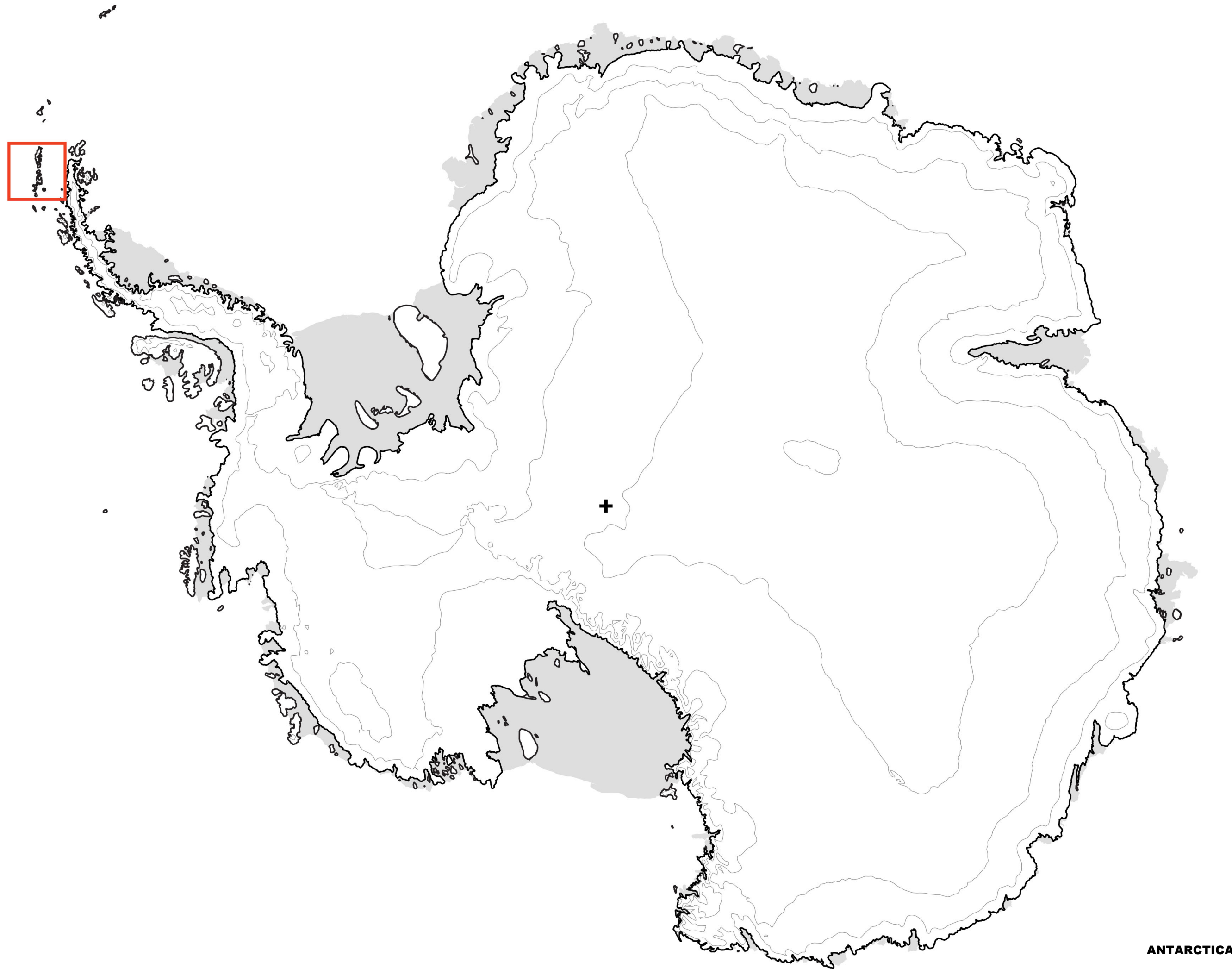


CAPE SHIRREFF FIELD STATION

NOAA AREA FACILITY
LIVINGSTON ISLAND, ANTARCTICA





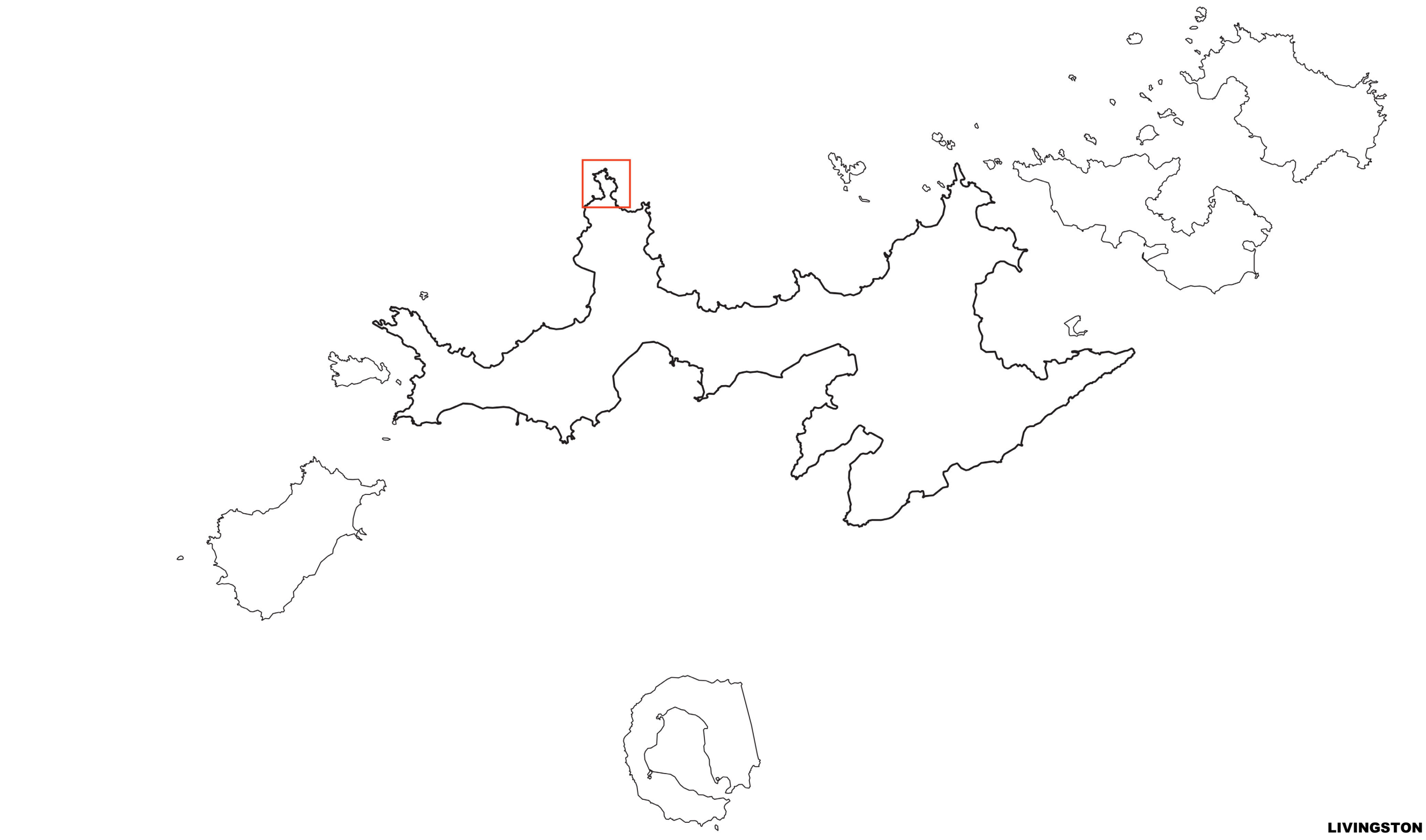
ANTARCTICA

SHEET INDEX

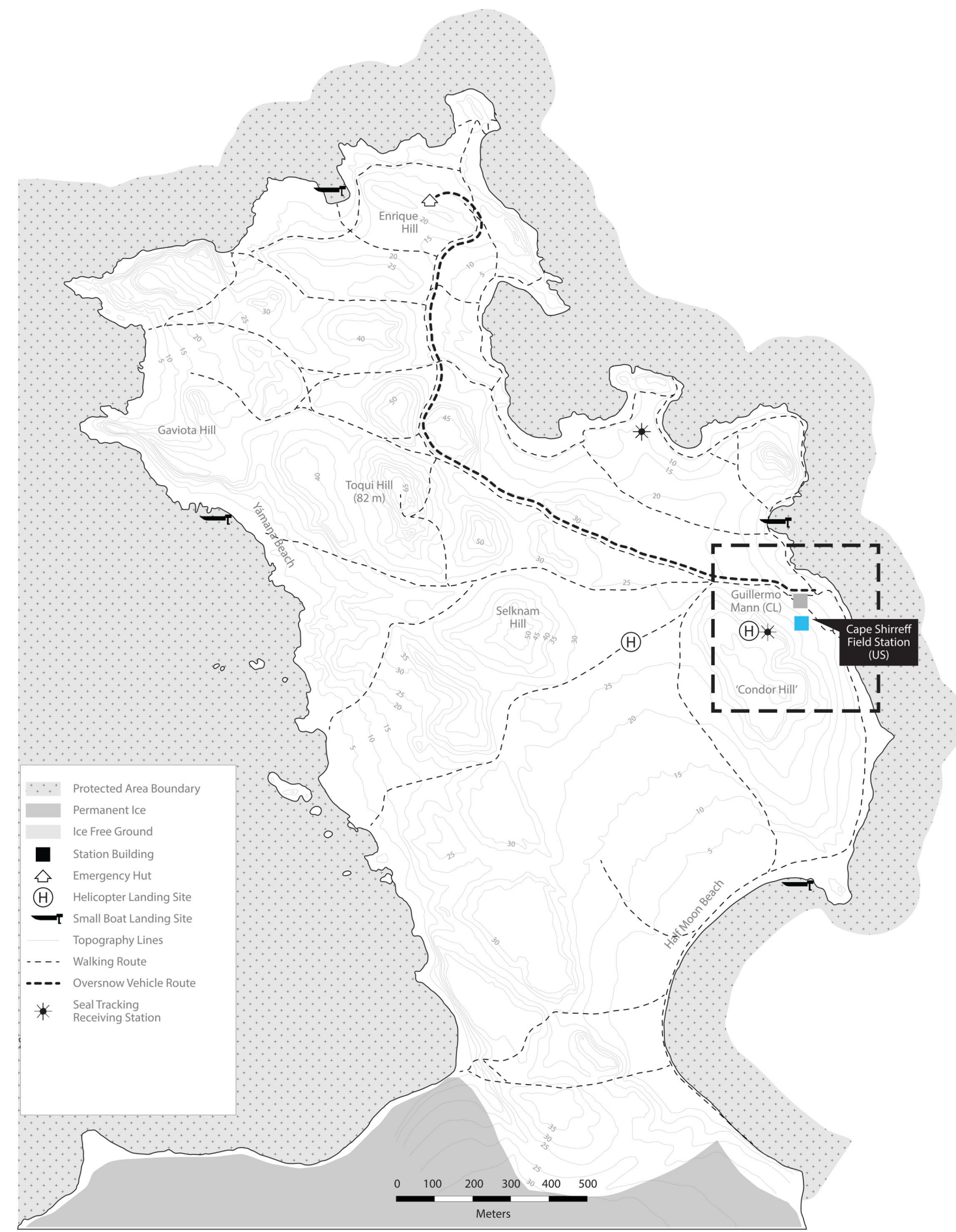
Sheet Number	Sheet Name
A-204	HELM ELEVATIONS
A-103	HELM FLOOR PLAN
A-301	BUILDING SECTIONS
A-601	EXTERIOR DETAIL - LOUVERS
A-603	EXTERIOR DETAILS - CLADDING
A-605	EXTERIOR DETAILS - WINDOWS
A-302	BUILDING SECTIONS
A-607	EXTERIOR DETAILS - DOORS
A-105	DECK PLAN
A-606	EXTERIOR DETAILS - WINDOWS
A-402	WALL SECTIONS
A-604	EXTERIOR DETAILS - CLADDING
Z-301	BERTHING INT. WALL SHEATHING
A-903	MILLWORK DETAILS BERTHING CONT.
S-103	WALL AND COLUMN FRAMING PLAN
S-105	ROOF SIP FRAMING PLAN
S-101	TIE DOWN PLAN
S-402	SHEAR WALL DETAILS
S-301	WALL FRAMING ELEVATIONS - BERTHING
G-000	COVER SHEET
G-000	COVER SHEET
G-001	DRAWING INDEX & VICINITY MAP
G-001	DRAWING INDEX & VICINITY MAP
G-101	CODE PLAN
G-101	CODE PLAN
A-102	CAMPUS PLAN LEVEL
A-101	SITE PLAN
A-201	CAMPUS ELEVATIONS

SHEET INDEX

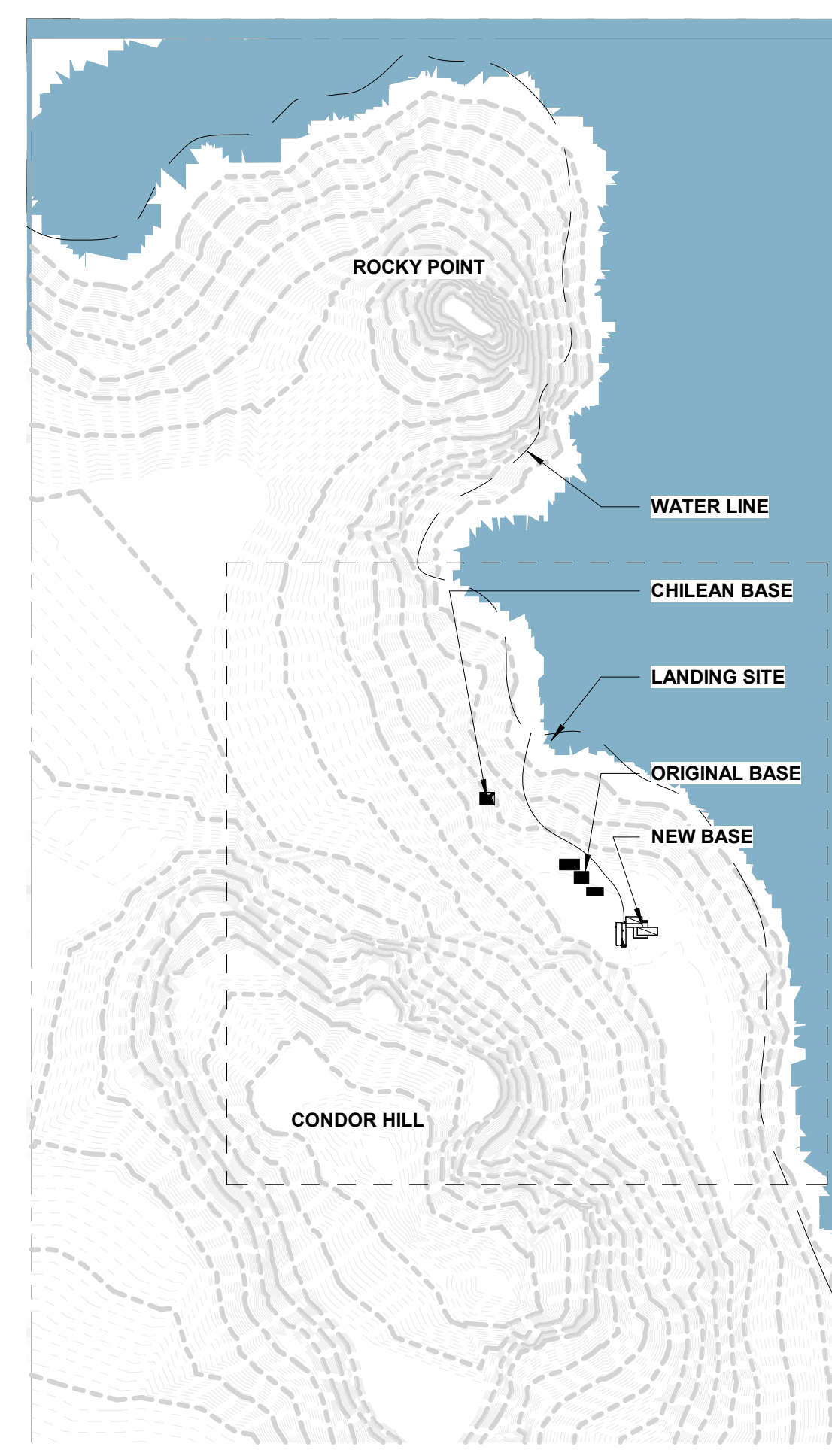
Sheet Number	Sheet Name
A-001	SYMBOLS & ABBREVIATIONS
A-501	WALL ASSEMBLIES
A-701	REFLECTED CEILING PLAN
A-801	INTERIOR ELEVATIONS
A-401	WALL SECTIONS
A-104	ROOF PLAN
A-502	WINDOW & DOOR SCHEDULE
A-1001	FINISH FLOOR PLAN
A-202	CAMPUS ELEVATIONS
A-102	FLOOR PLAN LEVEL 1
A-101	SITE PLAN
A-201	CAMPUS ELEVATIONS
A-001	SYMBOLS & ABBREVIATIONS
A-501	SCHEDULES
A-601	STAIR DETAILS
A-701	REFLECTED CEILING PLAN
A-801	INTERIOR ELEVATIONS GALLEY
A-401	WALL SECTIONS GALLEY
A-301	BUILDING SECTIONS GALLEY
A-302	BUILDING SECTIONS
A-104	ROOF PLAN
A-202	GALLEY ELEVATIONS
A-203	BERTHING ELEVATIONS
A-404	WALL SECTIONS BERTHING
A-802	INTERIOR ELEVATIONS BERTHING
A-402	WALL SECTIONS GALLEY
A-502	WINDOW & DOOR SCHEDULE
A-602	WINDOW DETAILS
A-603	CLADDING DETAILS



