

DATE: July 1, 2021

OREGON DEPARTMENT OF TRANSPORTATION

**INVITATION TO BID
ADDENDUM NO. 2**



ITB NO.: 34900

CLOSING DATE: July 15th, 2021

TIME: 10:00 AM

DESCRIPTION: Meacham Maintenance Station

BUYER: Kevin Cassidy, CPPB

EMAIL: Kevin.d.cassidy@odot.state.or.us

PHONE: 541 207-7225

This Addendum modifies the Invitation To Bid (ITB) document(s) only to the extent indicated herein. All other areas not changed or otherwise modified by this Addendum remain in full force and effect. This Addendum is hereby made an integral part of the ITB document. Bidder must be responsive to any requirements of this Addendum as if the requirements were set forth in the ITB. Acknowledge receipt of this Addendum by signing and submitting it with your Bid, and indicating its number in the spaces provided in ITB Section H – Addenda Acknowledgement. Failure to do so may result in rejection of your Bid. See the ITB regarding pre-opening modifications of Bids, where to send Bid modifications, requests for clarification or change and protests of this Addendum, and the deadlines for the foregoing.

I hereby acknowledge having received and duly considered this Addendum to the Invitation to Bid documents:

Bidder Company Name: _____

Authorized Representative Signature: _____

Authorized Representative Printed Name: _____

THE PURPOSE OF THIS ADDENDUM IS TO:

- Replace Exhibit 1 in it's entirety with "Exhibit 1_Addendum 2" attachment that adds a line item for anticipated rock removal (RFI #7)
- Add Attachment "July 1, 2021 RFI and Approval List"
- RFI #28 – Add Revised Specification and Drawing – See attached "Add 2 07 2100 & Add 2 A8-15 Roof Details
- RFI #88 – Motion Sensor required for pendent lights - **ITEM I - Drawings**
 - **Sheet G-E0.0 - Electrical Cover Sheet**
 - 1. Revise Type 'G' Lighting Fixture Description to read:
 - PENDANT MOUNTED HIGH BAY DOWN LIGHT (1) 146 WATT LED. 15.25" X 44" SIZE. 18,000
 - LUMENS. SOLID TOP. SEMI-DIFFUSE ACRYLIC LENS. NARROW DISTRIBUTION. 120V. 0-10V
 - DRIVER. 4000K. 80 CRI. 360° MOTION SENSOR. LITHONIA: IBHST-18000LM-SD080-ND-120-
 - OZ10-40K-80CRI-LAOZU OR APPROVED.

Exhibit 1 Addendum 2 - PRICING SUBMITTAL FORM

(MUST BE RETURNED WITH BID)

Bidder Name: _____

The Bidder proposes to furnish all material, equipment, and labor, and perform all work for ODOT, in strict accordance with the Invitation to Bid and Specifications attached, on the basis of the lump sum and/or unit prices as follows:

ITEM	DESCRIPTION	EST QTY.	UNIT	TOTAL PRICE
BASE BID	Construct Meacham Maintenance station as specified in the Project specifications and related drawings and supplemental documents.	All	Lump Sum	\$ _____
UNIT PRICES FOR UNFORSEEN CONDITIONS				TOTAL PRICE
1.	Unit Price for Rock Removal (Refer to Section 31.2313.26 Rock Removal)	2500	CY	Agency Options \$ _____

Exhibit 1 Addendum 2 - PRICING SUBMITTAL FORM

(MUST BE RETURNED WITH BID)

ALTERNATE DEDUCTS		Agency Options	Total Deduction per Line Item
1.	Alternate Deducts No. 1 Cold Storage Building. (Refer to Section 01 2300 Part 1.05 Schedule of Alternates – A)	All Lump Sum _____	\$ _____
2.	Alternate Deducts No. 2A Eliminate Fuel Island Foundation and Structure. (Refer to Section 01 2300 Part 1.05 Schedule of Alternates – B)	All Lump Sum _____	\$ _____
3.	Alternate Deducts No. 2B Install Fuel Island Foundation but Eliminate Structure. (Refer to Section 01 2300 Part 1.05 Schedule of Alternates – C)	All Lump Sum _____	\$ _____
4.	Alternate Deducts No. 3A Eliminate Mag Chloride Foundation and Structure. (Refer to Section 01 2300 Part 1.05 Schedule of Alternates – D)	All Lump Sum _____	\$ _____
5.	Alternate Deducts No. 3B Eliminate Mag Chloride Foundation but Eliminate Structure. (Refer to Section 01 2300 Part 1.05 Schedule of Alternates – E)	All Lump Sum _____	\$ _____
6.	Alternate Deducts No. 4 Eliminate Solar Array Parking Canopy (Refer to Section 01 2300 Part 1.05 Schedule of Alternates – F)	All Lump Sum _____	\$ _____

ODOT reserves the right to award only the Base Bid and Unit Price #1, or the Base Bid and Unit Price #1 and any combination of Deductive Alternates as selected by ODOT.

The lowest responsive Offer for purposes of award will be based on the Bidder's total of the Base Bid plus Unit Price #1 minus any deductive alternates, if selected by ODOT.

The bidder is required to submit a bid for the Base Bid, Unit Price #1 AND all Deductive Alternates. The bidder will be found non responsive if they fail to submit a bid for all items.

Facilities CC Project RFI Log

Project Name :	Meacham MS New Construction
Project Number :	F43002-500-F05
Project Manager :	David Sturges
Updated (by & date) :	7/1/2021



No.	Sub Name	Description	Answer		Status	Cost Y/N	Comments	Comments2
			By	Date				
1	Sunbelt Controls	Building Controls Machpro Web Com	CE	15-Jun	Closed	N	Specification 23 0900 - Add Reliable Controls to approved manufacturers.	Cundiff Response
2	Eng A	Hydronic Unit Heaters (AHU-1)	CE	15-Jun	Closed	N	Specification 23 7313 - Add Engineered Air to approved manufacturers.	Cundiff Response
3	Syblon Reid	Pile Schedule	CE	15-Jun	Closed	N	Total Piles required are 86. Need to match MB-S1 and MB-S2 with pile schedules on S6.1	Crow Response
4	Syblon Reid	Bid Length 5' over estimated length	CE	15-Jun	Closed	N	5' extra is contingency length and anything over 5' contingency length would be a change condition	Crow Response
5	Syblon Reid	Ref. Sheet S1.2 Call out at Grid Line 1.D and 1.10	CE	15-Jun	Closed	N	Foundation Detail call out should be F-4 rather than F-5	Crow Response
6	Syblon Reid	Ref. 2/C4.20 Concrete Retaining Wall	CE	15-Jun	Closed	N	There is no detail on concrete retaining wall. This wall will be added later if necessary and is not part of this bid.	Crow Response
7	Syblon Reid	Rock Removal Spec. 01 2200. 1.07	CE	15-Jun	Closed	N	It is anticipated that there may be rock removal in the southeast corner of building, under the grit chamber and septic tank and at the lagoons. Contractor should give a unit price for rock removal. This rock removal should be based on using a hydraulic hammer on excavator. See Revised Bid Sheet for place to enter rock removal item. A quantity of 2500 CY is estimated for rock removal and will be paid on a unit price. The estimated cost of rock removal will be included in the total bid price and be used as part of the total price for the basis of award. See revised bid sheet attached to this addendum.	Crow Response
8	Syblon Reid	Radiant heat Zone Map	CE	15-Jun	Closed	N	MB-M2.4 shows only the hydronic heated slabs. The wash bay has hydronic snow melt. See Electrical Drawings MB-E2.1 and MB-E2.2 for electric snow melt systems.	Cundiff Response

