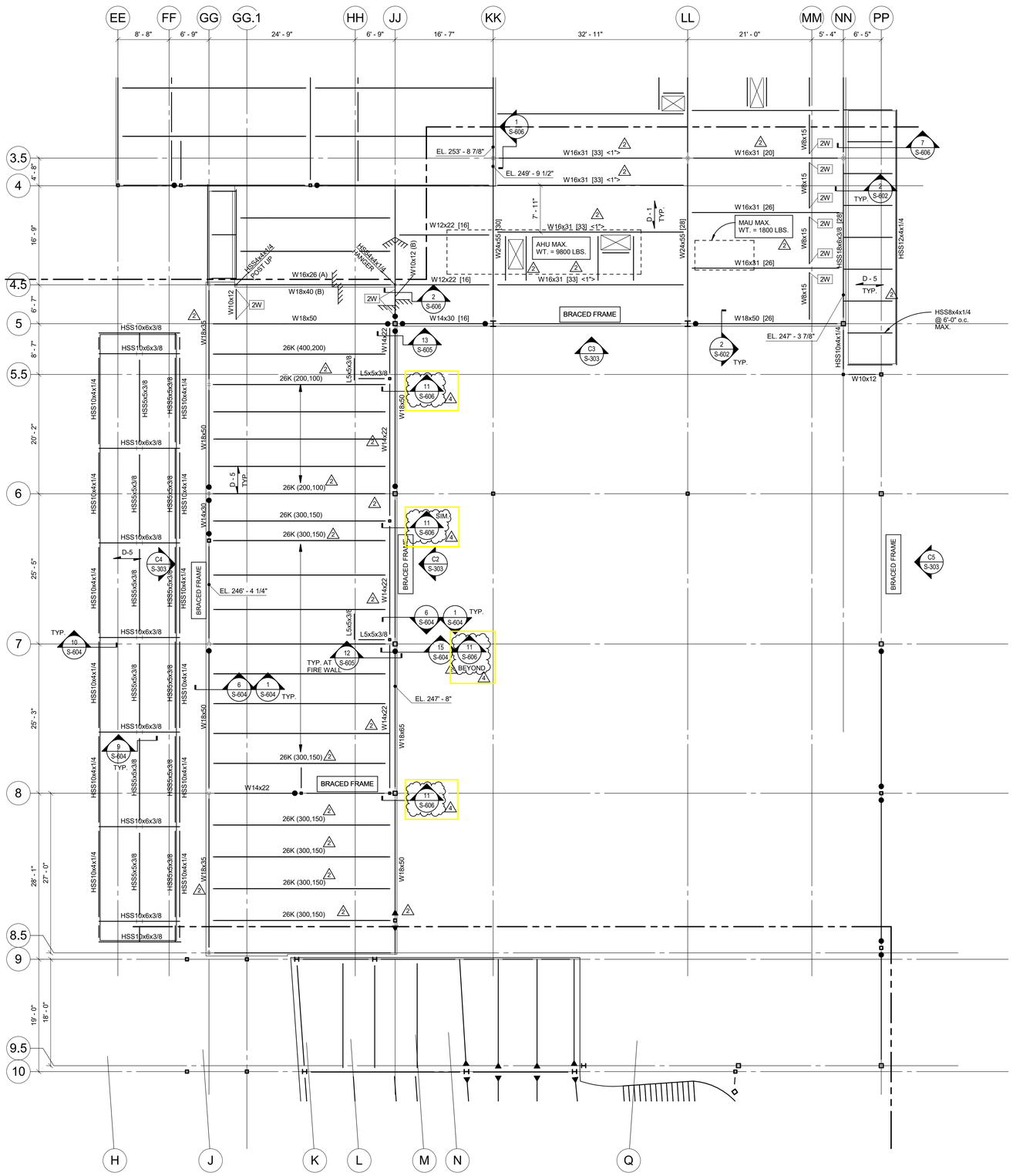
### PROPRIETARY GYPSUM PANEL PRODUCTS

Georgia-Pacific Gypsum LLC..... 5/8" ToughRock® Fireguard X™ Gypsum Board
1" DensGlass® Shaftliner

WP 7065.5

** Contact the manufacturer for more detailed information on proprietary products.*

- Listing for GA WP 7065.5.