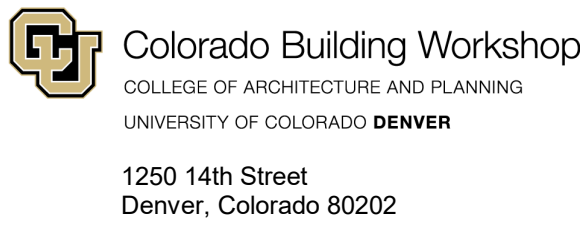
LIVINGSTON ISLAND



CAPE SHIRREFF



VICINITY MAP
1" = 300'-0"



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**DRAWING INDEX
& VICINITY MAP**

date: 03/09/22
scale: As indicated

G-001

CODE ANALYSIS

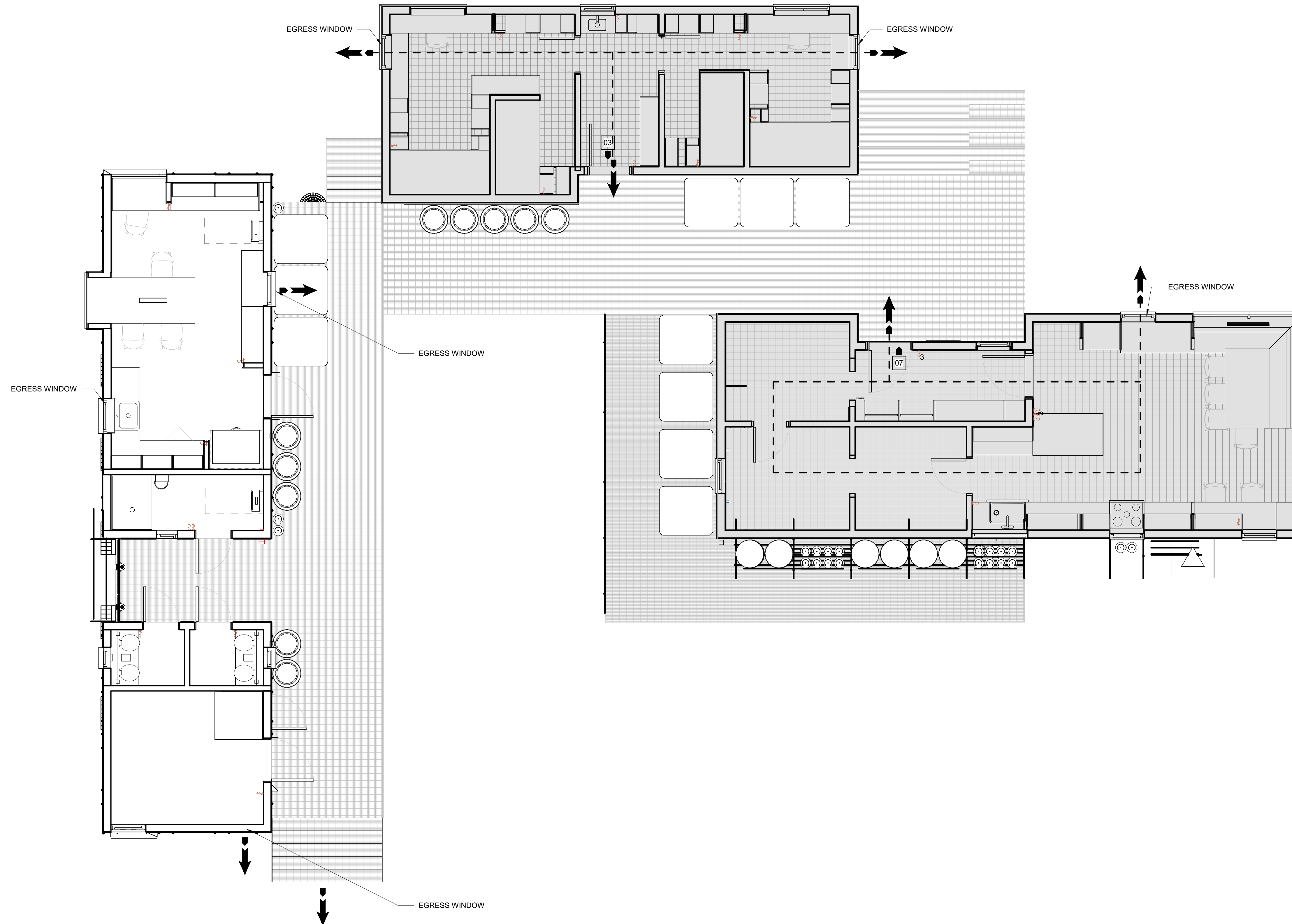
APPLICABLE CODES
 INTERNATIONAL BUILDING CODE, 2021 EDITION
 INTERNATIONAL EXISTING BUILDING CODE, 2015 EDITION
 INTERNATIONAL FIRE CODE, 2015 EDITION

APPLICABLE STANDARDS
 ACCESSIBILITY STANDARDS PER CHAPTER 11, IBC 2021 EDITION
 ACCESSIBILITY STANDARDS PER ICC ANSI A117.1, 2009 EDITION

OCCUPANCY GROUP B
 CONSTRUCTION TYPE: TYPE V
 MAXIMUM ALLOWABLE AREA NON-SPRINKLERED TYPE V A: 18,000 SF
 656 SF GALLEY
 444 SF BERTHING
 418 SF LAB
TOTAL SQUARE FOOTAGE: 1,518 SF
 ALLOWABLE BUILDING HEIGHT MAXIMUM: 50 FT
ACTUAL BUILDING HEIGHT: 16 FT
 ALLOWABLE STORIES ABOVE GRADE: 2
ACTUAL NUMBER OF STORIES: 1

MEANS OF EGRESS SIZING
 Table 1005.1 Egress width. Stairways shall use a factor of 0.3, other egress components shall use a factor of 0.2.
 Section 1017 permits 200 foot total path of egress travel for group B without sprinkler system.
 Section 1005 Means of Egress Sizing
 Section 1005.3.1 Stairways. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.
 Section 1005.6 Egress convergence. Where the means of egress from stories above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the required capacities for the two adjacent stories

PLUMBING FIXTURE COMPLIANCE
 Total building occupant load: 10
 $10 / 2 = 5 \text{ MEN} + 5 \text{ WOMEN}$
 WATER CLOSETS: 1 per 25 for first 50 and 1 per 50 exceeding 50.
 $(5 \text{ MEN} / 25) = 0.2$ rounded to 1.
 $(5 \text{ WOMEN} / 25) = 0.2$ rounded to 1.
 LAVATORIES: 1 per 40 for first 80 and 1 per 80 exceeding 80.
 $(5 \text{ MEN} / 40) = 0.125$ rounded to 1
 $(5 \text{ WOMEN} / 40) = 0.125$ rounded to 1



N
LEVEL 1 EGRESS PLAN
 1/4" = 1'-0"



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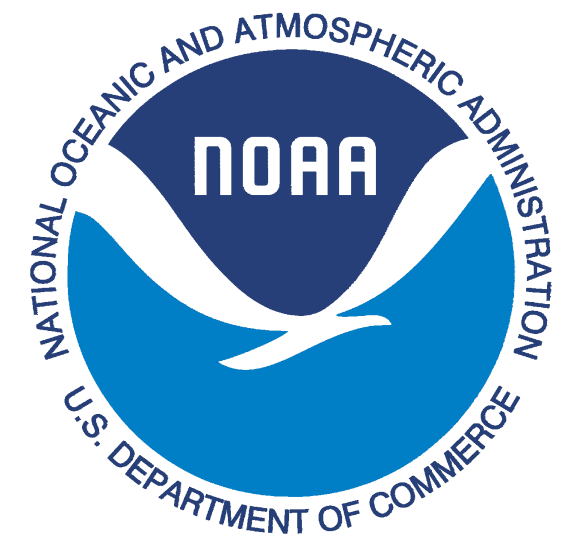
REVISIONS

REV. DATE:	REV. NAME:	REV. NO.:

CODE PLAN

date: 03/03/21
 scale: As indicated

G-101



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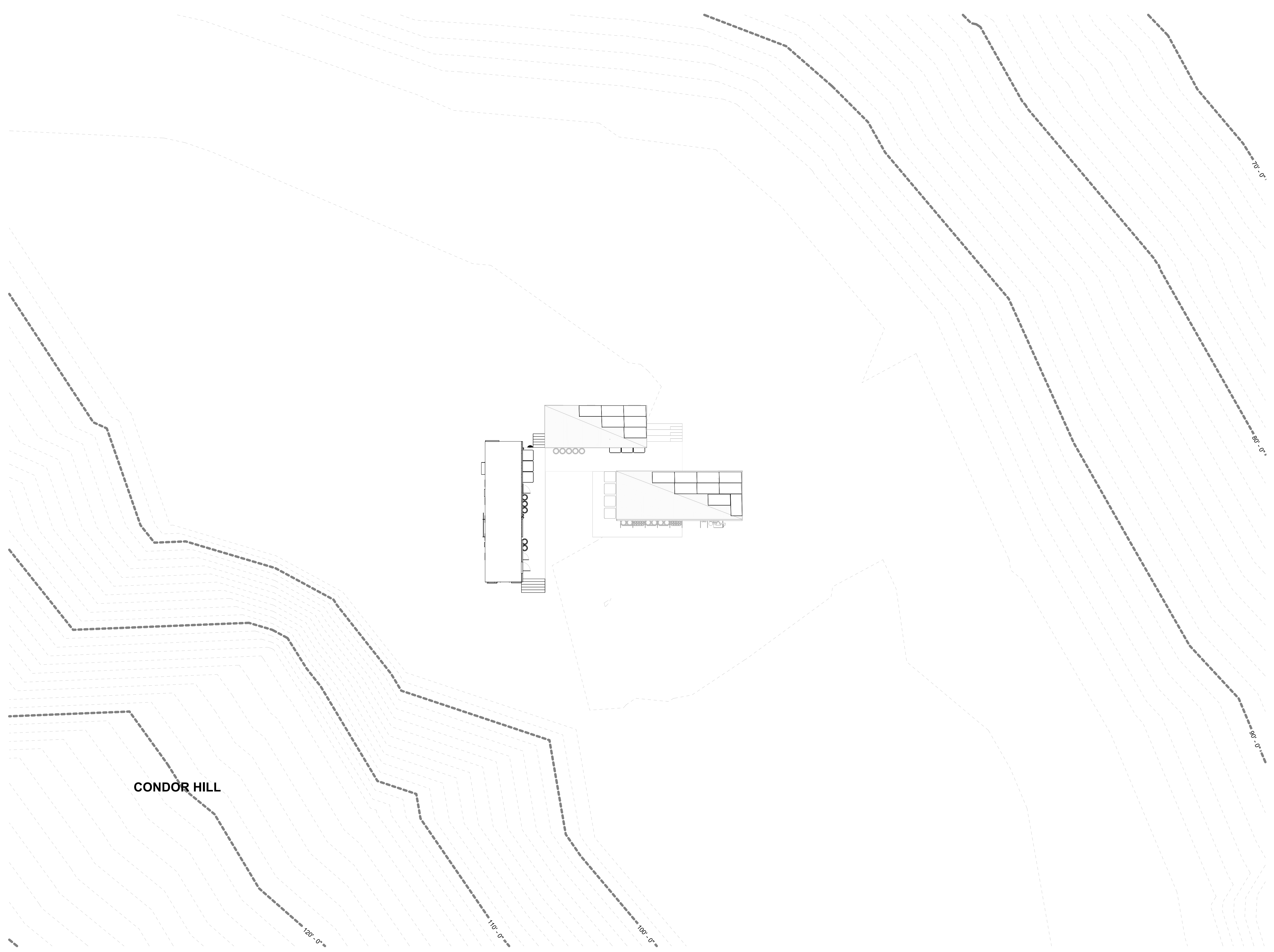
REVISIONS

REV. DATE: REV. NAME: REV. NO:

SITE PLAN

date: 03/01/21
scale: 1/16" = 1'-0"

A-101



N
SITE PLAN ENLARGED
1/16" = 1'-0"

11/02/2021 11:23:22 AM



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REV. DATE:	REV. NAME:	REV. NO.:

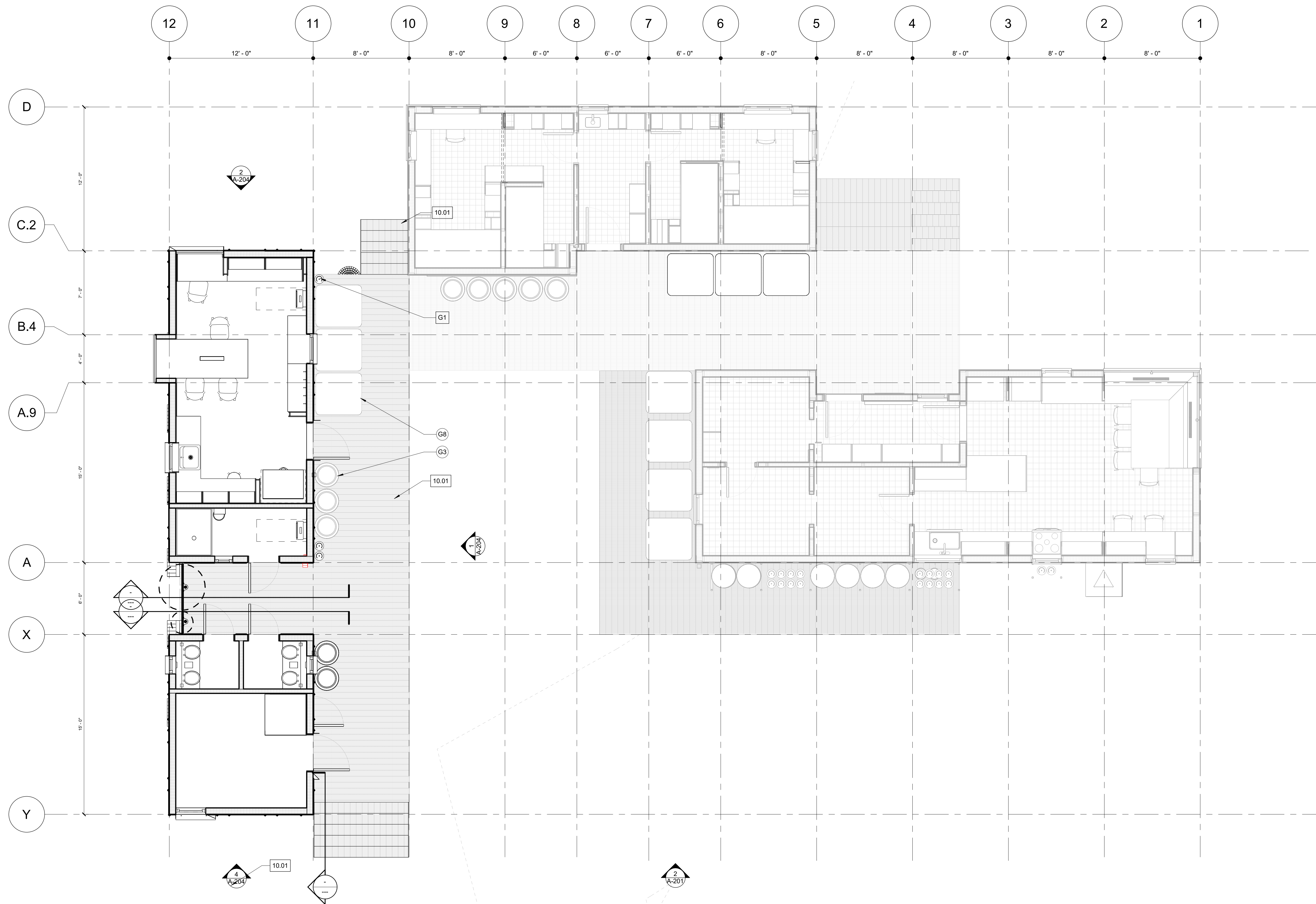
**CAMPUS PLAN
 LEVEL**

date: 03 MAR 2021
 scale: 1/4" = 1'-0"

A-102

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
10.01	FIBER-GRATE DECKING. RE: STAIR AND DECK DETAILS FOR ADDITIONAL INFORMATION.