Facilities CC Project RFI Log

No.	Sub Name	Description	By	Date	Status	Cost Y/N	Comments	Comments2
9	Eng A	AHU-1 Dampers Question	CE	18-Jun	Closed	N	Unit mounted OA and Exhaust dampers are not required if provided at arctic hoods as indicated on sheet MB-M2.1. Design intent to have unit mounted RA damper.	Cundiff Response
10	Syblon Reid	Cold Storage Lighting Plan	CE	15-Jun	Closed	N	Cold Storage Lighting Plan is CS-E1.0.	Crow Response
11	Syblon Reid	Provide Novemer 2020 ODOT Memo for additional groundwater information	CE	15-Jun	Closed	N	November 2020 ODOT Memo for remediation and specifically regarding groundwater information will not be distributed to bidders. This information is sufficiently conveyed in the GRI Soils report. Request is denied.	Crow Response
12	Syblon Reid	Will Contractor be required to obtain building permits?	CE	15-Jun	Closed	N	ODOT will obtain building permit to construct building.	Crow Response
13	Syblon Reid	Will Contractor be required to obtain erosion control permit?	CE	15-Jun	Closed	N	ODOT will use its 1200-CA Permit. Contractor is required to have a certified erosion control specialist on site.	Crow Response
14	Syblon Reid	Will Contractor be required to provide Stormwater Pollution Control Plam (SWPPP)?	CE	15-Jun	Closed	N	No, the stormwater pollution control plan will not be required.	Crow Response
15	Syblon Reid	Permits Required by Contractor	CE	15-Jun	Closed	N	All trade permits and business permits are required to be provided by contractor, ie, electrical, plumbing	Crow Response
16	Syblon Reid	Permits Provided by ODOT	CE	15-Jun	Closed	N	ODOT will provide building permits, Mechanical (HVAC) Permits, Wastewater Lagoon Permit.	Crow Response
17	Griffin	Removable Bollard Drawing RD 130 missing	CE	21-Jun	Closed	N	We will not be using removable bollard. On drawing C1.30, Note 8, DELETE "and RD 130 on sheet C6.01 for removable bollards."	Crow Response
18	ODOT	Add EVSE Charging Station	CE	21-Jun	Closed	Y	480 Volt Charging station with 100 amps requested. Entire site is 208 volts. Additional engineering will be required and new design to accommodate this request. After bids are submitted this will be evaluated and implemented with a change order if necessary.	Crow Response

Facilities CC Project RFI Log

No.	Sub Name	Description	By	Date	Status	Cost Y/N	Comments	Comments2
19	Griffin	AHU-1 Substitution Request for Dunham-Busy	CE	6/22/2021	Closed	N	Not approved. Dunham does not appear to offer required air blender. It is not clear if it will comply with energy code requirements when coupled with another manufacturer's condensing unit. Hot water coil is a glycol system. Bypass damper section is not filled out based upon design conditions. Filters are not listed in MERV units as noted in specifications .	Cundiff Response
20	Griffin	UH-1, UH-2, UH-3, UH-4 Sub Req. Zehnder	CE	6/22/2021	Closed	N	Not approved. Zehnder does not appear to comply with fan on/auto switch noted in specifications.	Cundiff Response
21	Griffin	Split Air Conditioner Sub. Req. Frazier Johnston	CE	6/22/2021	Closed	N	Specification 23 8126 - Add Johnson Controls, Inc. and their associated doing-business-as brand names as acceptable manufacturers.	Cundiff Response
22	Chervenell	Rockwood Flush Bolt Substitution	CE	6/23/2021	Closed	N	Approved - Section 08 7100, Part 2, Paragraph 2.03, Paragraph A - add Rockwood as acceptable manufacturer	Soderstrom Response
23	Chervenell	PBB Hinge Substitution	CE	6/23/2021	Closed	N	Approved - Section 08 7100, Part 2, Paragraph 2.02, Paragraph A - add PBB as acceptable manufacturer	Soderstrom Response
24	Chervenell	Dorma Door Lockset Substitution	CE	6/23/2021	Closed	N	Not Approved. Schlage is only acceptable manufacturer for these items	Soderstrom Response
25	Chervenell	Rockwood Kickplate Substituion	CE	6/23/2021	Closed	N	Approved - Section 08 7100, Part 2, Paragraph 2.12, Paragraph A - add Rockwood as acceptable manufacturer	Soderstrom Response
26	Chervenell	Reese and Rockwood Wall Stop and Gasketing	CE	6/23/2021	Closed	N	Approved - Section 08 7100, Part 2, Paragraph 2.13, Paragraph A - add Reese and Rockwood as acceptable manufacturers, Approved - Section 08 7100, Part 2, Paragraph 2.15, Paragraph A - add Reese and Rockwood as acceptable manufacturers, Approved - Section 08 7100, Part 2, Paragraph 2.16, Paragraph A - add Reese and Rockwood as acceptable manufacturer	Soderstrom Response

Facilities CC Project RFI Log

No.	Sub Name	Description	By	Date	Status	Cost Y/N	Comments	Comments2
27	Griffin	Architect to Confirm Roof Insulation	CE	6/23/2021	Closed	N	R-30 insulation is required to meet energy code requirements for the building. Detail is for schematic purposes, and it not intended to illustrate final roof thickness. Provide minimum 2 layers of insulation to achieve required R-value.	Soderstrom Response
28	Griffin	Is plywood nailer required?	CE	6/23/2021	Closed	N	See Revised detail 4/A8.15 and revised Specification 07 2100 for plywood or OSB faced polyiso for use as top layer at roof assembly.	Soderstrom Response Revised 07-2100 Spec and Revised A8-15 Roof Drawing
29	Griffin	Does PEMP Supplier provide siding, flashings, and roof?	CE	6/23/2021	Closed	N	ODOT expects the PEMB Supplier to provide siding, flashings, and roof as part of their complete package. However, if General Contractor wants to supply parts of building, they will be responsible for coordination of details and meeting specifications and providing proper fit up.	Crow Response
30	Griffin	Confirm there are no gutters	CE	6/23/2021	Closed	N	Confirmed. ODOT directed no gutters on the buildings	Soderstrom Response
31	Griffin	Confirm no snowguards are required on building	CE	6/23/2021	Closed	N	Confirmed. ODOT directed no snow guards to be installed.	Soderstrom Response
31	Griffin	Will ODOT issue CO if materials escalate > 5%	CE	6/23/2021	Closed	N	Based on the language associated with this Contract, there are currently no escalation clauses associated with this Contract. At this time the concern you are outlining would be a contractor risk. ODOT is aware of the current market issues and is in conversations with AGC around various ways to mitigate these issues without causing additional increases to the defined budgets for our projects. At this time, ODOT's position is to maintain Contract costs and work with a Contractor to see what other avenues might help offset a particular supply issue.	ODOT Response
33	Interclean	Re: Note 2 on truckwash details MB S1.5	CE	6/24/2021	Closed	N	Note 2:" All above ground connections & equipment to provided by Owner." Will be removed. The General Contractor is responsible to supply and install truckwash.	Crow Response
34	Interclean	Truckwash Procument to be by General Contractor	CE	6/24/2021	Closed	N	The General Contractor will supply and install truckwash.	Crow Response

Facilities CC Project RFI Log

No.	Sub Name	Description	By	Date	Status	Cost Y/N	Comments	Comments2
35	Interclean	Truckwash travel	CE	6/24/2021	Closed	N	The trucks will enter on the west side and exit on the east side.	Crow Response
36	Interclean	Truckwash AutoCad Background	CE	6/24/2021	Closed	N	The General Contractor will be given a CAD file of the truckwash area to allow layout and design of truckwash equipment. The CAD drawing will be issued to GC after award of contract.	Crow Response
37	Air Reps	Is HVAC Bidding at this time	CE	6/25/2021	Closed	N	HVAC is part of this bid.	Crow Response
38	Knife River	What is the size and Level of the proposed ACP	CE	6/28/2021	Closed	N	i. Use Level 3 meeting the broadband limits for a 3/8" dense graded mix as defined by the 2021 OSSC, Section 00744.12. The applicable ODOT gradation represents the limits which shall determine suitability of aggregate for use from the sources of supply. The final gradation decided on within the limits designated in the table shall be dense graded and shall not vary from the low limit on one sieve to the high limit on the adjacent sieves, or vice versa. In no case will the gradation of the asphalt concrete surface course be allowed to extend outside the limits of broadband specification. ii. Aggregate shall be in accordance with 2021 OSSC, Section 00744.10	Crow Repsonse
39	Knife River	What is the required spread rate for tack lifts	CE	6/28/2021	Closed	N	Between 0.05 and 0.20 gal/sq. yd.	Crow Repsonse
40	Knife River	Is Prime Coate on leveling base required?	CE	6/28/2021	Closed	N	Prime Coat not required.	Crow Repsonse
41	The Lighting Project NW	Sub. Req. for Light A Hubbell RAR2-320L-165-5K7-3-UNV-SCP-40F-RTAH16-50A-1-B3-BLT	CE	6/30/2021	Active	N	Fixture Type 'A' is a 26' pole mounted fixture, this substitution is only 16' and do not have the option for 26'. Not approved.	Cundiff Response
42	The Lighting Project NW	Sub. Req. for Light A1 Hubbell QSP2-24L-70-5K7-4-UNV-SCP-20F	CE	6/30/2021	Active	N	Light fixture Type A1 has to be the same style as Type A. Not approved	Cundiff Response
43	The Lighting Project NW	Sub. Req. for Light B Hubbell QSP2-24L-70-5K7-4-UNV	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
44	The Lighting Project NW	Sub. Req. for Light B1 Hubbell QSP2-24L-70-5K7-4-UNV-SCP-20F	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
45	The Lighting Project NW	Sub. Req. for Light B2 Hubbell QSP2-24L-50-5K7-4-UNV-PC	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
46	The Lighting Project NW	Sub. Req. for Light C ETI SSL WP-39-850-MV	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response