1 LOW ROOF FRAMING PLAN - SECTOR C
1/8" = 1'-0"

- Location of low side column bracing at Fire Wall. 1/S-221C

NOTES:

1. REF. SHEET S-601 THRU S-604 FOR TYPICAL STEEL DETAILS.
2. BEAMS ARE EQUALLY SPACED IN BAYS U.N.O.
3. BEAMS ARE CENTERED ON COLUMNS, WALLS AND/OR GRID LINES, U.N.O
4. [X] INDICATES CONNECTION TYPE. REF. SHEET S-601 FOR SCHEDULES AND CONNECTION DETAILS. REF. NOTE 7 WHERE CONNECTION TYPES ARE NOT SHOWN.
5. [XC] INDICATED CONNECTION TYPE TO CONCRETE REF. 2/S-601 FOR DETAIL
6. PROVIDE THE FOLLOWING CONNECTION TYPES UNLESS NOTED OTHERWISE ON THE PLANS:

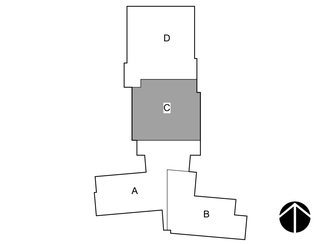
| BEAM DESIGNATION | CONNECTION TYPE |
|---|---|
| W8 | 2D |
| W10 | 2 |
| W12, W14 | 3 |
| W16, W18 | 4 |
| W21, W24 | 5 |
| W27, W30 | 6 |
| W33, W36 | 7 |

7. [XX] INDICATES NUMBER OF 3/4"Ø x4 1/2" HEADED STUDS EVENLY DISTRIBUTED ALONG BEAM LENGTH. REF. SHEET S-602 FOR TYPICAL COMPOSITE BEAM STUD SPACING DETAIL.
8. <X"> INDICATES UPWARD CAMBER AT MID SPAN.
9. D - X INDICATES SPAN DIRECTION OF DECK. REF. SCHEDULE 1/S-602 FOR DECK INFORMATION.
10. EL. XXX'-XX" INDICATES TOP OF SLAB ELEVATION.
11. EL. XXX'-XX" INDICATES BOTTOM OF DECK ELEVATION.
12. INDICATES MOMENT CONNECTION. REF. 11 AND 12/S-601FOR DETAILS, U.N.O.
13. INDICATES SFRS COLLECTOR CONNECTION. REF. 1-4/S-622 FOR DETAILS.
14. REF. SHEET S-603 FOR TYPICAL DECK REINFORCING AT OPENINGS.
15. (A) INDICATES ABOVE.
16. (B) INDICATES BELOW
17. (E) INDICATES EXISTING.
18. INDICATES COLUMN BELOW.
19. INDICATES ROOF TIE OFF. REF. 13/S-602 FOR CONNECTION DETAILS.
20. INDICATES ADDITIONAL LOAD DUE TO SNOW DRIFT.
21. XXX INDICATES MEMBER PART OF SEISMIC FORCE RESISTING SYSTEM (SFRS). REF. GENERAL STRUCTURAL NOTES, SPECIFICATIONS, AND DETAILS FOR REQUIREMENTS.
22. INDICATES SPAN DIRECTION AND EXTENT OF 19W4 (1x3/16) BAR GRATING ATTACH w/ 3/16" FILLET WELDS, 3/4" LONG @ 18" o.c. AT EACH END OF BEARING BARS. MAX. SPAN OF BAR GRATING IS 5'-0". 2
23. REF. ARCH. FOR DIMENSIONS NOT SHOWN. 4
24. XSC INDICATES BOLTED CONNECTION w/ SLIP CRITICAL BOLTS.