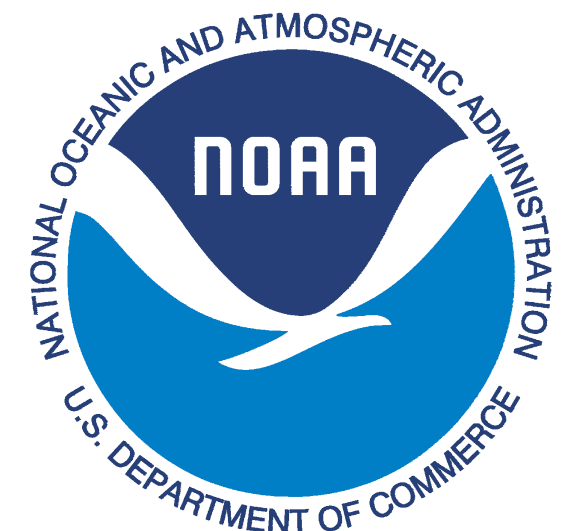
WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE
G1	PROPANE TANK. OFOI
G3	RAINWATER COLLECTION BARREL. OFOI
G8	RELOCATED FISH BOXES OFOI



WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT

22.01	KOLHER KITCHEN SINK. CAIRN K-25786
22.07	SHOWER PAN ***spec***
22.09	SHOWER WATER PUMP/HEATER ***spec***
23.07	MECANICAL PROPANE HEATER SMALLER ***spec***
23.09	PROPANE HEATER



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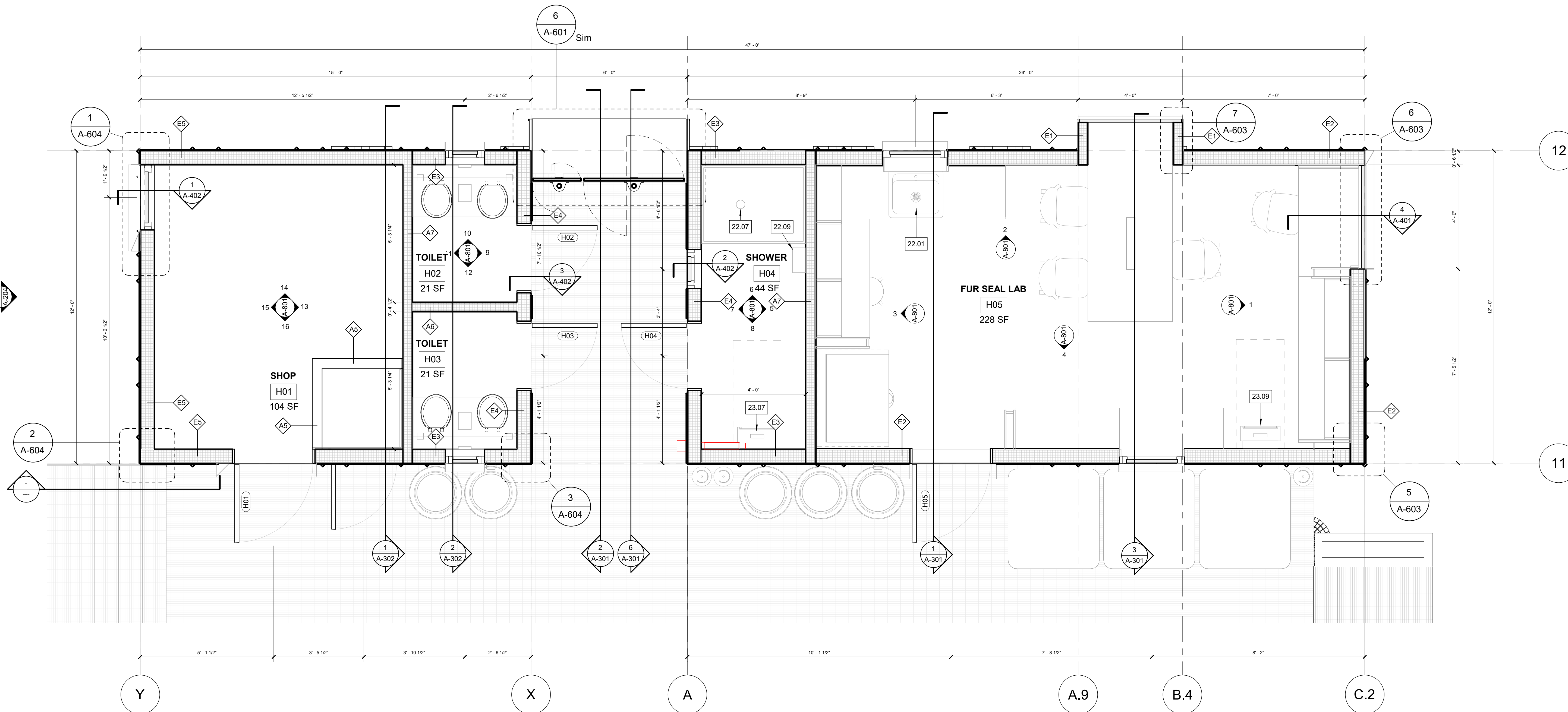


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1 THE HELM FINISH FLOOR PLAN
1/2" = 1'-0"

HELM FLOOR PLAN

date: 02/21/23
scale: 1/2" = 1'-0"

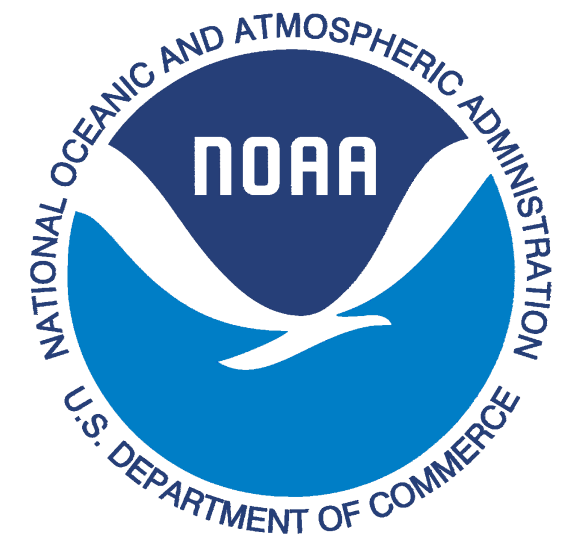
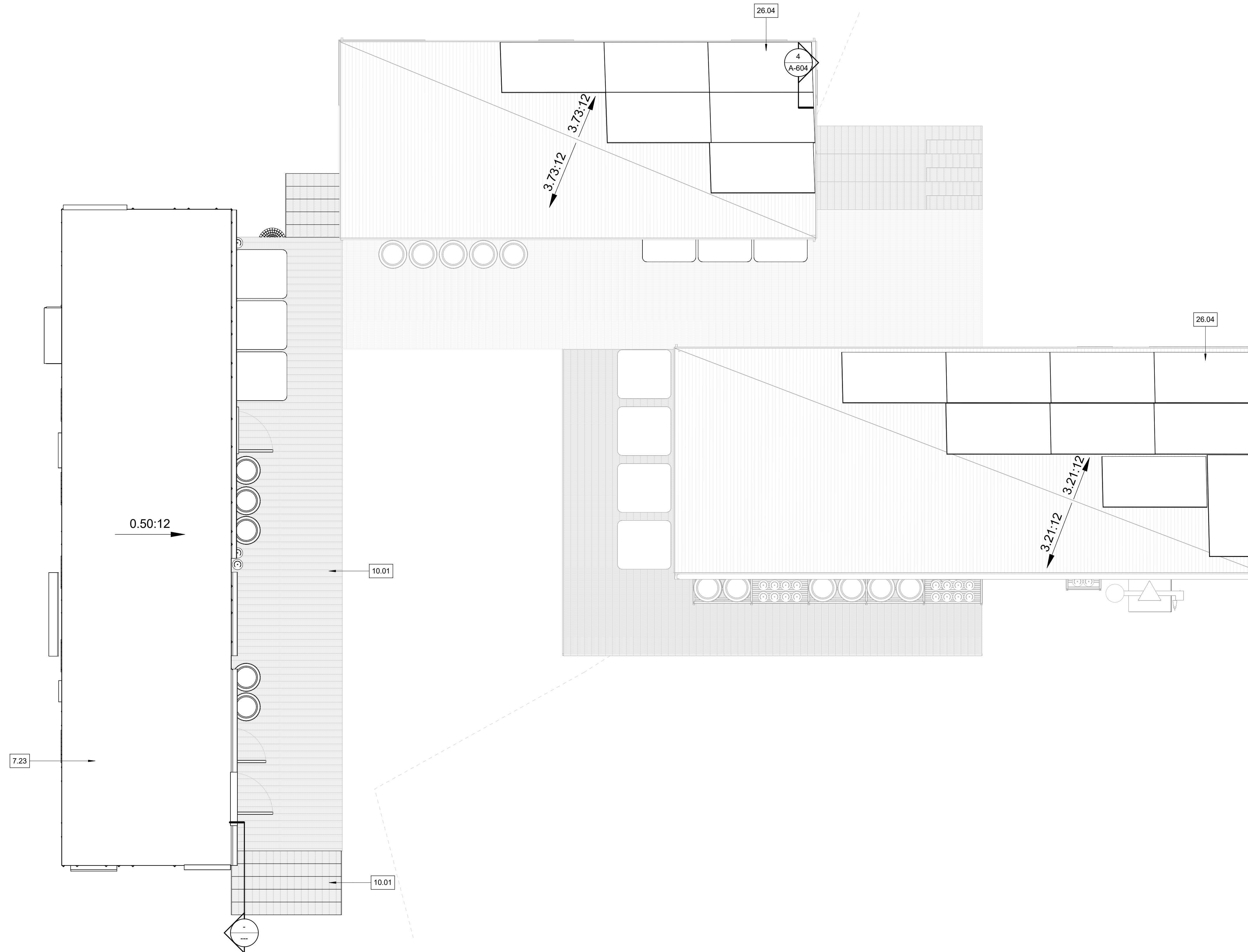
A-103

11/10/2023 11:28:30 AM

WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT

7.23	SICKA LIQUID APPLIED ROOFING MATERIAL 25 YEAR RATED
10.01	FIBER-GRATE DECKING. RE: STAIR AND DECK DETAILS FOR ADDITIONAL INFORMATION.
26.04	ROOF MOUNTED SOLAR PANELS. RE: ELECTRICAL FOR ADDITIONAL INFORMATION.



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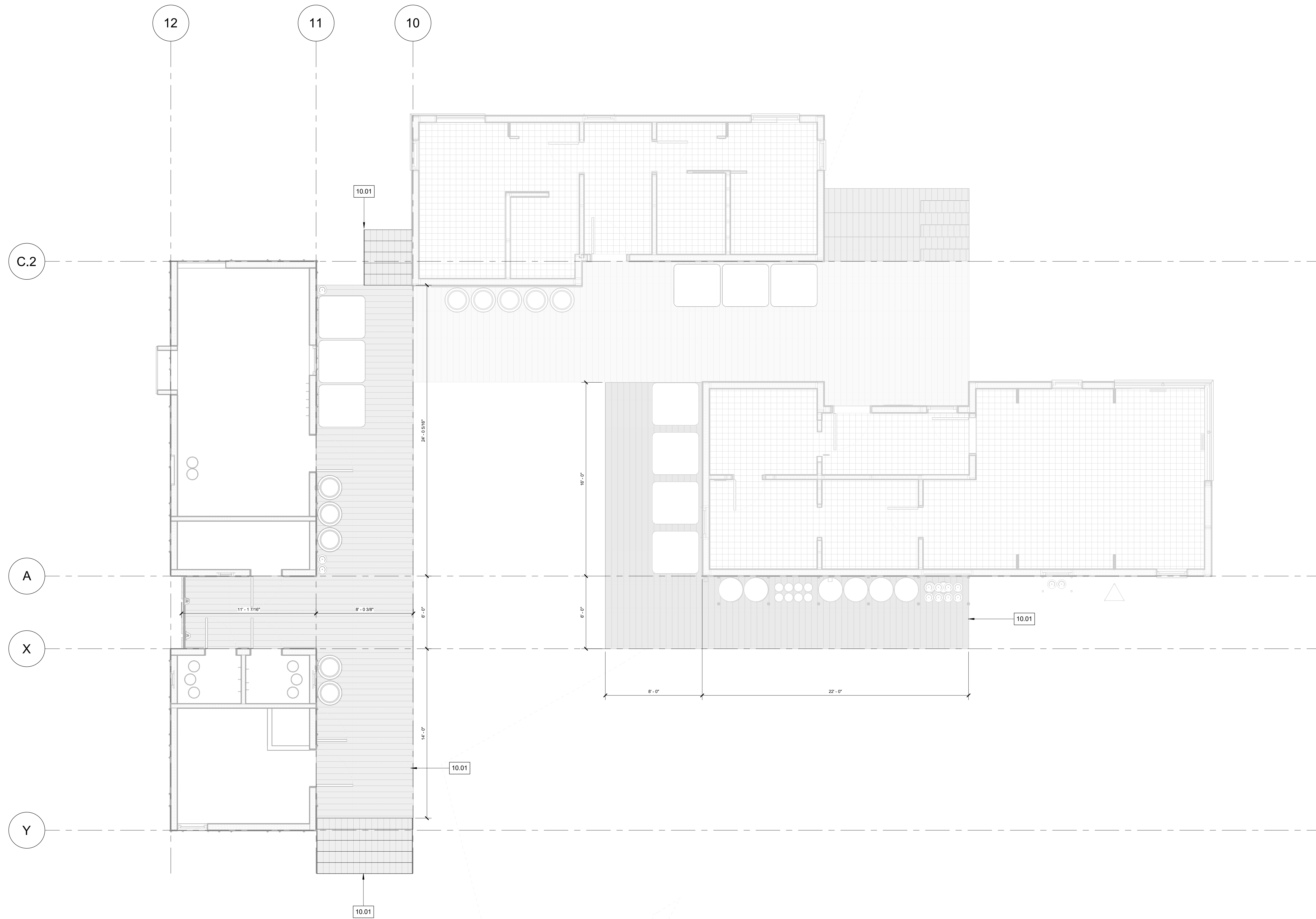
REVISIONS

REV. DATE: REV. NAME: REV. NO:

ROOF PLAN

date: 02/08/22
scale: 1/4" = 1'-0"

A-104



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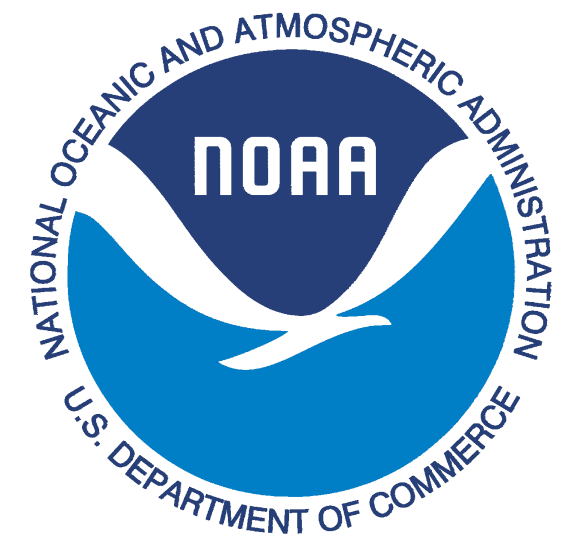
REVISIONS

REV. DATE:	REV. NAME:	REV. NO.:

DECK PLAN

date: 03/27/23
 scale: 1/4" = 1'-0"