Facilities CC Project RFI Log

No.	Sub Name	Description	By	Date	Status	Cost Y/N	Comments	Comments2
47	The Lighting Project NW	Sub. Req. for Light E Hubbell M33N12V-03L-40G	CE	6/30/2021	Active	N	Substitution fixture has twice the watts as the specified with no lumens information. Not approved	Cundiff Response
48	The Lighting Project NW	Sub. Req. for Light G Hubbell CLB4-40MH-N-EDU	CE	6/30/2021	Active	N	Fixture mounted motion sensors are required. Add Hubbell CLB-40MH-N-EDU-WSPA as an approved alternate.	Cundiff Response
49	The Lighting Project NW	Sub. Req. for Light H Hubbell MPS8-40HL-CW-EDU-CABLE MOUNT	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
50	The Lighting Project NW	Sub. Req. for Light H1 Hubbell MPS8-40HL-CW-EDU	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
51	The Lighting Project NW	Sub. Req. for Light H2 Hubbell MPS8-40HL-CW-EDU-CONTINUOUS ROW	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
52	The Lighting Project NW	Sub. Req. for Light L Hubbell LTR-6RD-H-SL15L-DM1-LTR-6RD-T-SHSL40K8-WTAMLAM	CE	6/30/2021	Active	N	This fixture is similar to specified but revised to 1000 lumens as specified. Add Prescolite model # LTR-6RD-H-SL10L-DM1-LTR-6RD-T-SHSL40K8-WTAMLAM as an approved alternate.	Cundiff Response
53	The Lighting Project NW	Sub. Req. for Light M Hubbell LTR-6RD-H-ML25L-DM1-LTR-6RD-T-ML40K8MD	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
54	The Lighting Project NW	Sub. Req. for Light M1 Hubbell LTR-6RD-H-ML25L-DM1-LTR-6RD-T-ML50K8MD	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
55	The Lighting Project NW	Sub. Req. for Light P Hubbell LXEM8-40VL-RFA-EDU-PENDENT KIT	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
56	The Lighting Project NW	Sub. Req. for Light P1 Hubbell LXEM4-40HL-RFA-EDU	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
57	The Lighting Project NW	Sub. Req. for Light Q Holm DAXS79LEDBZ-WPRD050BZ-YYRSLBZ	CE	6/30/2021	Active	N	Light Fixture is similar but is not clear if the sign light riser will be a single piece with a 24" arm as specified. Approved if sign light riser arm is single piece at the specified length.	Cundiff Response
58	The Lighting Project NW	Sub. Req. for Light R Holm DAXS79LEDBZ-WPRD050BZ-YYRSLBZ-TMNT050BZ	CE	6/30/2021	Active	N	Light Fixture is similar but is not clear if the sign light riser will be a single piece with a 24" arm as specified. Approved if sign light riser arm is single piece at the specified length.	Cundiff Response
59	Ambient Lighting & Controls	Sub. Req. for Lighting Controls EATON WPOE-120	CE	6/30/2021	Active	N	Wired controls were specified for this project. Not Approved	Cundiff Response
60	Ambient Lighting & Controls	Sub. Req. for Light A COOPER NAV-SA3D-750-U-T3-AP	CE	6/30/2021	Active	N	Light Fixture is similar as specified but information for the mounting pole is not submitted. Approved if can be provided with 26' mounted pole.	Cundiff Response
61	Ambient Lighting & Controls	Sub. Req. for Light A1 COOPER NAV-SA3D-750-U-T3-AP-MS/DIM-L40	CE	6/30/2021	Active	N	Light Fixture is similar as specified but information for the mounting pole is not submitted. Approved if can be provided with 20' mounted pole.	Cundiff Response

Facilities CC Project RFI Log

No.	Sub Name	Description	By	Date	Status	Cost Y/N	Comments	Comments2
62	Ambient Lighting & Controls	Sub. Req. for Light C COOPER AXCS3A-C	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
63	Ambient Lighting & Controls	Sub. Req. for Light C Alt TGS WPF-27W-50K-U-D	CE	6/30/2021	Active	N	Alternate is not approved	Cundiff Response
64	Ambient Lighting & Controls	Sub. Req. for Light D ILP WTZ4-10L-U-40-RAFL / AB45DEG	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
65	Ambient Lighting & Controls	Sub. Req. for Light D1 ILP WTZ8-24L-U-40-RAFL / HB-240-LOOP-(2)HUB 3/4-(2)FMB	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
66	Ambient Lighting & Controls	Sub. Req. for Light E1 Survive-All G12SV24N-2LA-D	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
67	Ambient Lighting & Controls	Sub. Req. for Light G LHB-18-UNV-L840-CD-U / LHB-PMK	CE	6/30/2021	Active	N	Fixture mounted 360-degree motion sensors are required. Add LHB-18-UNV-L840-CD-MS-U / LHB-PMK as an approved alternate.	Cundiff Response
68	Ambient Lighting & Controls	Sub. Req. for Light H COOPER 8TSNLED-LD5-110HL-LW-UNV-L840-HCD-1-U / Y-TOGGLE-12'	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
69	Ambient Lighting & Controls	Sub. Req. for Light H1 COOPER 8TSNLED-LD5-110HL-LW-UNV-L840-HCD-1-U	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
70	Ambient Lighting & Controls	Sub. Req. for Light H2 COOPER 8TSNLED-LD5-110HL-LW-UNV-L840-HCD-1-U / 550702P PK	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
71	Ambient Lighting & Controls	Sub. Req. for Light J IPL FWS-30WLED-UNIV-40	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
72	Ambient Lighting & Controls	Sub. Req. for Light J1 IPL FWS-70WLED-UNIV-40	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
73	Ambient Lighting & Controls	Sub. Req. for Light K COOPER 24CZ2-50-S-UNV-L840-CD1-U	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
74	Ambient Lighting & Controls	Sub. Req. for Light K1 COOPER 24CZ2-55HE-S-UNV-L840-CD1-U	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
75	Ambient Lighting & Controls	Sub. Req. for Light L COOPER HC615D010-HM612840-61PSMDW-L111	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
76	Ambient Lighting & Controls	Sub. Req. for Light M COOPER LD6B30D010-EU6B30508040-6LBM1LI	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
77	Ambient Lighting & Controls	Sub. Req. for Light M1 COOPER LD6B30D010-EU6B30508050-6LBM1LI	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
78	Ambient Lighting & Controls	Sub. Req. for Light N COOPER S123DIW-C300D300U840-5F0-1-UDD-A1-X	CE	6/30/2021	Active	N	Specified fixture is a down light, submitted is direct / indirect. Not approved	Cundiff Response
79	Ambient Lighting & Controls	Sub. Req. for Light P COOPER WTZ8-14L-U-40-RAFL / HB-XXX-LOOP-(2)HUB 3/4-(2)FMB	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
80	Ambient Lighting & Controls	Sub. Req. for Light P1 COOPER WTZ4-6L-U-40-RAFL	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
81	Ambient Lighting & Controls	Sub. Req. for Light Q COOPER 922-8LED4036-12-BZ-SA24	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
82	Ambient Lighting & Controls	Sub. Req. for Light R COOPER 1002-S2-RCS-RW-LED5080-F-BZ-24-L1-UNV-RSM	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
83	Ambient Lighting & Controls	Sub. Req. for Light S COOPER R2X-WO-3L40-LD5-UNV-24-T1-STD / SK-24-WS	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
84	Ambient Lighting & Controls	Sub. Req. for Light X COOPER CX71	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response
85	Ambient Lighting & Controls	Sub. Req. for Light X1 COOPER CX72	CE	6/30/2021	Active	N	Light fixture is similar to specified and is approved.	Cundiff Response