NOTES:

1. XXK (YYY,ZZZ) INDICATES XX" DEEP K SERIES OPEN WEB JOIST WITH A TOTAL UNIFORM DEAD LOAD PLUS LIVE LOAD OF YYY PLF AND A UNIFORM LIVE LOAD OF ZZZ PLF (SERVICE LEVEL). REF. PLAN FOR ADDITIONAL LOADS.
2. X.XKD / X.XKL INDICATES ADDITIONAL VERTICAL LOAD IN KIPS (SERVICE LEVEL) TO TOP CHORD OF OWJ. "D" INDICATES DEAD LOAD. "L" INDICATES LIVE LOAD AND "E" INDICATES SEISMIC LOAD.
3. XK INDICATES AXIAL TENSION OR COMPRESSION LOAD IN KIPS (SERVICE LEVEL) IN TOP CHORD OF JOIST DUE TO WIND OR SEISMIC LOADS.
4. LOADS BEYOND WHAT ARE SHOWN ON THE PLANS SHALL NOT BE APPLIED TO OPEN WEB JOISTS OR GIRDERS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER OF RECORD.
5. DO NOT WELD TO OPEN WEB JOISTS EXCEPT AS SHOWN IN DETAILS OR AS APPROVED BY THE ENGINEER OF RECORD.

KEY PLAN




7

PPS

KELLOGG MIDDLE SCHOOL

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Consultants:

kpff
111 SW Fifth Ave., Suite 2500
Portland, OR 97204
O: 503.227.3251
F: 503.227.7980
www.kpff.com

KELLOGG MIDDLE SCHOOL
3330 SE 69TH AVE.
PORTLAND, OR 97206

CONFORMED SET

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 76643PE OREGON NATHAN A. INGRAFFEA
EXPIRES 6-30-2021

| | |
|---|---|
| Date: | 03/11/2019 |
| Project Number: | 90031 |
| Drawn By: | JBD |
| Checked By: | KPFF |

Revision Schedule:

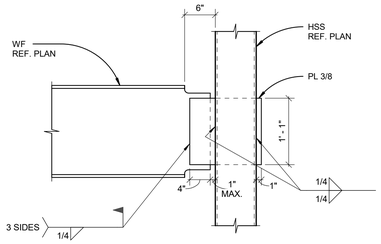
| | | |
|---|---|---|
| 2 | ASI 01 | 07/03/2019 |
| 4 | City Revision #5 | 01/20/2020 |