A-105



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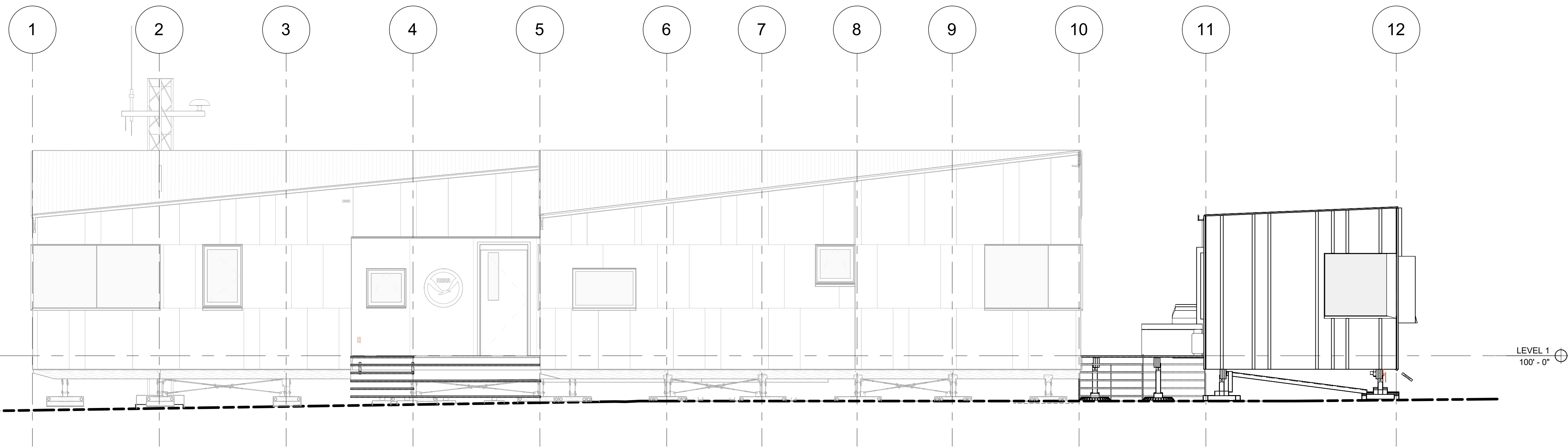
REVISIONS

REV. DATE: REV. NAME: REV. NO:

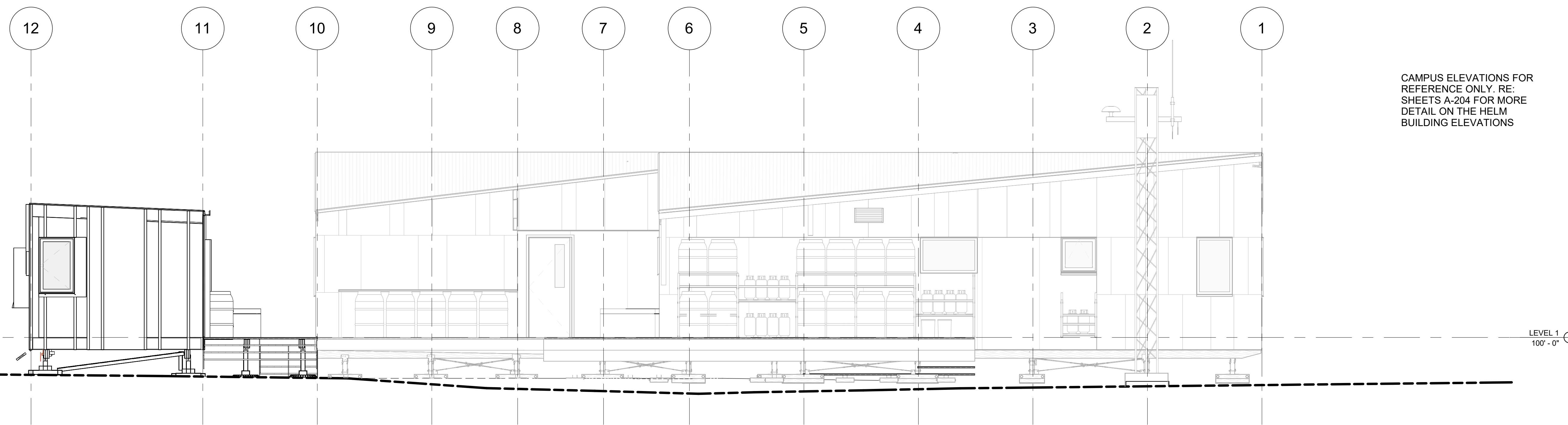
**CAMPUS
 ELEVATIONS**

date: 03/01/21
 scale: 1/4" = 1'-0"

A-201

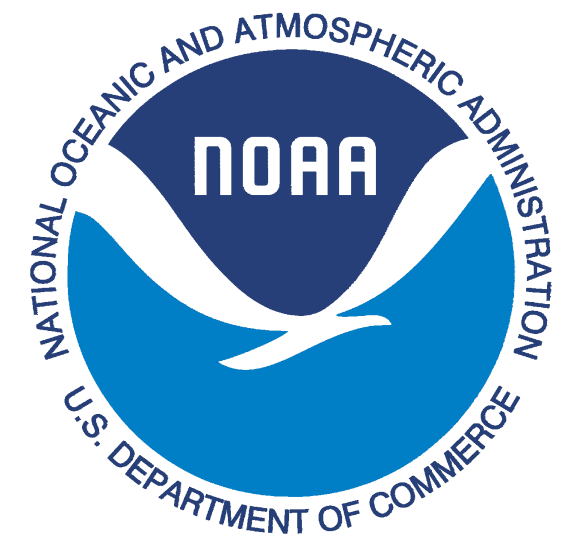


1 NORTH
 1/4" = 1'-0"



2 SOUTH
 1/4" = 1'-0"

CAMPUS ELEVATIONS FOR
 REFERENCE ONLY. RE:
 SHEETS A-204 FOR MORE
 DETAIL ON THE HELM
 BUILDING ELEVATIONS



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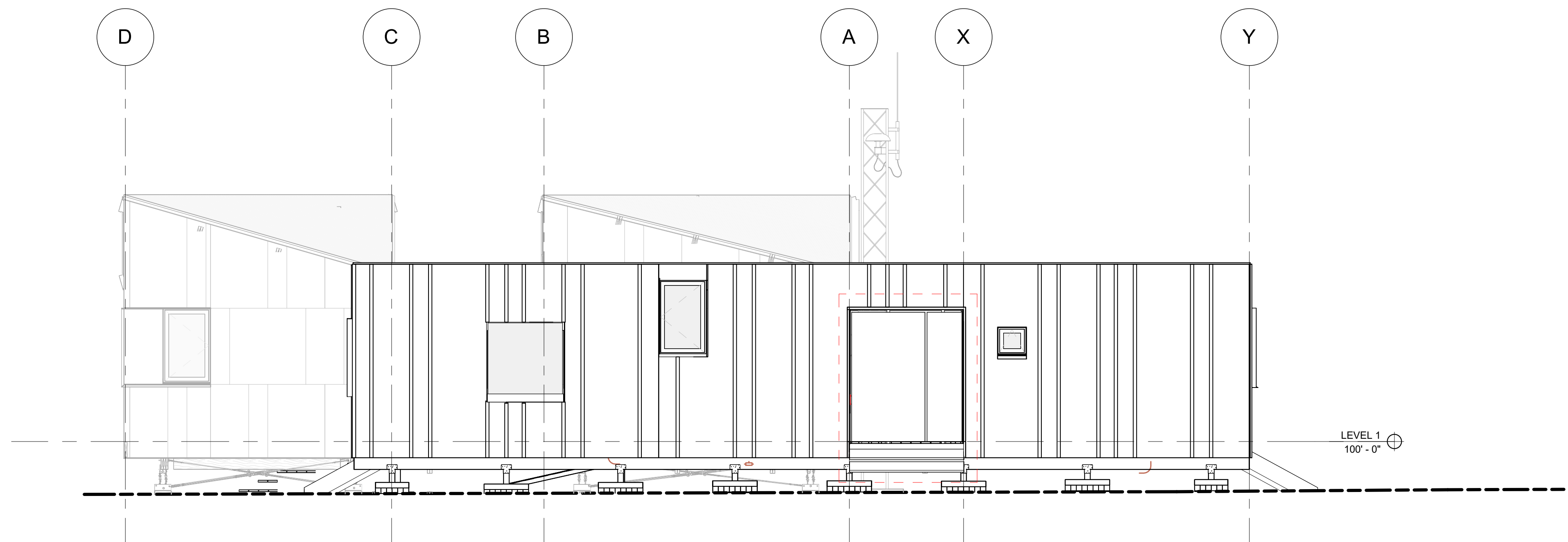
REVISIONS

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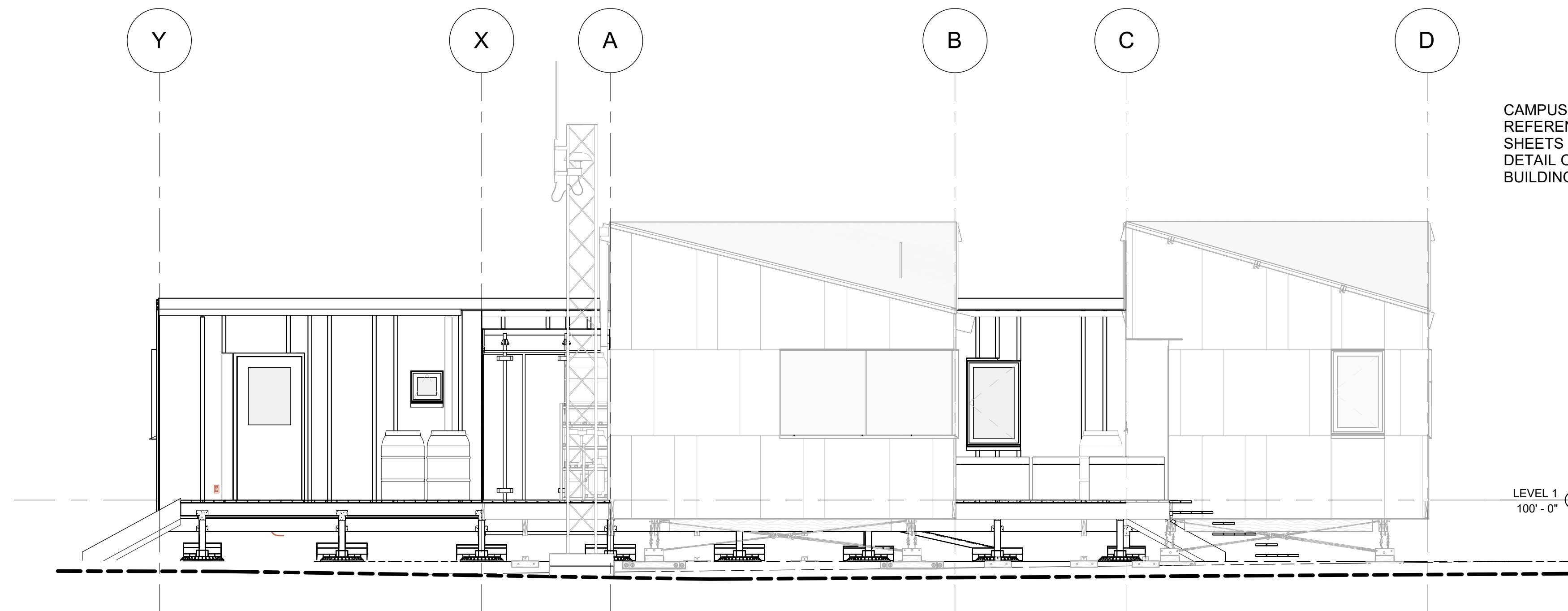
**CAMPUS
 ELEVATIONS**

date: 03/01/21
 scale: 1/4" = 1'-0"

A-202



4 WEST
 1/4" = 1'-0"

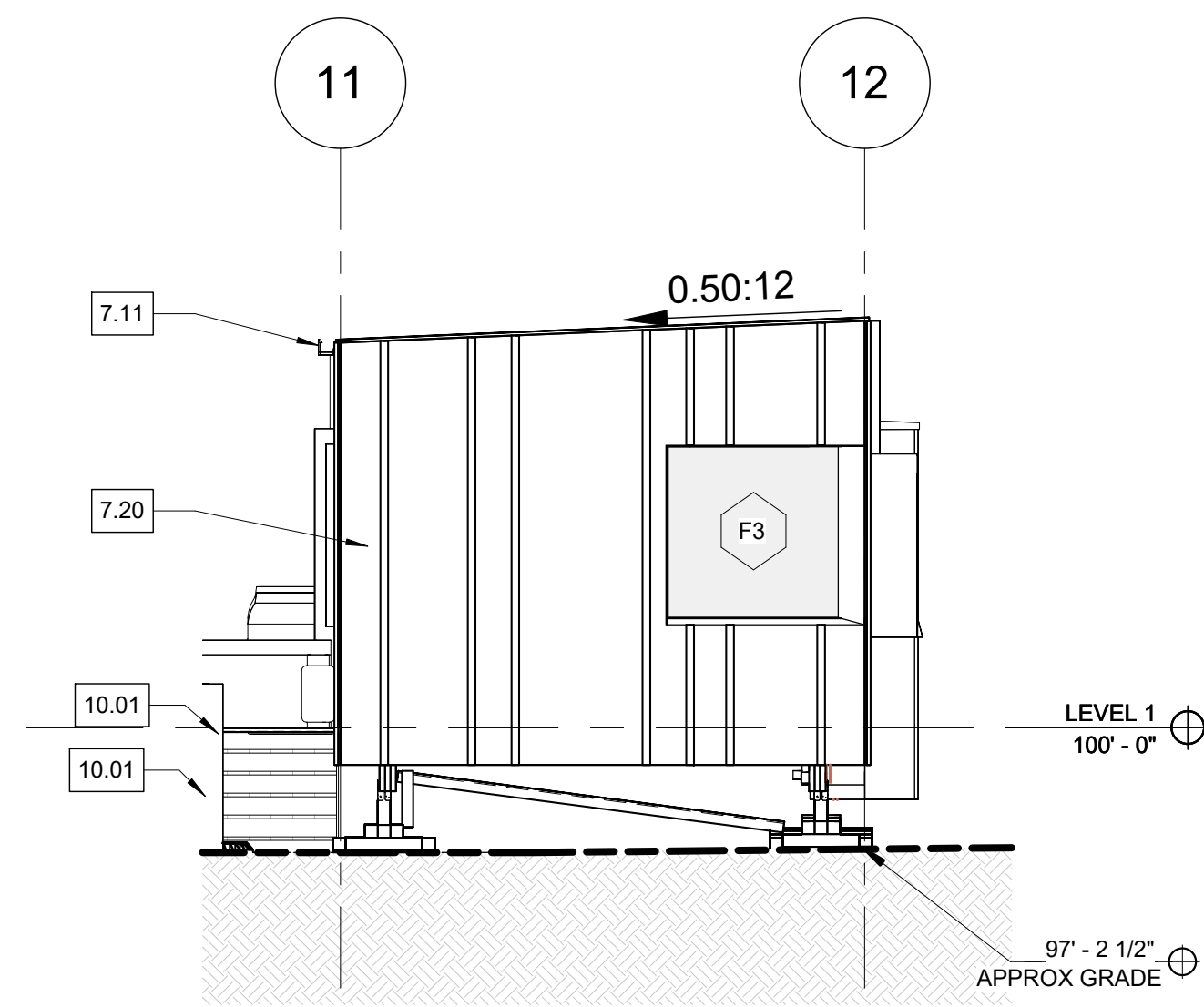


CAMPUS ELEVATIONS FOR
 REFERENCE ONLY. RE:
 SHEETS A-204 FOR MORE
 DETAIL ON THE HELM
 BUILDING ELEVATIONS.