ODOT Meacham Maintenance Station

SECTION 07 2100

THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Board insulation at cavity wall construction, perimeter foundation wall, underside of floor slabs, over roof deck, and exterior wall behind gyp board and plywood wall finish.
- B. Batt insulation and vapor retarder in exterior wall construction - Cold Storage building only.
- C. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.
- D. Batt insulation for use as sound attenuation at interior walls
- E. Aluminum-face board insulation for use as exposed finish at roof and walls

1.02 RELATED REQUIREMENTS

- A. Section 07 2500 - Weather Barriers: Separate air barrier and vapor retarder materials.
- B. Section 07 4113 - Metal Roof Panels: Installation requirements for board insulation over roof deck, under metal roof panels

1.03 REFERENCE STANDARDS

- A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2017.
- B. ASTM C553 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications; 2013 (Reapproved 2019).
- C. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2019.
- D. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation; 2014 (Reapproved 2019).
- E. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.
- F. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2020.
- G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2020.
- H. ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C; 2019a.
- I. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components; 2019.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.05 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

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PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Insulation Under Concrete Slabs: Extruded polystyrene (XPS) board.
- B. Insulation at Perimeter of Foundation: Extruded polystyrene (XPS) board.
- C. Insulation on Inside of Pre-Engineered Metal Building Roof with Exposed Facer Providing Interior Finish: Glass-fiber-reinforced polyisocyanurate with exposed facers.
- D. Insulation on Inside of Concrete and Masonry Exterior Walls: Polyisocyanurate board at areas with gypsum board sheathing, mineral fiber board at areas with plywood sheathing or where left exposed.
- E. Insulation in Exterior Pre-Engineered Metal Building Walls: Batt insulation with vapor retarder.
- F. Insulation in Interior Metal Framed Walls: Batt insulation with no vapor retarder. Provide vapor retarder at Cold Storage building interior walls.
- G. Insulation Over Roof Deck: Polyisocyanurate board, with OSB or Plywood faced polyisocyanurate board as top layer.

2.02 FOAM BOARD INSULATION MATERIALS

- A. Extruded Polystyrene (XPS) Board Insulation: Complies with ASTM C578 with either natural skin or cut cell surfaces.
 - 1. Type and Compressive Resistance: Type VI, 40 psi (276 kPa), minimum.
 - 2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
 - 3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 - 4. Type and Thermal Resistance, R-value: Type IV, 5.0 (0.88) per 1 inch thickness at 75 degrees F mean temperature.
 - 5. Manufacturers:
 - a. Dow Chemical Company: www.dow.com/#sle.
 - b. Kingspan Insulation LLC; : www.trustgreenguard.com/#sle.
 - c. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
- B. Glass-Fiber-Reinforced Polyisocyanurate (ISO) Board Insulation with Facers Both Sides and Providing Interior Finish System: Rigid cellular foam, complying with ASTM C1289.
 - 1. For use at Cold Storage roof
 - 2. Classification: Type I, Class 2 - Faced with aluminum foil on both major surfaces of core foam; glass fiber reinforced or non-reinforced core foam.
 - 3. Compressive Strength: 16 psi, minimum.
 - 4. Thermal Resistance, R-value: Type I, Class 2, at 1-1/2 inch thick; 9.0 at 75 degrees F.
 - 5. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
 - 6. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 - 7. Board Size: 48 inch by 96 inch.
 - 8. Board Thickness: 1.5 inch.
 - 9. Board Edges: Square.
 - 10. Exposed Facer: 1.25 mil, 0.00125 inch embossed white acrylic coated aluminum.
 - 11. Non-Exposed Facer: 1.25 mil, 0.00125 inch embossed aluminum.
 - 12. Products:
 - a. DuPont de Nemours, Inc; Thermax Metal Building Board: building.dupont.com/#sle.
 - b. Substitutions: See Section 01 6000 - Product Requirements.
- C. Glass-Fiber-Reinforced Polyisocyanurate (ISO) Board Insulation with Facers Both Sides and Providing Interior Finish System: Rigid cellular foam, complying with ASTM C1289.
 - 1. For use at Wash Bay interior wall face
 - 2. Classification: Type I, Class 2 - Faced with aluminum foil on both major surfaces of core foam; glass fiber reinforced or non-reinforced core foam.
 - 3. Compressive Strength: 25 psi, minimum.
 - 4. Thermal Resistance, R-value: Type I, Class 2, at 1-1/2 inch thick; 9.0 at 75 degrees F.

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5. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
 6. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 7. Board Size: 48 inch by 96 inch.
 8. Board Thickness: 1 inch.
 9. Board Edges: Square.
 10. Exposed Facer: 4 mil, 0.004 inch embossed white thermoset-coated aluminum.
 11. Non-Exposed Facer: 1.25 mil, 0.00125 inch embossed aluminum.
 12. Accessories
 - a. Provide manufacturer's clip strip or J-channel PVC closure at all joints
 13. Products:
 - a. DuPont de Nemours, Inc; Thermax Heavy Duty Insulation: building.dupont.com/#sle.
 - b. Substitutions: See Section 01 6000 - Product Requirements.
- D. Polyisocyanurate (ISO) Board Insulation with Facers Both Sides: Rigid cellular foam, complying with ASTM C1289.

1. For use at lower layers of roof assembly

42. Classifications:
- a. Type I: Faced with aluminum foil on both major surfaces of the core foam.
 - 1) Class 1 - Non-reinforced core foam.
 - 2) Compressive Strength: 16 psi, minimum.
 - 3) Thermal Resistance, R-value: At 1-1/2 inch thick; 9.0 at 75 degrees F.
23. Complies with fire resistance requirements shown on the drawings as part of an exterior non-load-bearing exterior wall assembly when tested in accordance with NFPA 285.
34. Board Size: 48 by 96 inch.
45. Total Thermal Resistance: R-value of 21.
56. Board Edges: Square.
67. Manufacturers:
- a. Atlas Roofing Corporation: www.atlasroofing.com/#sle.
 - b. Carlisle Coatings & Waterproofing, Inc: www.carlisleccw.com/#sle.
 - c. Dow Chemical Company: www.dow.com/#sle.
 - d. Johns Manville: www.jm.com/#sle.
 - e. Firestone: www.firestonebpc.com.
 - f. Substitutions: See Section 01 6000 - Product Requirements.

E. Composite Polyisocyanurate (ISO) Board Insulation Faced with Oriented Strand Board (OSB) or Plywood: Rigid cellular foam, complying with ASTM C1289.