Sheet Title:
LOW ROOF FRAMING PLAN - SECTOR C

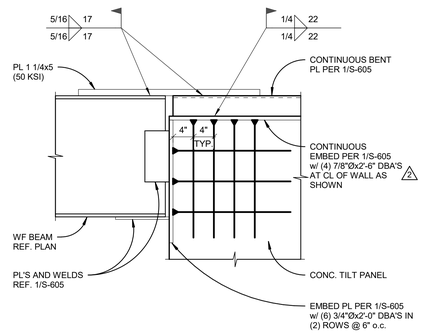
Sheet Number:
S-221C

CONFORMED SET

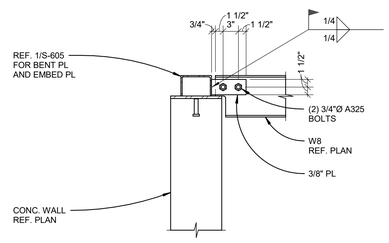
1/17/2020 3:33:19 PM



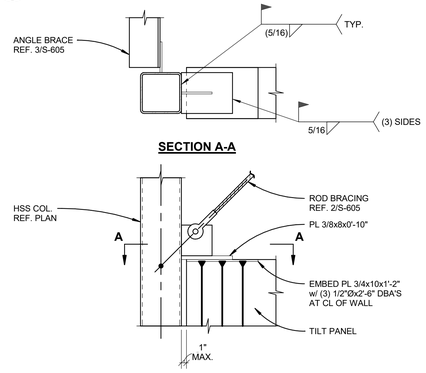

## 13 OFFSET CONNECTION AT FIRE WALL
1" = 1'-0"




## 14 CANTILEVER BEAM AT WALL END
1" = 1'-0"

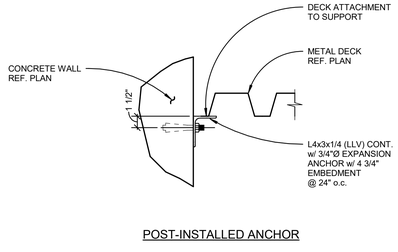



## 15 W8 CONN. AT TILT WALL
1" = 1'-0"




## 16 TOP OF WALL PANEL TO HSS
1" = 1'-0"

## 10 BEAM HANGER AND BRACING DETAILS
1" = 1'-0"

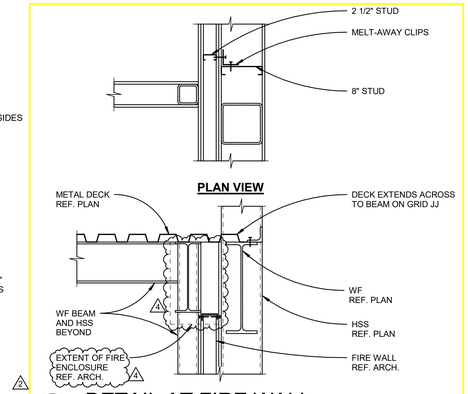



POST-INSTALLED ANCHOR

NOTES:

1. FOR INFORMATION NOT SHOWN REF. POST-INSTALLED ANCHOR DETAIL.
2. REF. SCHEDULE 1/S-602 FOR DECK ATTACHMENT.

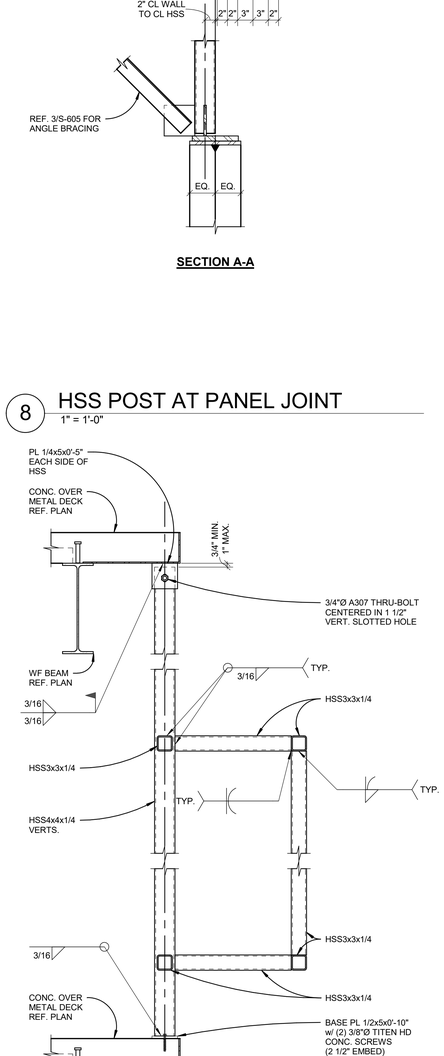
## 11 DECKING LEDGER SUPPORT ANGLE
1 1/2" = 1'-0"