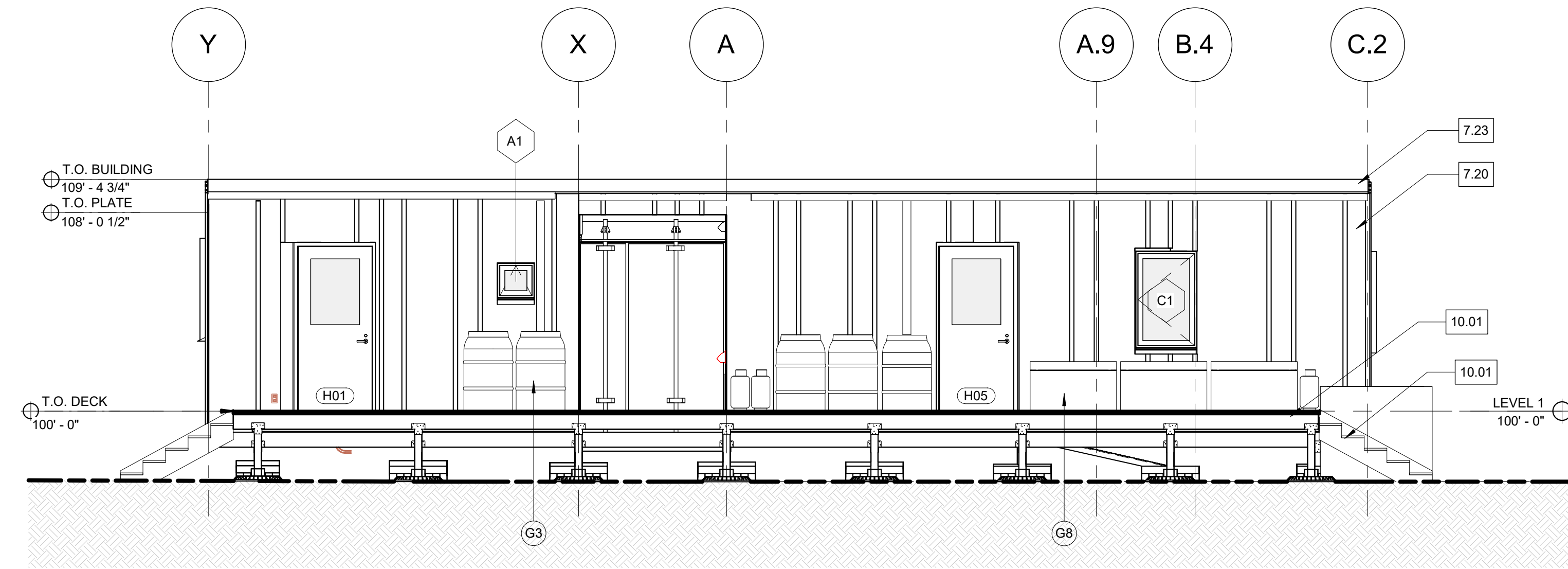
3 EAST
 1/4" = 1'-0"

WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE
G3	RAINWATER COLLECTION BARREL, OFOI
G8	RELOCATED FISH BOXES OFOI

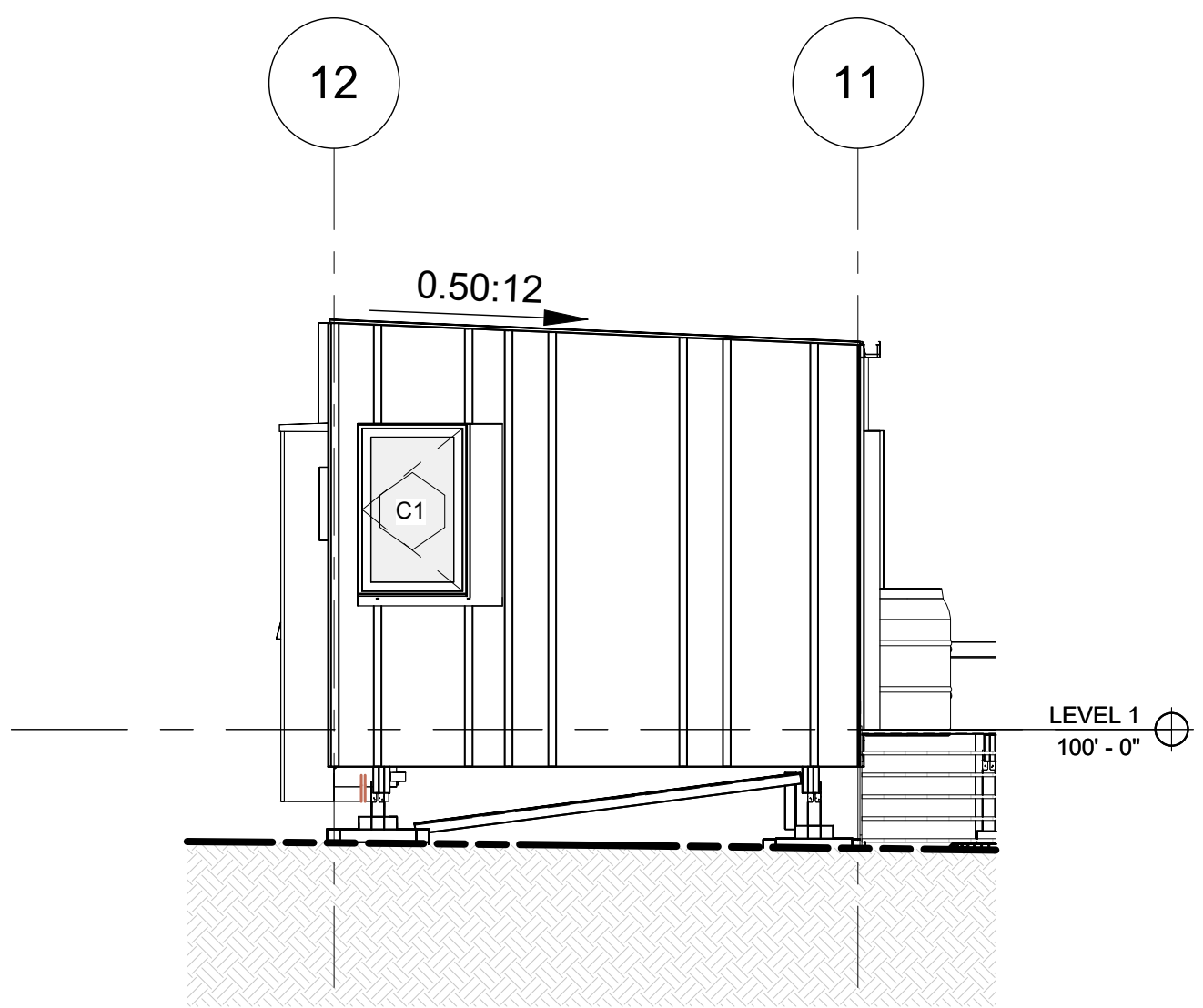
KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
7.11	CUSTOM BREAK METAL GUTTER
7.20	STAINLESS STEEL METAL CLADDING
7.23	SICKA LIQUID APPLIED ROOFING MATERIAL 25 YEAR RATED
10.01	FIBER-GRATE DECKING. RE: STAIR AND DECK DETAILS FOR ADDITIONAL INFORMATION.



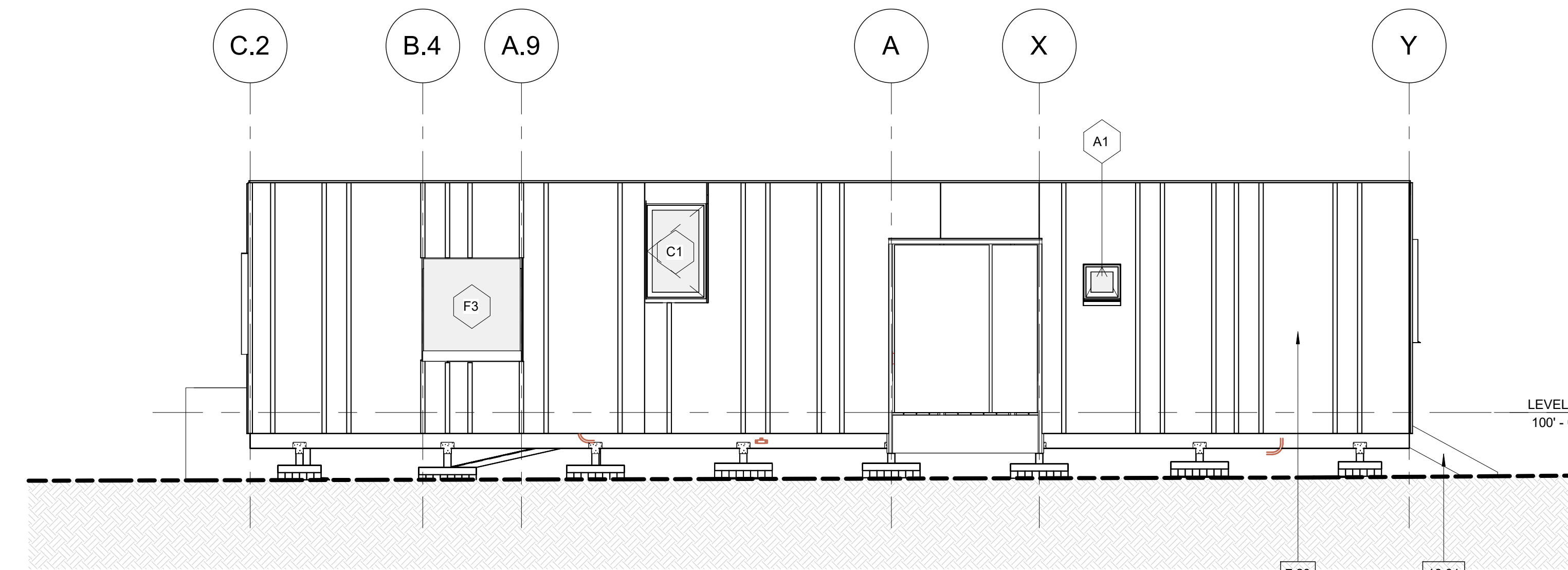
2 LAB NORTH ELEVATION
1/4" = 1'-0"



1 EAST ELEVATION
1/4" = 1'-0"



4 LAB SOUTH ELEVATION
1/4" = 1'-0"



3 WEST ELEVATION
1/4" = 1'-0"



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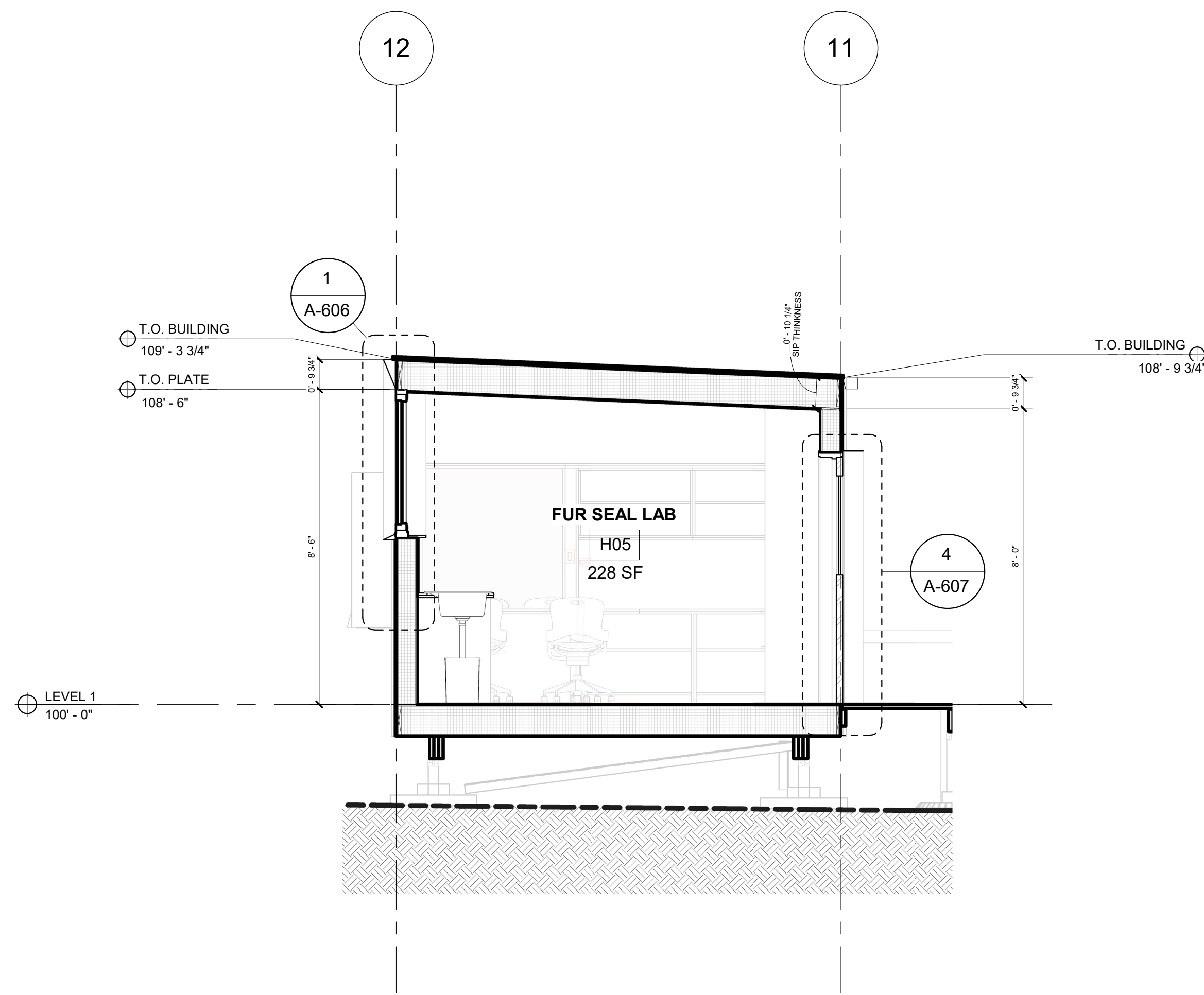
REVISIONS		
REV. DATE:	REV. NAME:	REV. NO.:

HELM ELEVATIONS

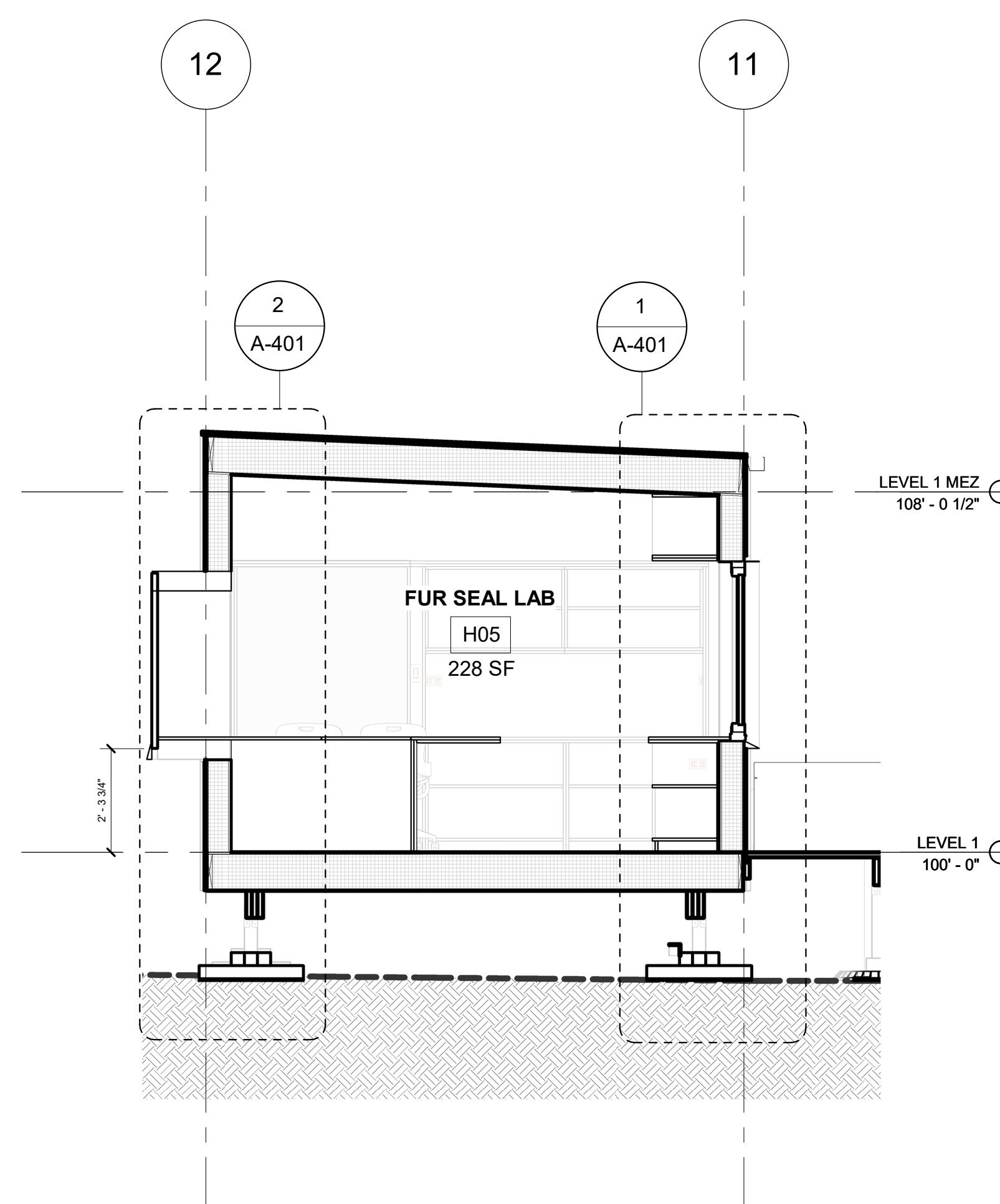
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scale: 1/4" = 1'-0"