1. For use at top layer of roof insulation.
2. Classifications:
 - a. Type V: Faced with oriented strand board (OSB) or plywood on one major surface of core foam and glass fiber reinforced cellulosic felt or uncoated or coated polymer-bonded glass fiber mat facer on other major surface of core foam.
 - 1) Compressive Strength: 16 psi, minimum.
 - 2) Thermal Resistance, R-value: At 1-1/2 inch thick; 6.2, minimum, at 75 degrees F.
3. Top Layer Material: 5/8 inch CDX plywood or 5/8" oriented strand board (OSB).
4. Board Size: 48 by 96 inches nominal.
5. Board Edges: Square.
6. Manufacturers:
 - a. Atlas Roofing Corporation: www.atlasroofing.com/#sle.
 - b. Hunter Panels: www.hunterpanels.com
 - c. Johns Manville: www.jm.com/#sle.
 - d. Firestone: www.firestonebpc.com.
 - e. Substitutions: See Section 01 6000 - Product Requirements

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2.03 FIBERBOARD INSULATION MATERIALS

- A. Mineral Fiberboard Insulation: Rigid or semi-rigid mineral fiber, ASTM C612 or ASTM C553; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
 - 1. Provide foil facing on one side; with flame spread index of 25 or less, when tested in accordance with ASTM E84.
 - 2. Smoke Developed Index: 25 or less, when tested in accordance with ASTM E84.
 - 3. Board Thickness: 2-1/2 inches.
 - 4. Thermal Resistance: R-value of 4.2 degrees F hr sq ft/Btu per inch at 75 degrees F, minimum, when tested according to ASTM C518.
 - 5. Maximum Density: 6 pounds per cubic foot, nominal.
 - 6. Manufacturers:
 - a. Johns Manville; MinWool Curtainwall: www.jm.com/#sle.
 - b. ROCKWOOL (ROXUL, Inc); ROCKBOARD 40: www.rockwool.com/#sle.
 - c. Substitutions: See Section 01 6000 - Product Requirements.

2.04 BATT INSULATION MATERIALS

- A. Where batt insulation is indicated, either glass fiber or mineral fiber batt insulation may be used, at Contractor's option.
- B. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
 - 1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
 - 2. Smoke Developed Index: 50 or less, when tested in accordance with ASTM E84.
 - 3. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
 - 4. Facing: Unfaced.
 - 5. Facing: Aluminum foil, one side - for use at Cold Storage building only.
 - 6. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville: www.jm.com.
 - c. Owens Corning Corporation: www.ocbuildingspec.com/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
- C. Mineral Fiber Batt Insulation: Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
 - 1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
 - 2. Smoke Developed Index: 0 (zero), when tested in accordance with ASTM E84.
 - 3. Provide foil facing on one side, at Cold Storage building only.
 - 4. Manufacturers:
 - a. Johns Manville: www.jm.com/#sle.
 - b. ROCKWOOL (ROXUL, Inc): www.rockwool.com/#sle.
 - c. Substitutions: See Section 01 6000 - Product Requirements.

2.05 ACCESSORIES

- A. Sheet Vapor Retarder: Specified in Section 07 2500.
- B. Flashing Tape: Special polyolefin film with high performance adhesive.
 - 1. Application: Window and door opening flashing tape.
 - 2. Width: As required for application.
- C. Tape joints of rigid insulation in accordance with roofing and insulation manufacturers' instructions.
- D. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
 - 1. Length as required for thickness of insulation material and penetration of deck substrate.
- E. Nails or Staples: Steel wire; electroplated or galvanized; type and size to suit application.
- F. Protection Board for Below Grade Insulation: Cementitious, 1/4 inch thick.

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- G. Adhesive: Type recommended by insulation manufacturer for application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Adhere a 6 inch wide strip of polyethylene sheet over construction and control joints with double beads of adhesive each side of joint.
- B. Apply adhesive to back of boards:
 - 1. Three continuous beads per board length.
- C. Install boards horizontally on foundation perimeter.
 - 1. Place boards to maximize adhesive contact.
 - 2. Install in running bond pattern.
 - 3. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- E. Immediately following application of board insulation, place protective boards over exposed insulation surfaces.
 - 1. Install boards horizontally from base of foundation to top of insulation.
 - 2. Butt boards tightly, with joints staggered from insulation joints.

3.03 BOARD INSTALLATION AT EXTERIOR WALLS

- A. Install boards horizontally on walls.
 - 1. Place boards to maximize adhesive contact.
 - 2. Install in running bond pattern.
 - 3. Butt edges and ends tightly to adjacent boards and to protrusions.
- B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- C. Place 6 inch wide polyethylene sheet at perimeter of wall openings, from adhesive vapor retarder bed to window and door frames, and tape seal in place to ensure continuity of vapor retarder and air seal.
- D. Tape insulation board joints.

3.04 BOARD INSTALLATION AT CAVITY WALLS

- A. Install boards to fit snugly between wall ties.
- B. Install boards horizontally on walls.
 - 1. Install in running bond pattern.
 - 2. Butt edges and ends tightly to adjacent boards and protrusions.
- C. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.05 BOARD INSTALLATION UNDER CONCRETE SLABS

- A. Place insulation under slabs on grade after base for slab has been compacted.
- B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- C. Prevent insulation from being displaced or damaged while placing vapor retarder and placing slab.

3.06 BOARD INSTALLATION OVER LOW SLOPE ROOF DECK

- A. Installation of board insulation over low slope roof deck as specified in Section 07 4113.
- B. Board Installation Over Roof Deck, General:
 - 1. See applicable roofing specification section for specific board installation requirements.

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2. Fasten insulation to deck in accordance with roofing manufacturer's written instructions and applicable Factory Mutual requirements.
3. Do not apply more insulation than can be covered with roofing in same day.

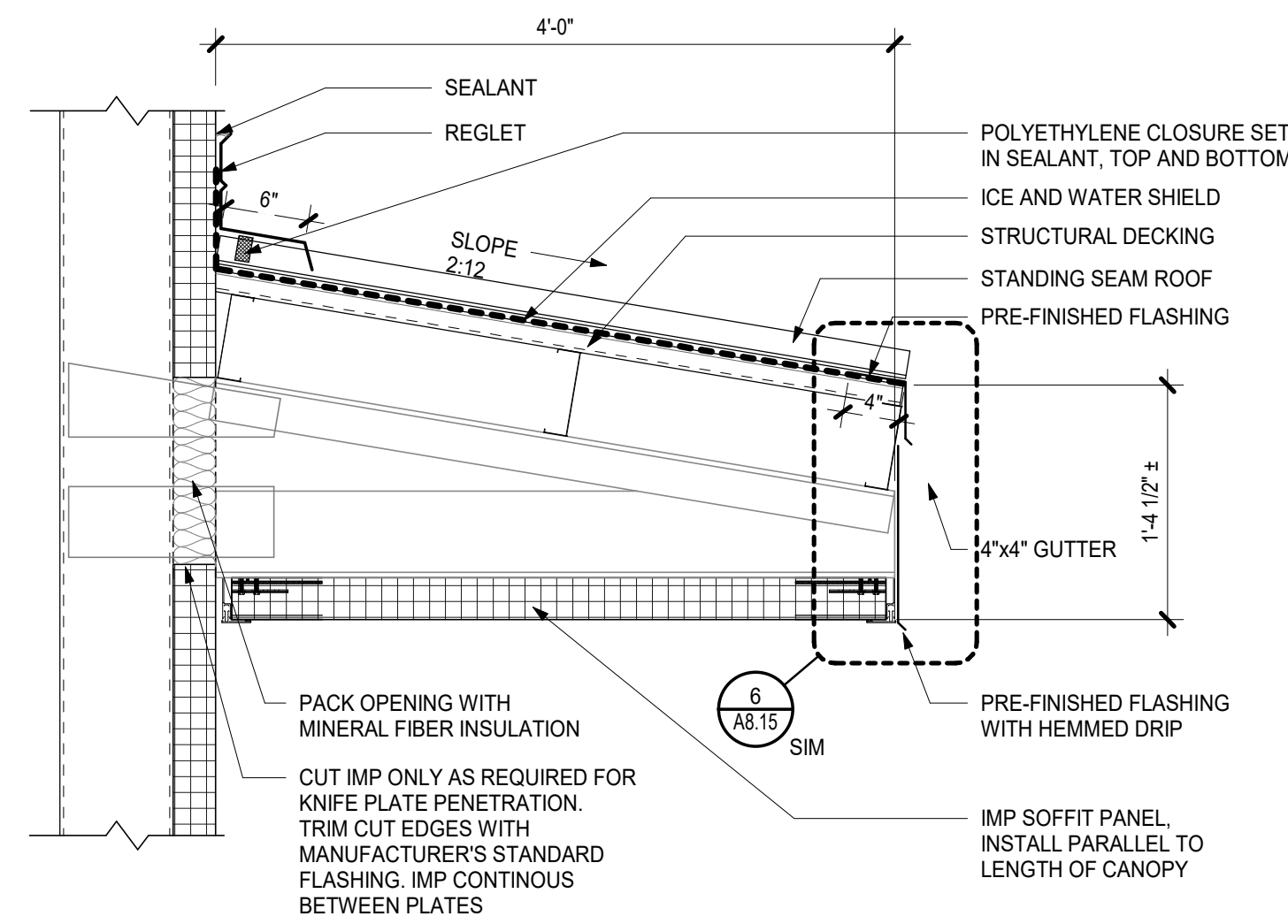
3.07 BATT INSTALLATION

- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Install in exterior wall and roof spaces without gaps or voids.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
- E. Install with factory applied vapor retarder membrane facing warm side of building spaces. Lap ends and side flanges of membrane over framing members.
- F. Retain insulation batts in place with wire mesh secured to framing members.
- G. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.
- H. At metal framing, place vapor retarder on warm side of insulation; lap and seal sheet retarder joints over member face.
- I. Tape seal tears or cuts in vapor retarder.
- J. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane. Tape seal in place.
- K. Coordinate work of this section with requirements for vapor retarder specified in Section 07 2500.