## 12 DETAIL AT FIRE WALL
1" = 1'-0"

- Melt-away clip location
- Extent of Fire Wall enclosure

12/S-605

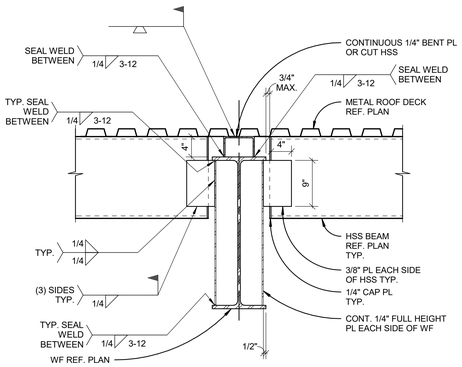



SECTION A-A

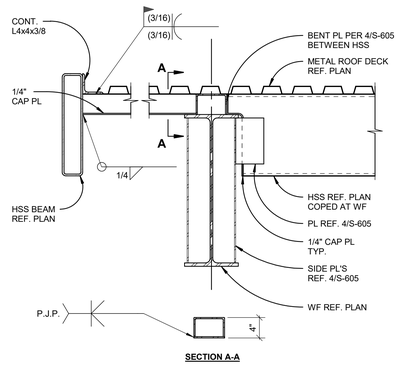
## 8 HSS POST AT PANEL JOINT
1" = 1'-0"




## 9 WINDOW POP OUT FRAME
1" = 1'-0"

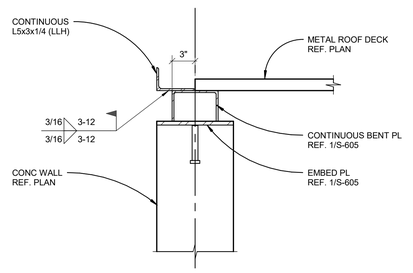



## 4 COVERED PLAY HSS TO WF
1" = 1'-0"



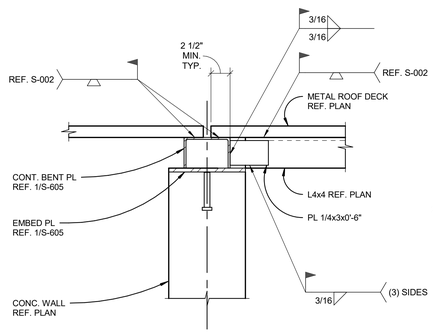

SECTION A-A

## 5 COVERED PLAY HSS TO WF
1" = 1'-0"

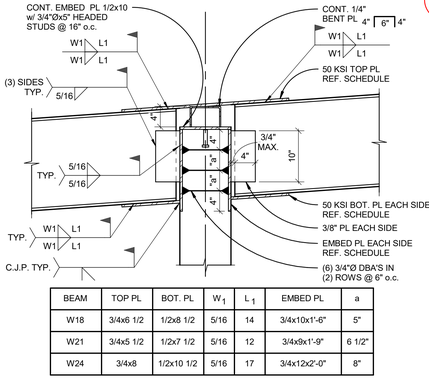



NOTE:
REF. 7/S-605 FOR L4x4 CONN. TO BENT PLATE.

## 6 DECK EDGE AT TILT WALL
1 1/2" = 1'-0"




## 7 TOP OF TILT PANEL DETAIL
1 1/2" = 1'-0"



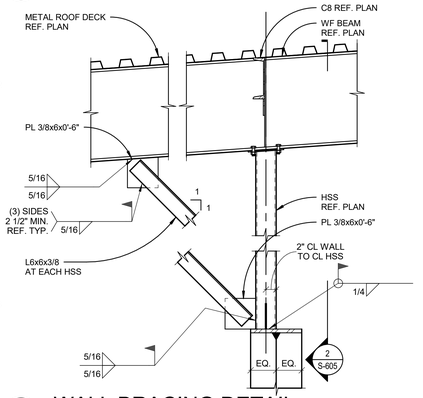

| BEAM | TOP PL | BOT. PL | $W_1$ | $L_1$ | EMBED PL | a |
|---|---|---|---|---|---|---|
| W18 | 3/4x6 1/2 | 1/2x8 1/2 | 5/16 | 14 | 3/4x10x1'-6" | 5" |
| W21 | 3/4x5 1/2 | 1/2x7 1/2 | 5/16 | 12 | 3/4x9x1'-9" | 6 1/2" |
| W24 | 3/4x8 | 1/2x10 1/2 | 5/16 | 17 | 3/4x12x2'-0" | 8" |

## 1 MOMENT CONN. AT TILT WALL
1" = 1'-0"




NOTE:
REF. 8/S-605 WHERE HSS POST ALIGNS WITH PANEL JOINT.