A-204

1/10/2023 11:28:33 AM



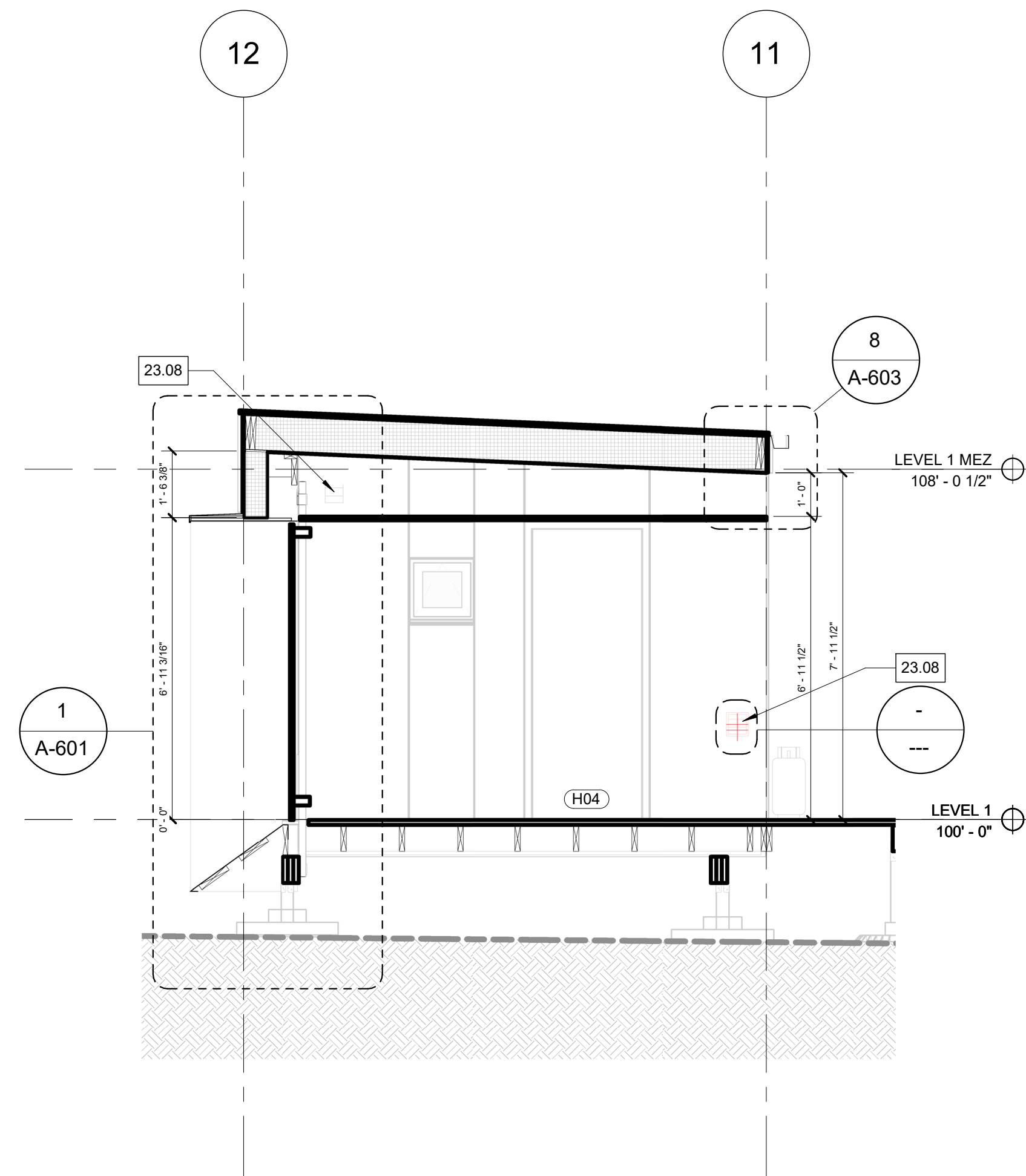
1 STRUCTURAL BUILDING SECTION
3/8" = 1'-0"



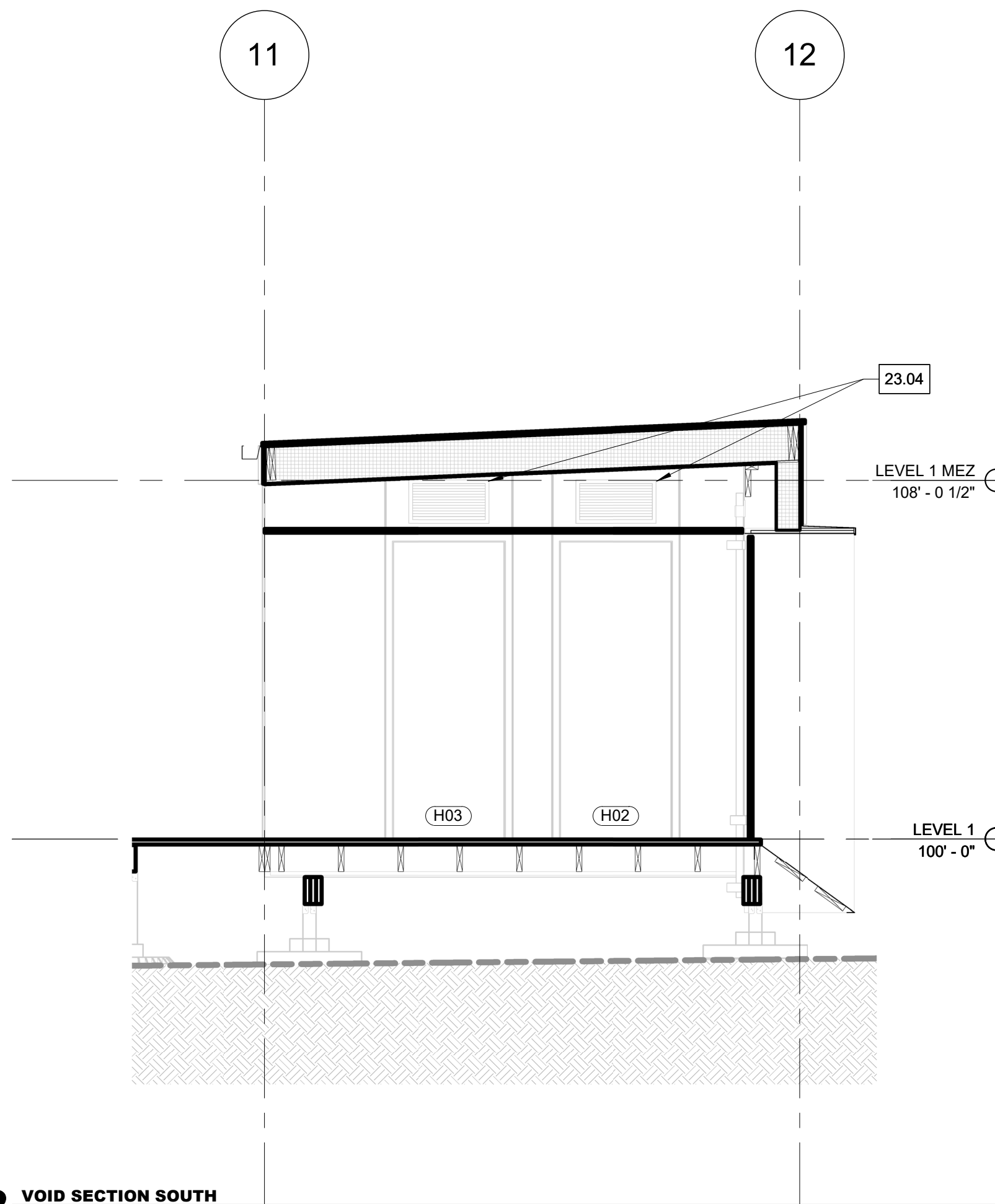
3 LAB SECTION
3/8" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
23.04	MECHANICAL LOUVER
23.08	CUSTOM SHEET METAL VENT CAP

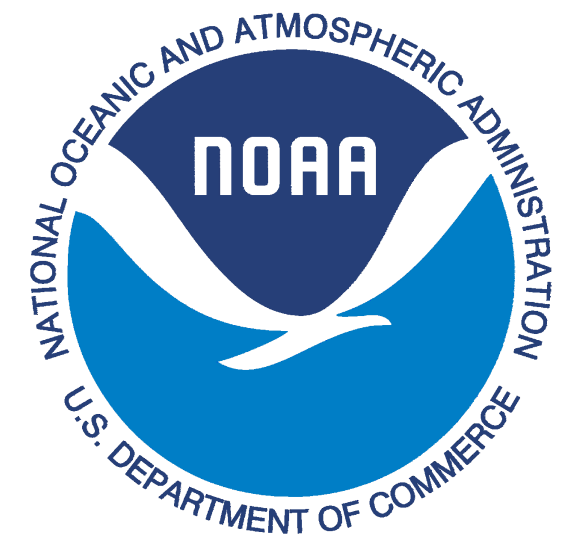
WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE



6 VOID SECTION NORTH
3/8" = 1'-0"



2 VOID SECTION SOUTH
3/8" = 1'-0"



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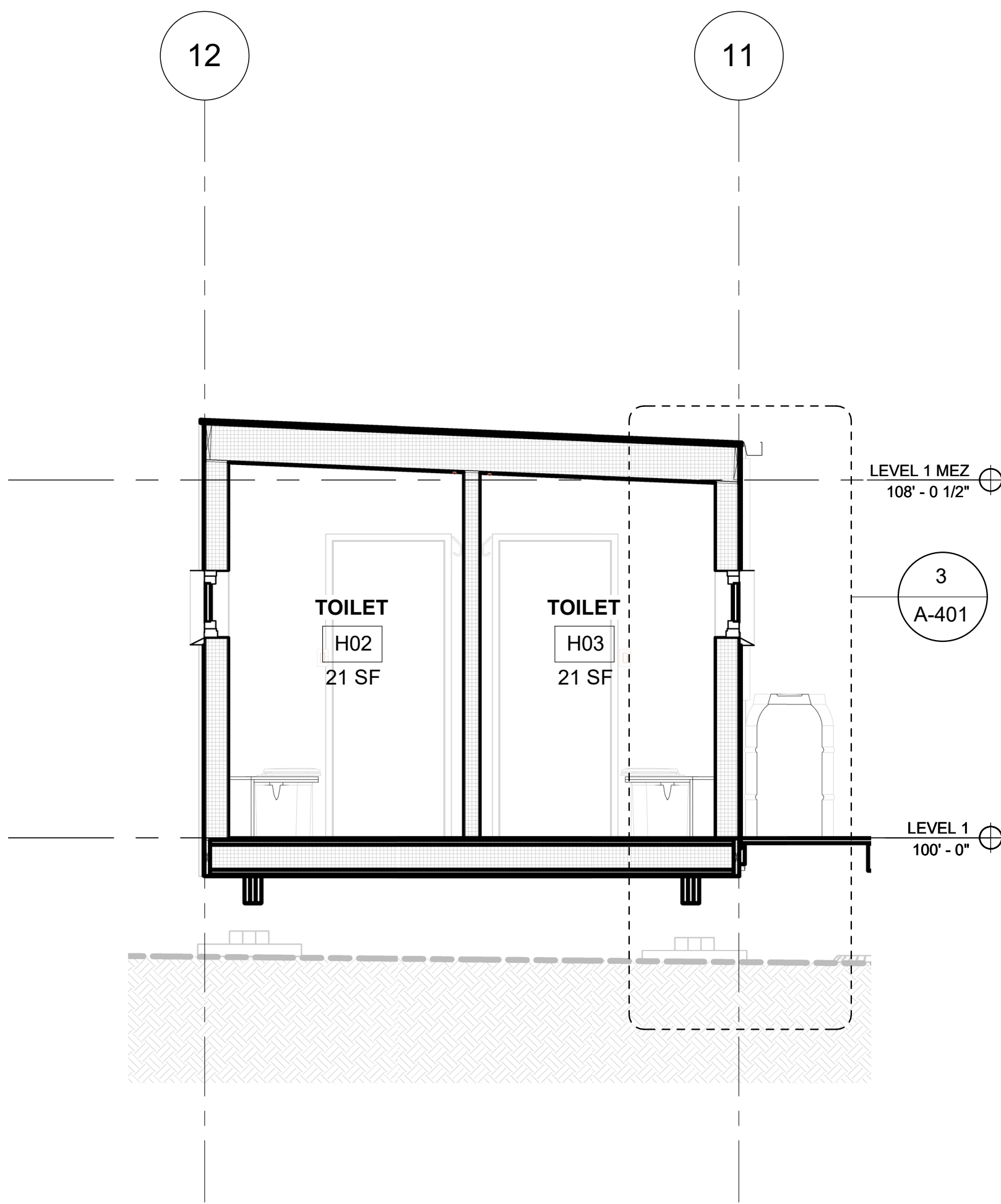
REV. DATE: REV. NAME: REV. NO:

**BUILDING
SECTIONS**

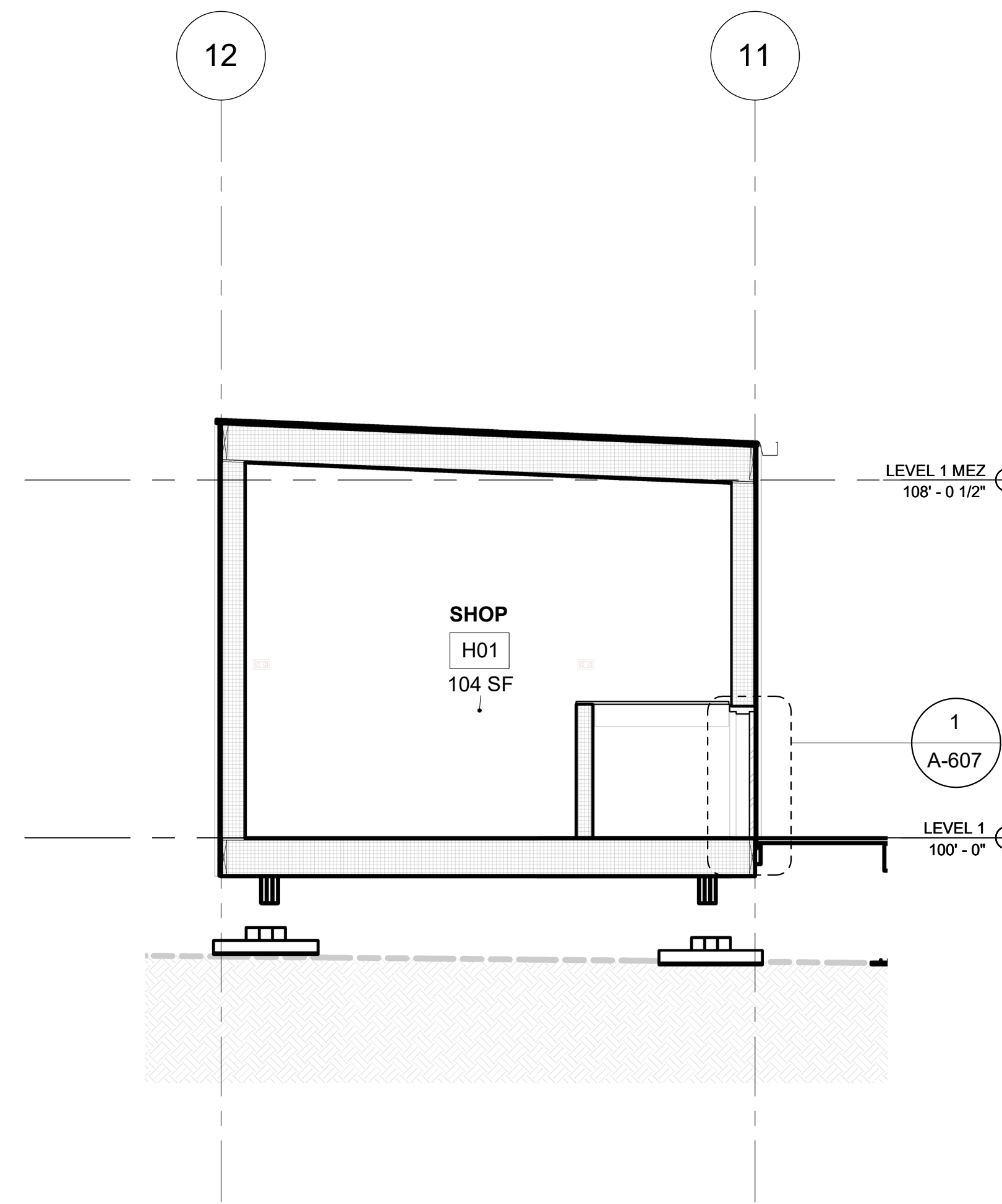
date: 02/23/23
scale: 3/8" = 1'-0"

A-301

1/10/2023 11:27:00 AM



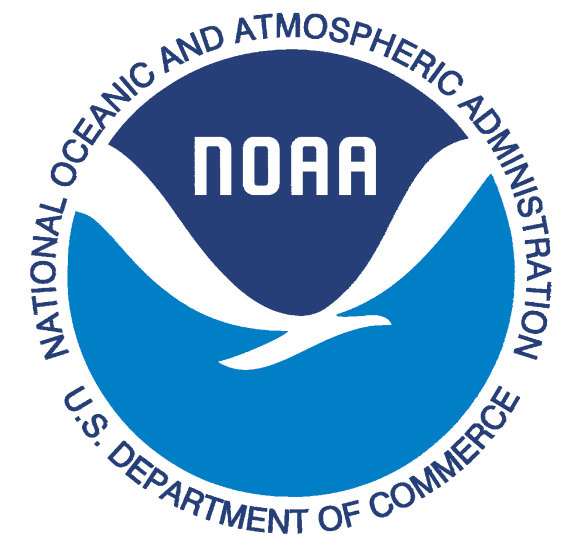
2 TOILET WINDOW TYP
3/8" = 1'-0"