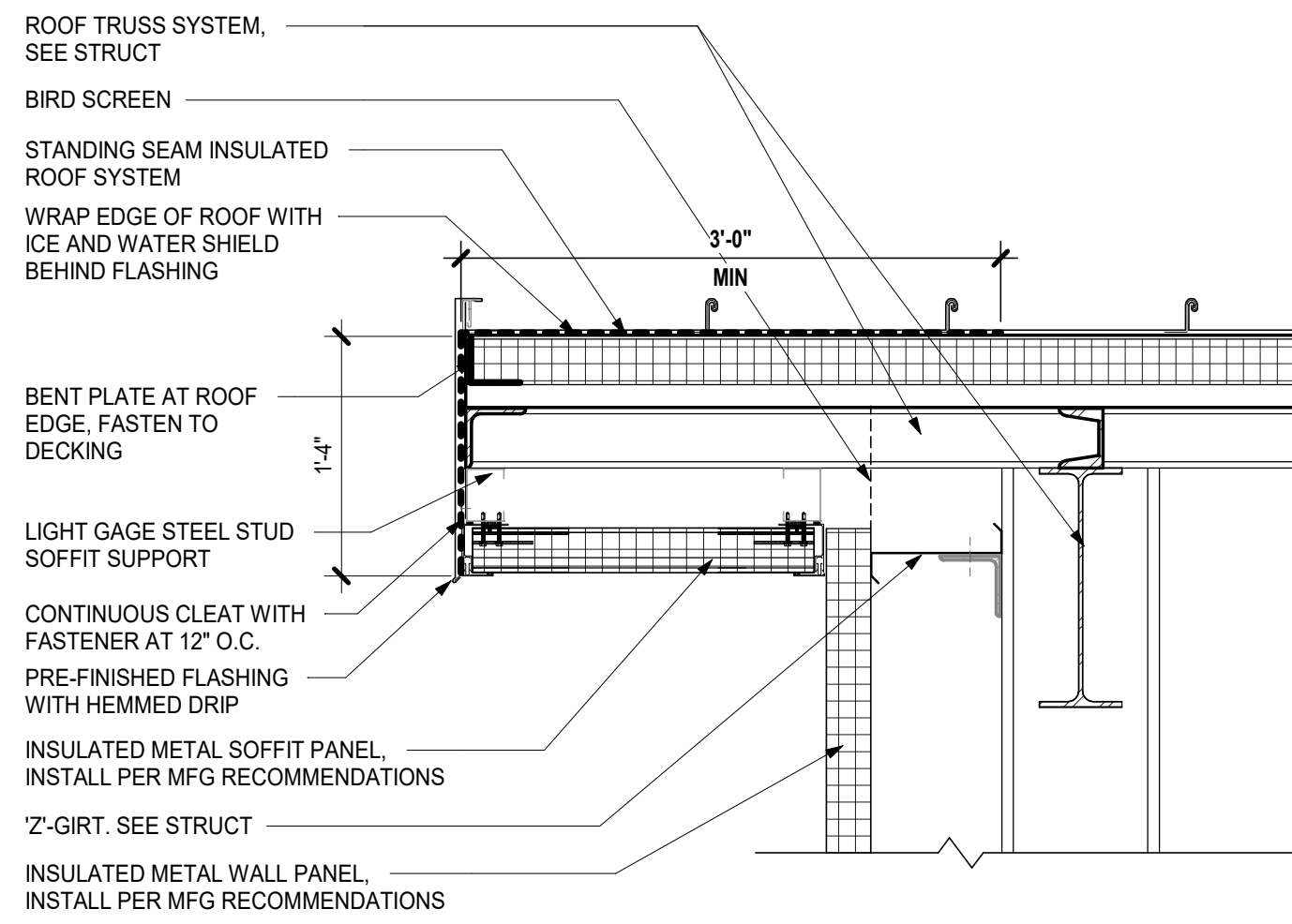
3.08 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