## 2 CROSS BRACING DETAIL
1" = 1'-0"




## 3 WALL BRACING DETAIL
1" = 1'-0"

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STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
76643PE
OREGON
JANUARY 10, 2003
NATHAN A. INGRAFFEA
EXPIRES 6-30-2021

| | |
|---|---|
| Date: | 03/11/2019 |
| Project Number: | 90031 |
| Drawn By: | JBD |
| Checked By: | KPFF |

Revision Schedule:

| | | |
|---|---|---|
| 2 | ASI 01 | 07/03/2019 |
| 4 | City Revision #5 | 01/20/2020 |

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STEEL DETAILS

Sheet Number:
S-605

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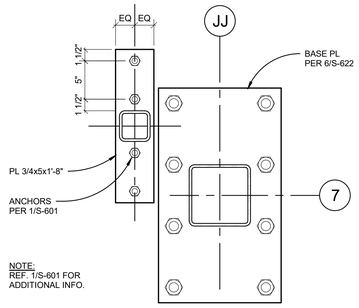
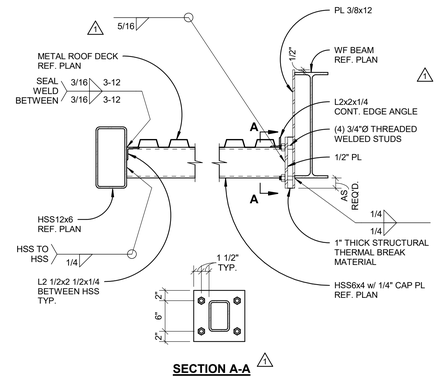
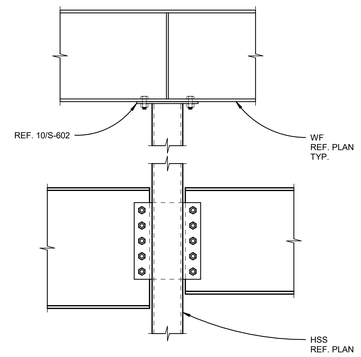



## 9 BASE PLATE AT ADJACENT COLUMNS
1 1/2" = 1'-0"

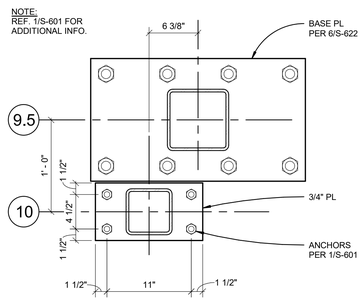



**SECTION A-A**

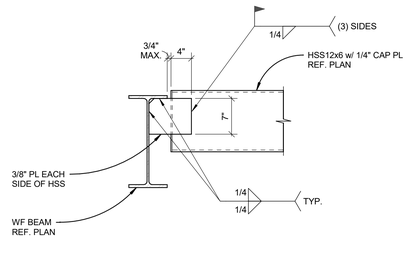
## 5 GYM ENTRY CANOPY
1" = 1'-0"