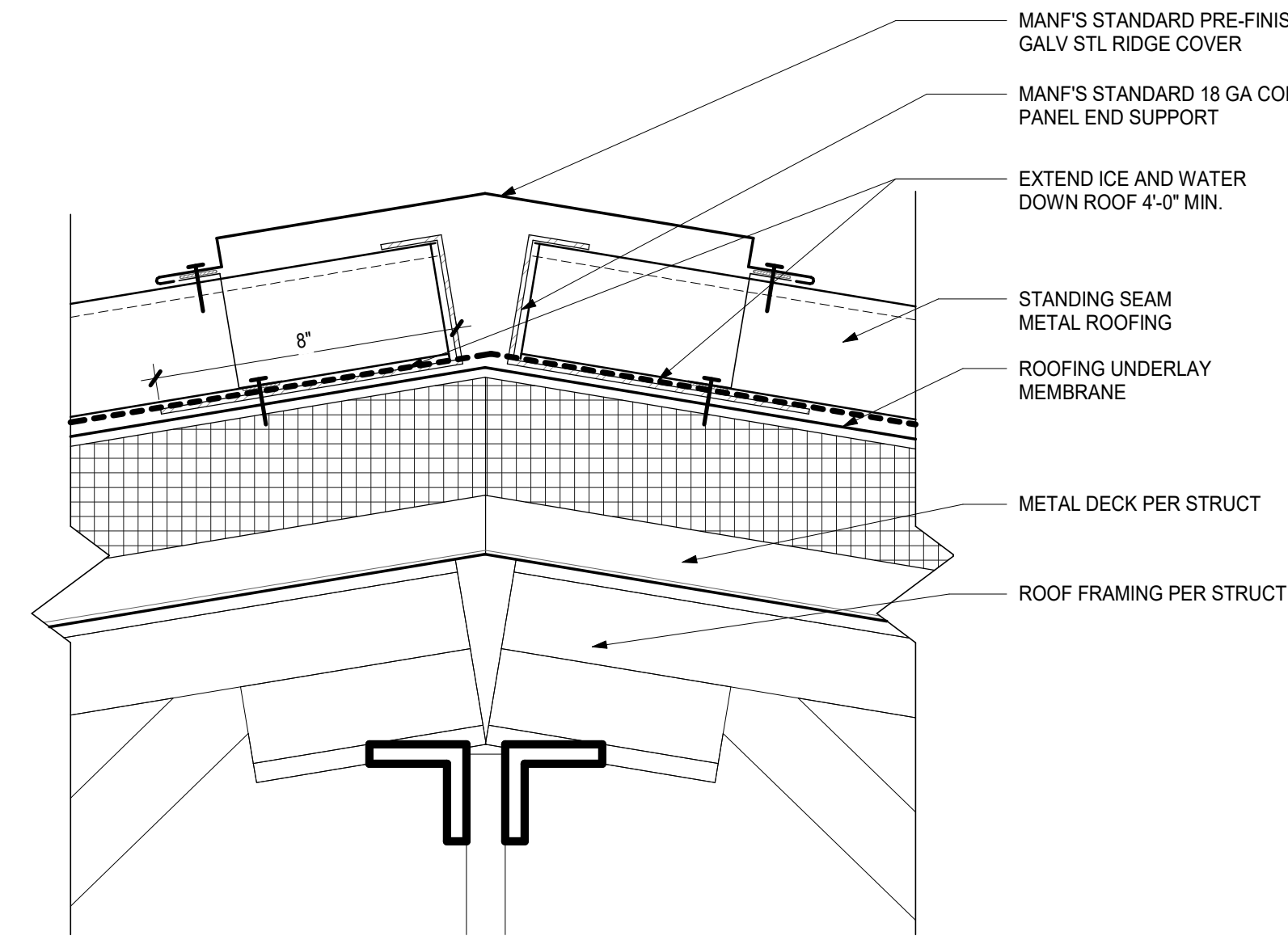
END OF SECTION



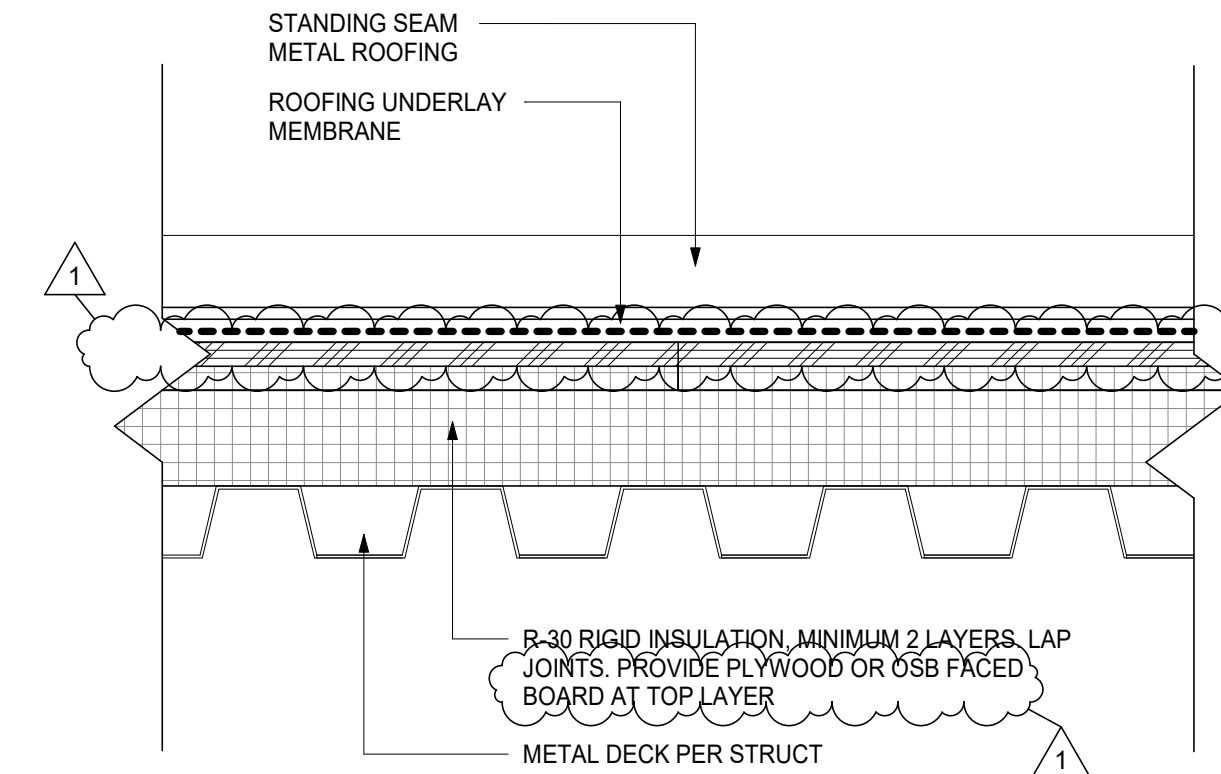
1 CANOPY SECTION
1" = 1'-0"



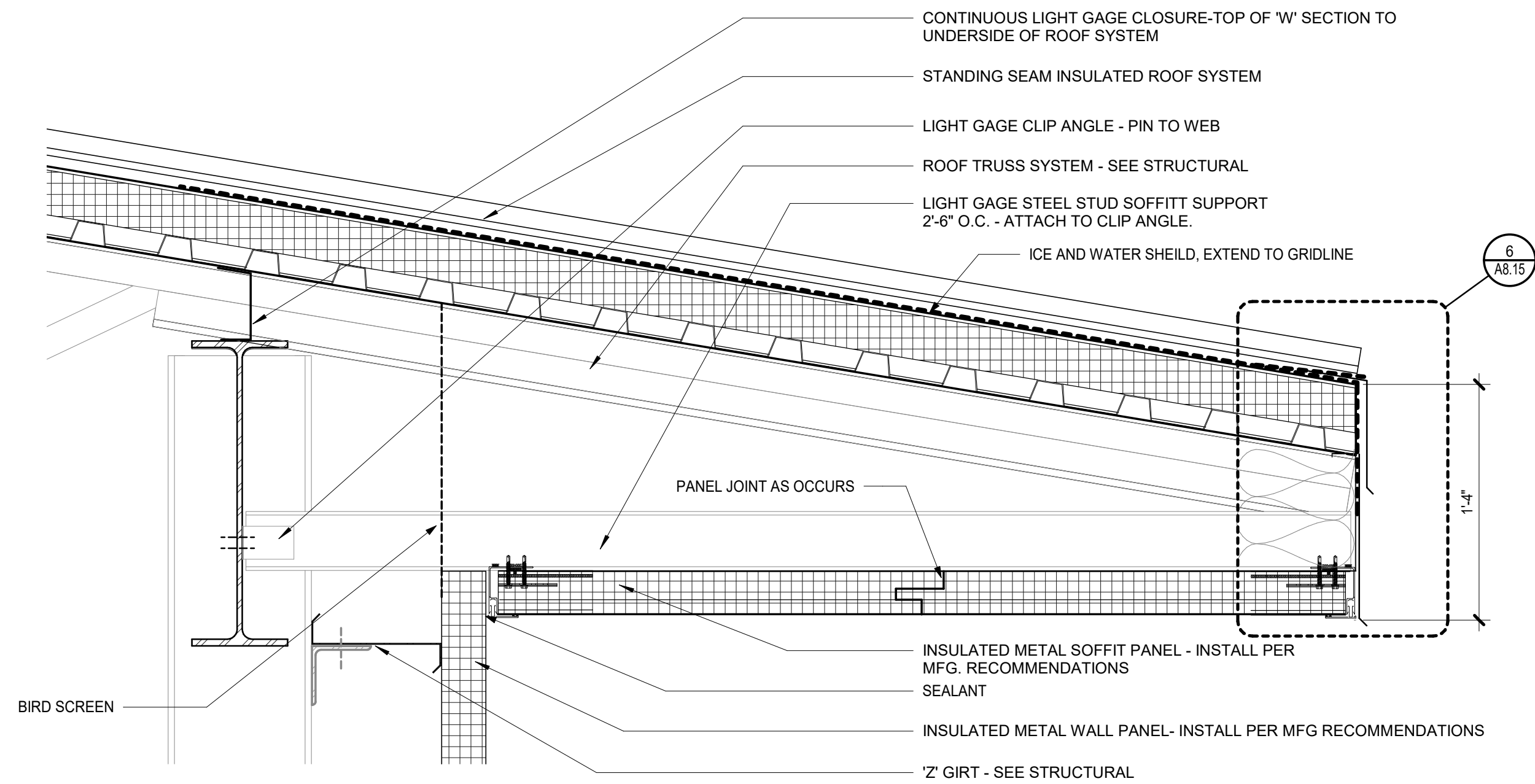
2 INSULATED RAKE
1" = 1'-0"



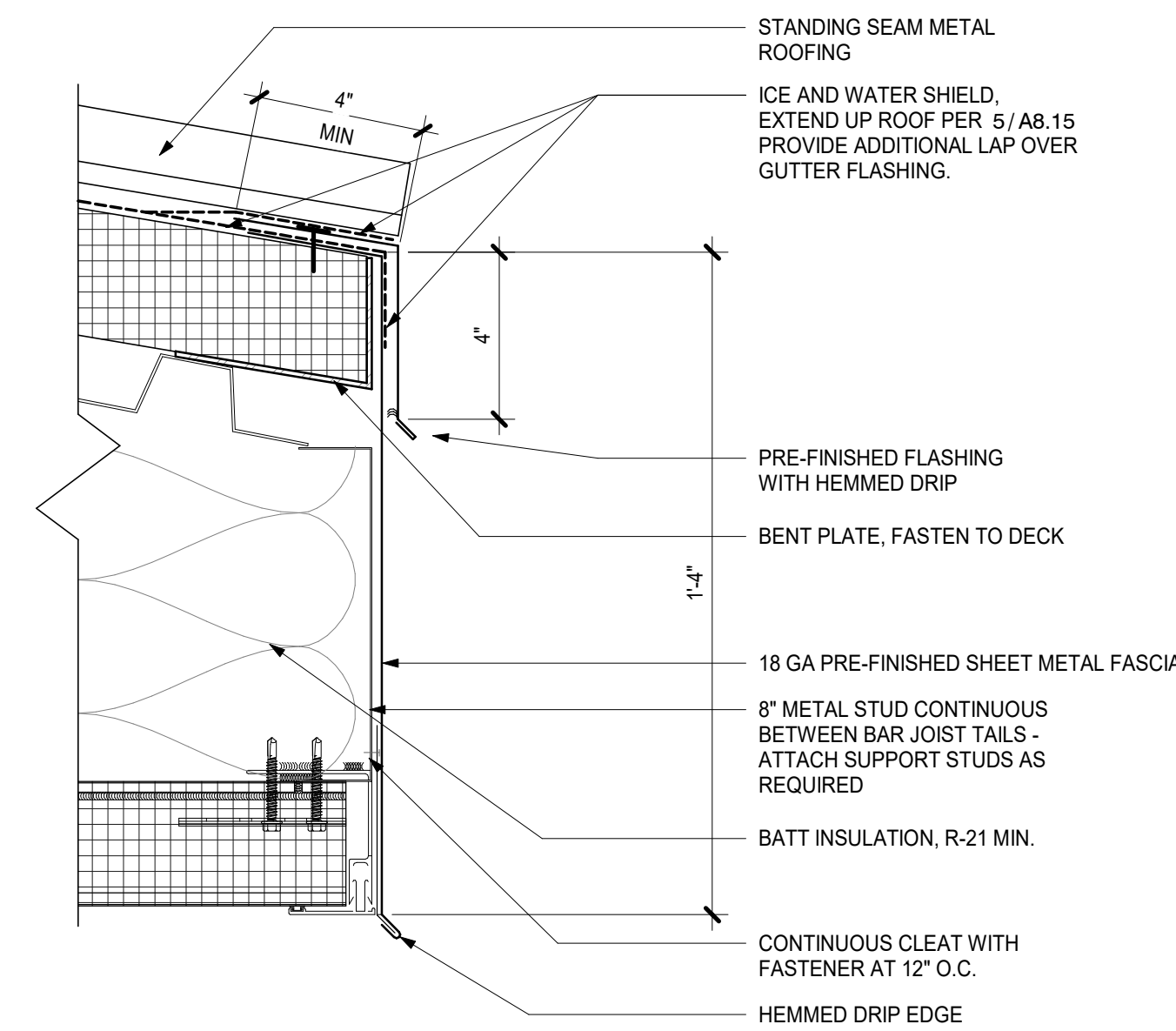
3 ROOF RIDGE
3" = 1'-0"



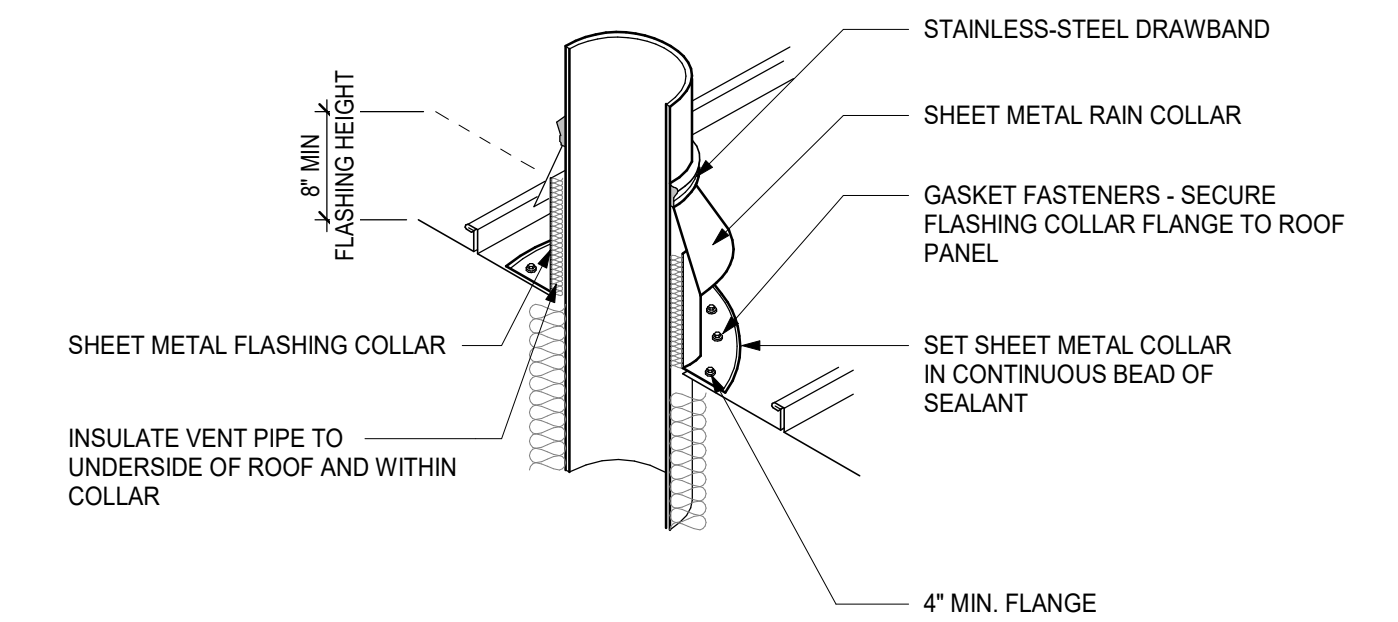
4 ROOF ASSEMBLY
3" = 1'-0"



5 INSULATED SOFFITT
1 1/2" = 1'-0"



6 FASCIA/GUTTER
3" = 1'-0"



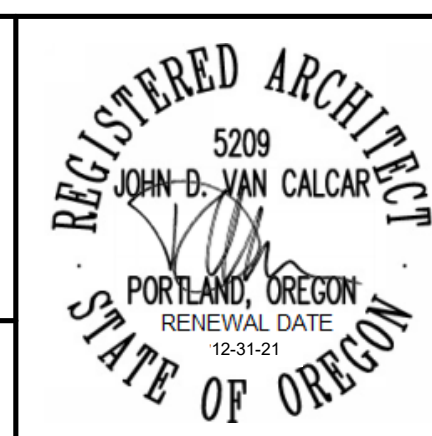
7 ROOF VENT
3" = 1'-0"

No.	DATE	DESCRIPTION	BY
1	6/25/21	DURING BID	ELJ
0	04/30/21	BID SET	ELJ

Soderstrom
Architects

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SAVE: 6/24/2021 4:57:33 PM
BIM 360//17178 ODOT Meacham Main Campus Buildout Bid/ODOT Meacham.rvt



E A NUMBER:	
DESIGNED:	ELJ
DRAFTED:	ELJ
CHECKED:	ELJ
REVIEWED:	DVC
CURRENT REVISION:	DATE: 04/30/21
	SCALE: As indicated

MEACHAM MAINTENANCE STATION
64705 Old Oregon Trail Road, Meacham, OR 97859

ROOF DETAILS

SHEET 37 OF 42
DRAWING No. A8.15