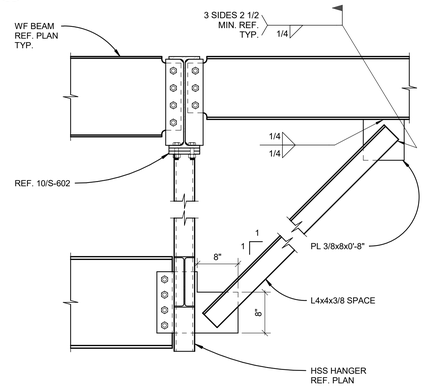

## 1 DETAIL AT ROOF STEP
1" = 1'-0"



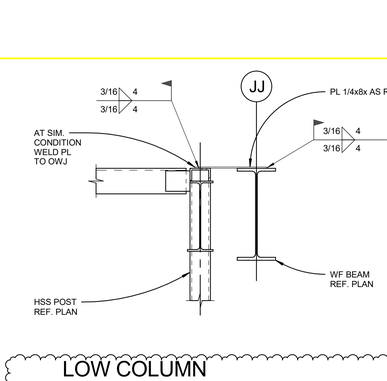

## 10 BASE PLATE AT ADJACENT COLUMNS
1 1/2" = 1'-0"




## 6 HSS TO WF CONNECTION
1" = 1'-0"

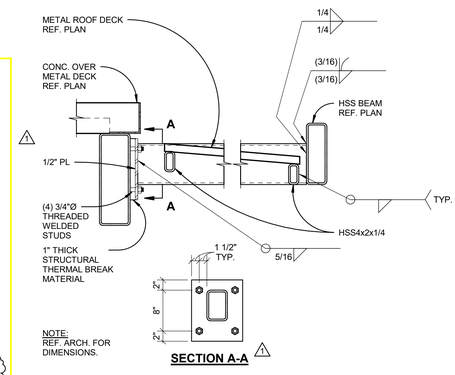



## 2 DETAIL AT ROOF STEP
1" = 1'-0"



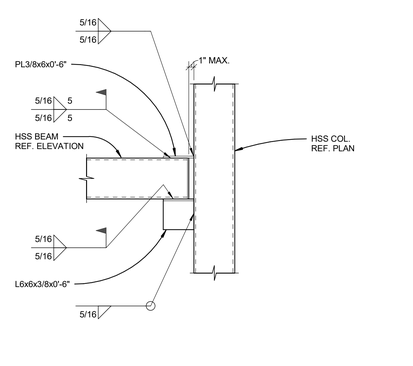

## 11 LOW COLUMN BRACING AT FIRE WALL
1" = 1'-0"

- Out-of-plane stability bracing of the low side column to the steel frame on Gridline JJ per Structural Plans Examiner (Greg Wilken) request. 11/S-606

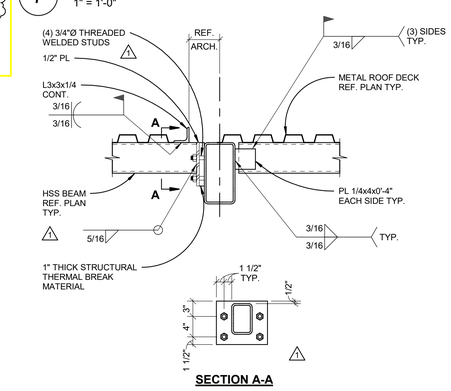



**SECTION A-A**

## 7 GARBAGE CANOPY SECTION
1" = 1'-0"

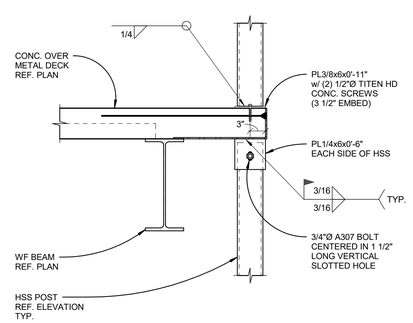



## 3 HSS TO HSS CONNECTION
1" = 1'-0"




**SECTION A-A**

## 8 ENTRY CANOPY DETAIL
1" = 1'-0"




## 4 HSS TO SLAB CONNECTION
1" = 1'-0"

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|---|---|
| Date: | 03/11/2019 |
| Project Number: | 90031 |
| Drawn By: | JBD |
| Checked By: | KPFF |

Revision Schedule:

| | | |
|---|---|---|
| 1 | ADDENDUM #3 | 03/27/2019 |
| 2 | ASI 01 | 07/03/2019 |
| 4 | City Revision #5 | 01/20/2020 |

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STEEL DETAILS

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S-606

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