1 SHOP GENERATOR BUILDING SECTION
3/8" = 1'-0"

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT

WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE



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REV. DATE: REV. NAME: REV. NO:

**BUILDING
SECTIONS**

date: 02/23/23
scale: 3/8" = 1'-0"

A-302

**NOAA
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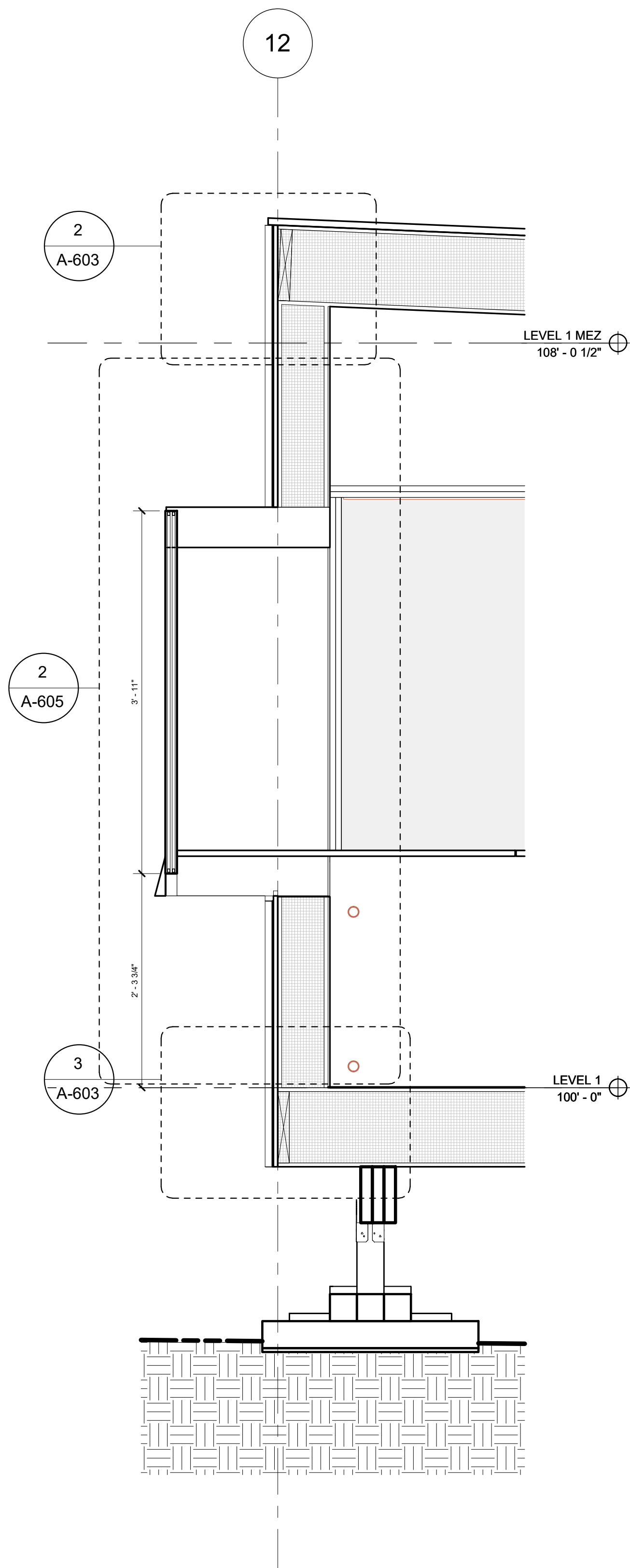
REVISIONS

REV. DATE: REV. NAME: REV. NO:

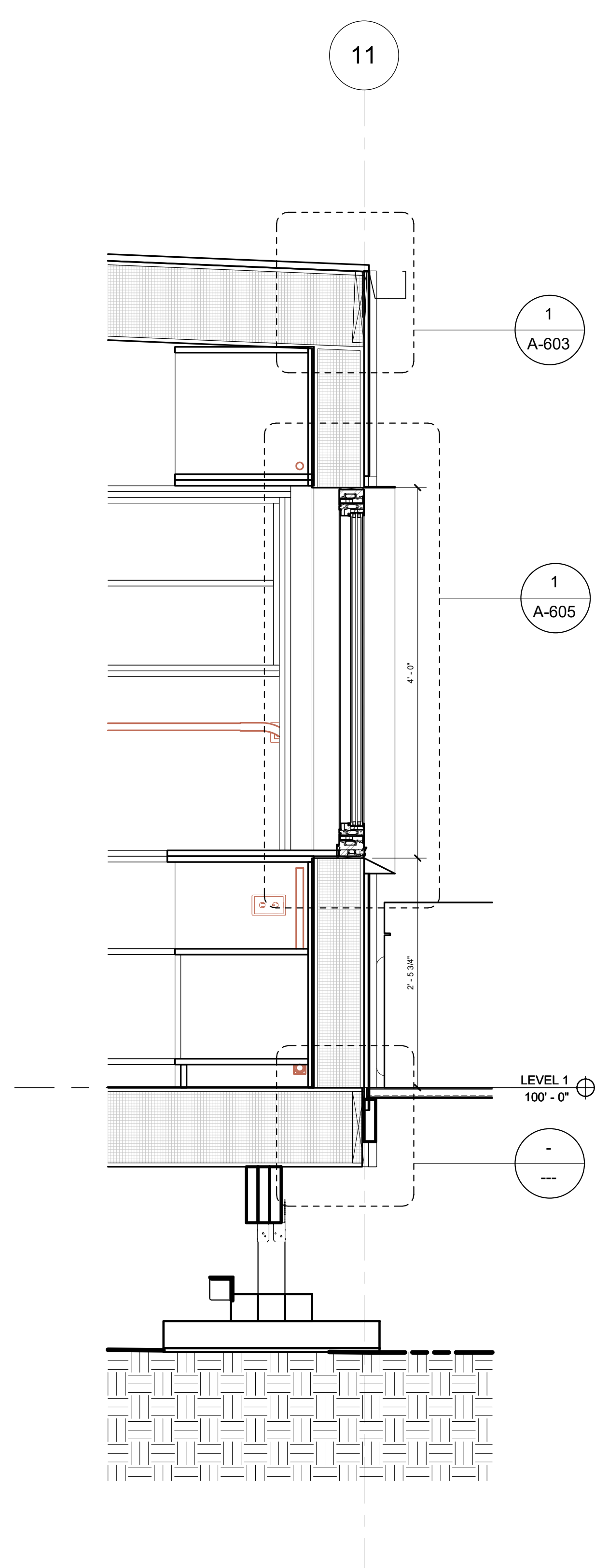
WALL SECTIONS

date: 12/06/21
scale: 1" = 1'-0"

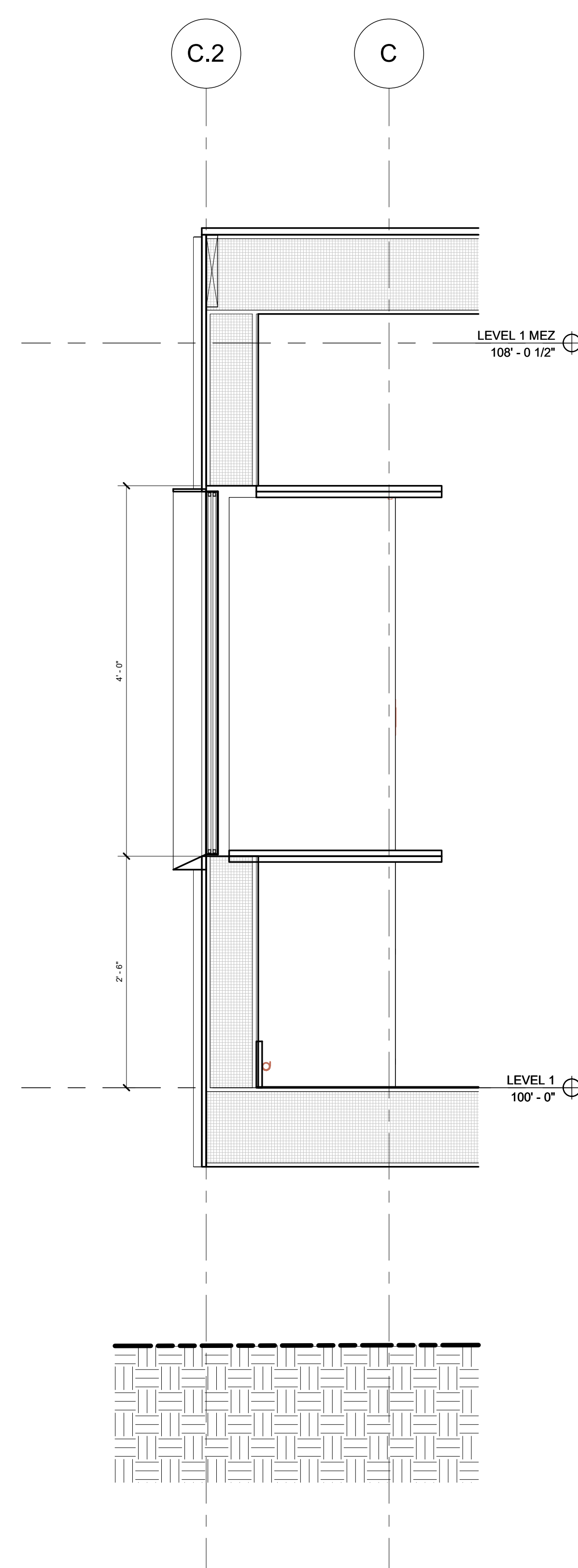
A-401



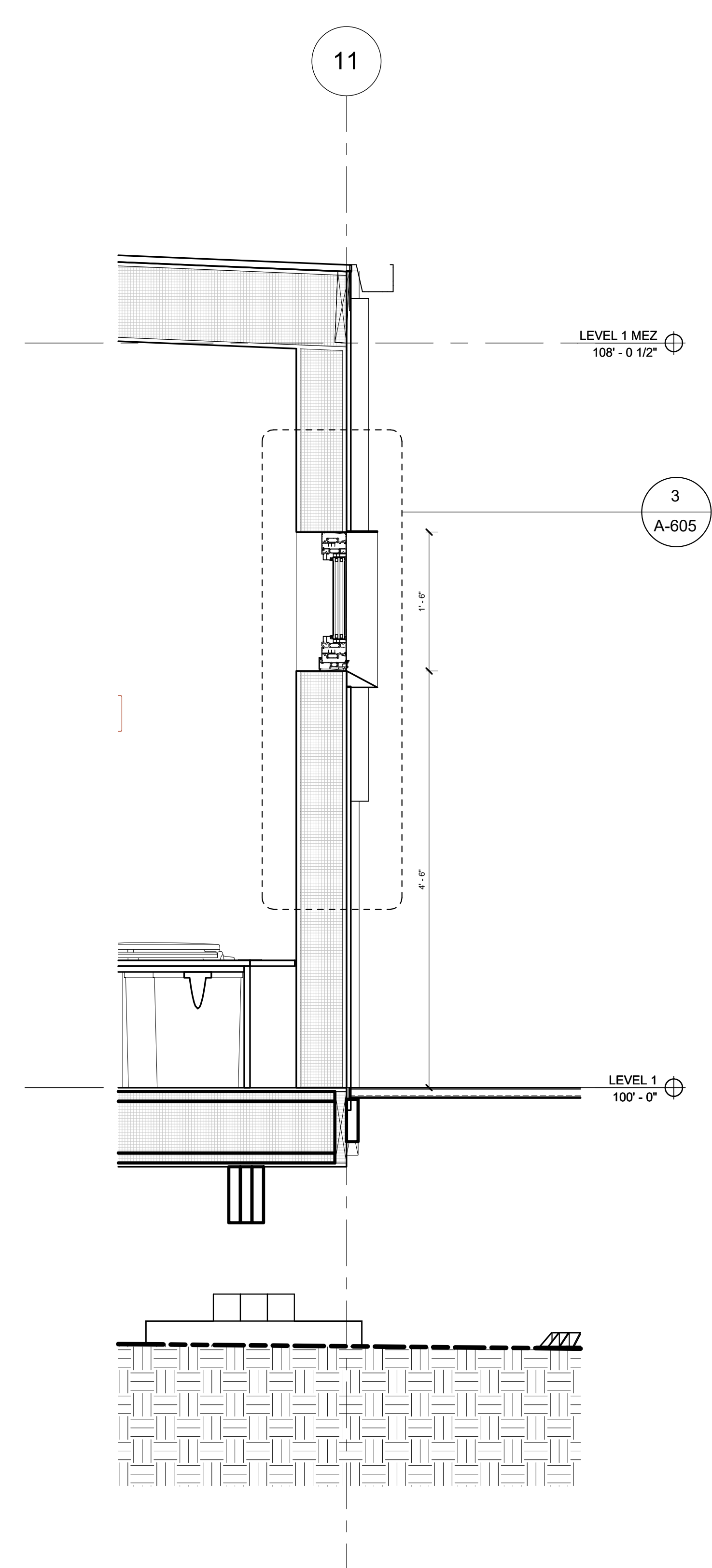
2 LAB - WEST PROJECTION WINDOW - WALL SECTION
1" = 1'-0"



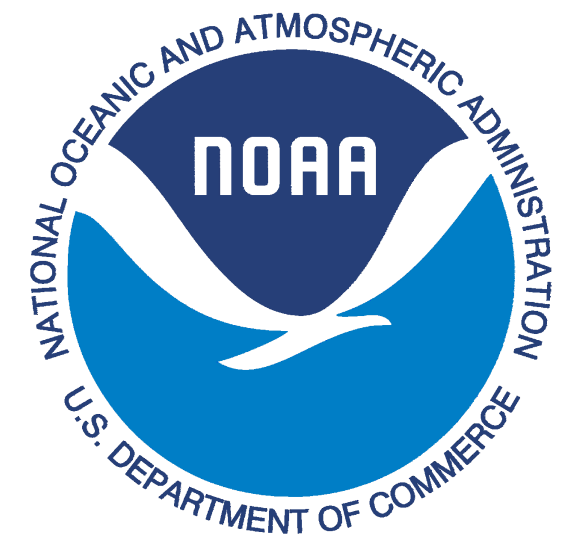
1 LAB - EAST WINDOW - WALL SECTION
1" = 1'-0"



4 LAB - NORTH WINDOW - WALL SECTION
1" = 1'-0"



3 TOILET - WINDOW - WALL SECTION
1" = 1'-0"



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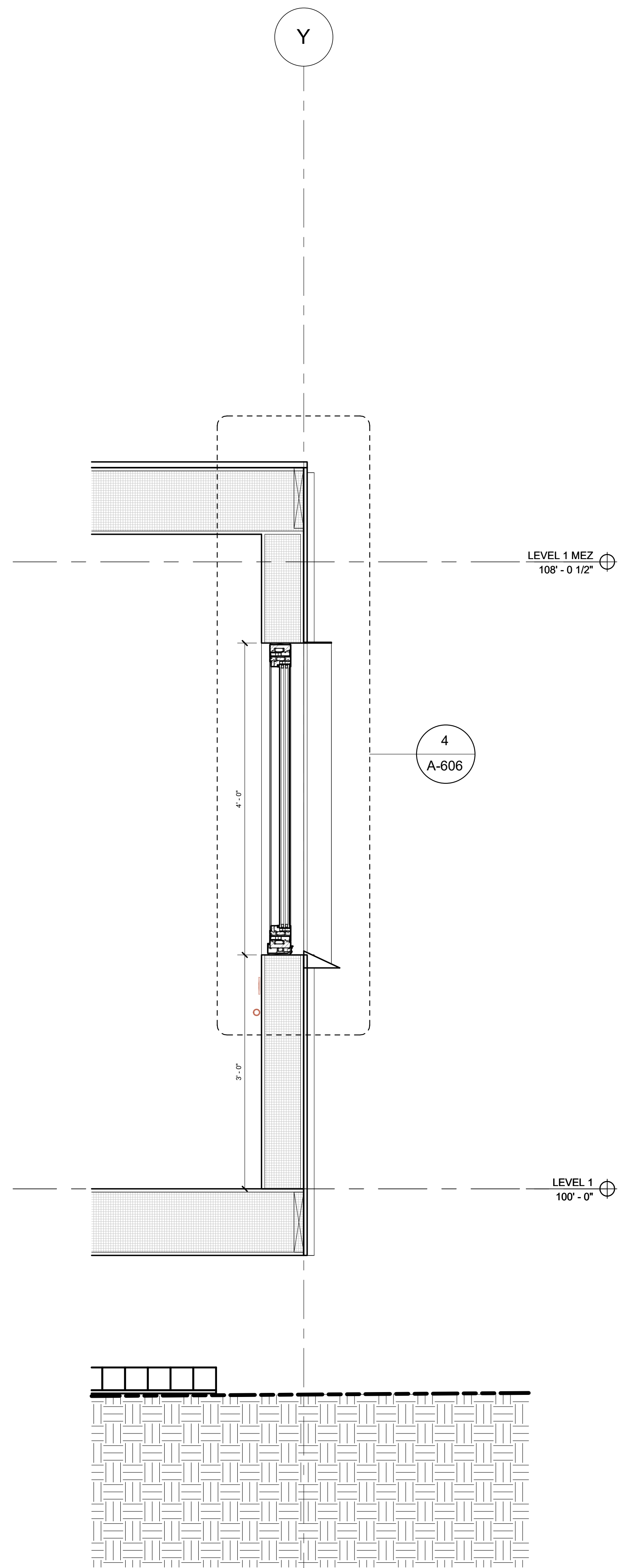
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REV. DATE: REV. NAME: REV. NO:

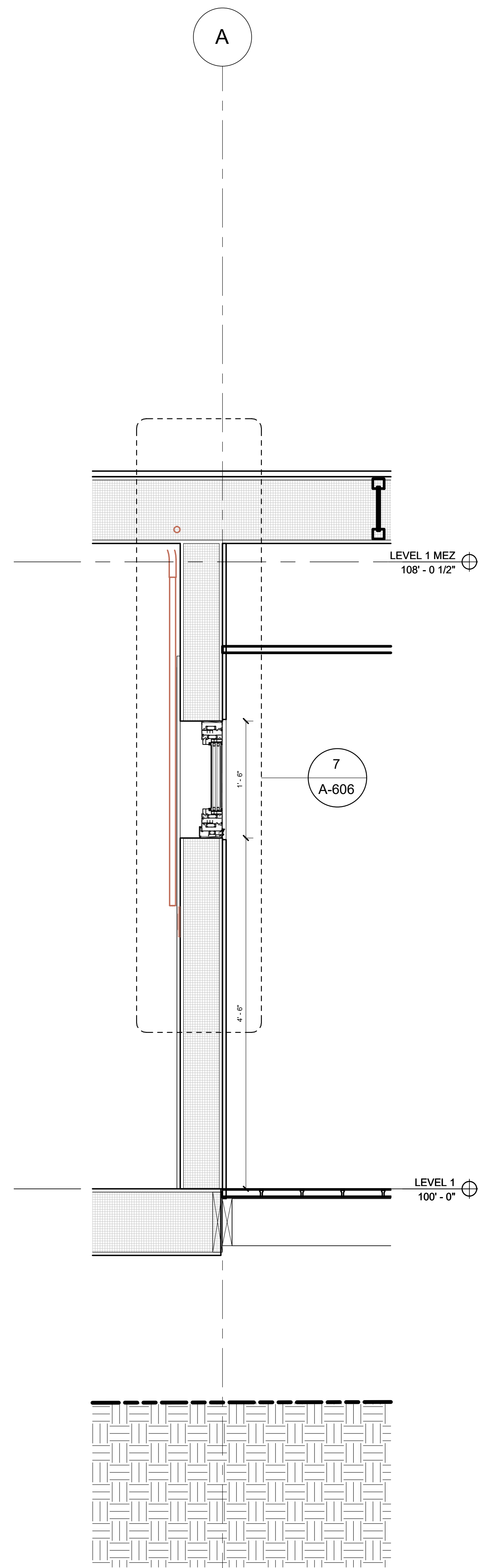
WALL SECTIONS

date: 03/28/23
scale: 1" = 1'-0"

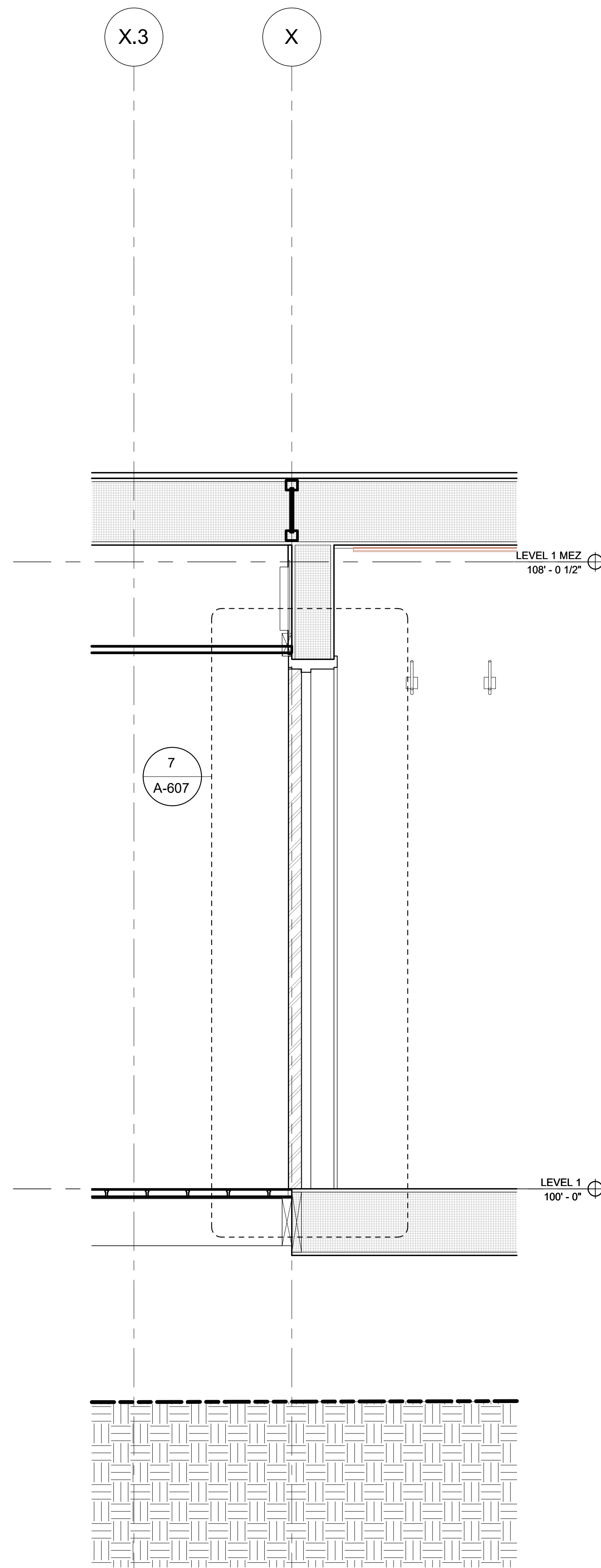
A-402



1 SHOP - WINDOW - WALL SECTION
1" = 1'-0"

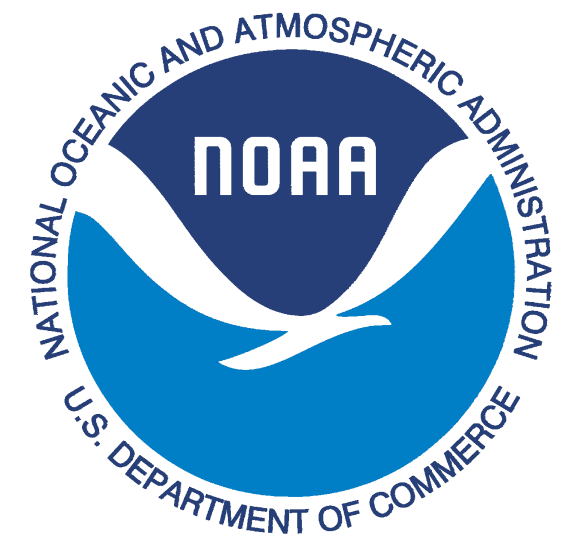


2 SHOWER - WINDOW - WALL SECTION
1" = 1'-0"



3 TOILET/SHOWER - DOOR TYP. - WALL SECTION
1" = 1'-0"

11/10/2023 11:27:30 AM



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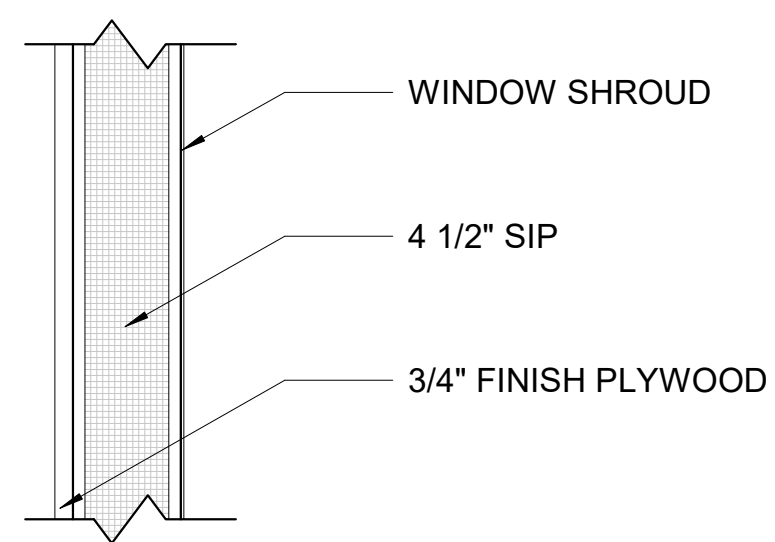


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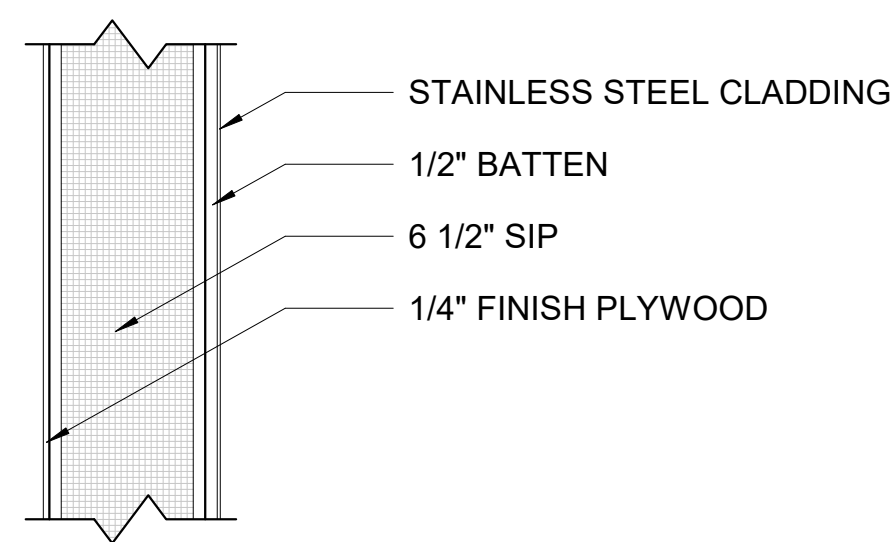
Cape Shirreff - Livingston Island
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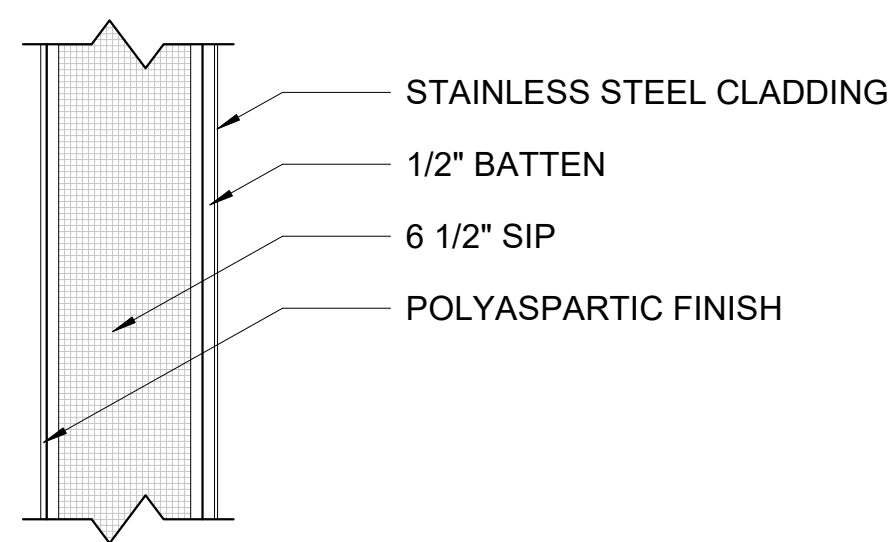
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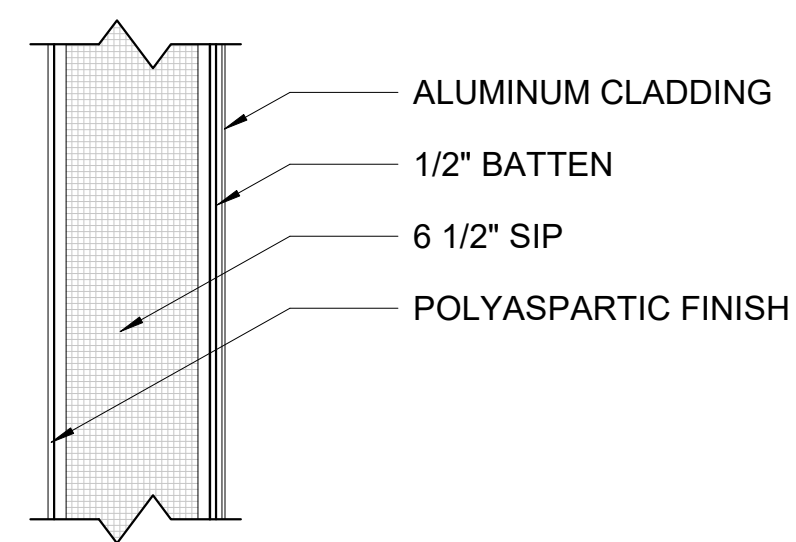
E1 EXTERIOR 4 1/2" SIP - PLY/SHROUD



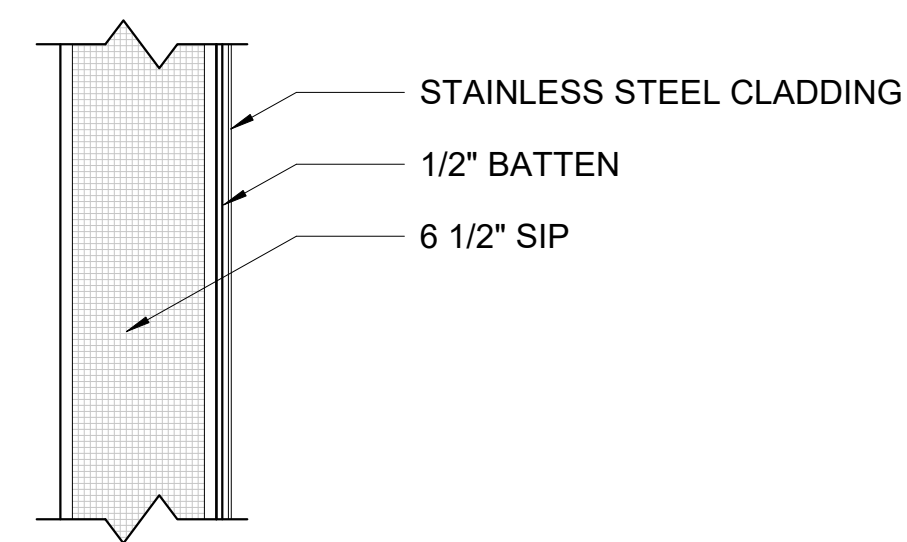
E2 EXTERIOR 6 1/2" SIP - PLY/STAINLESS CLADDING



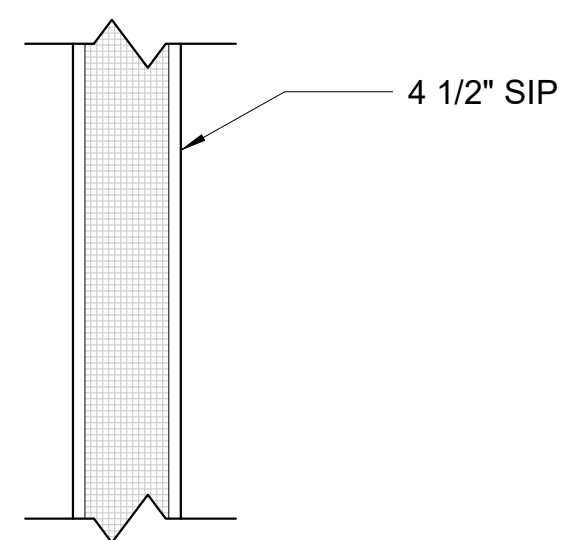
E3 EXTERIOR 6 1/2" SIP - POLY/STAINLESS CLADDING



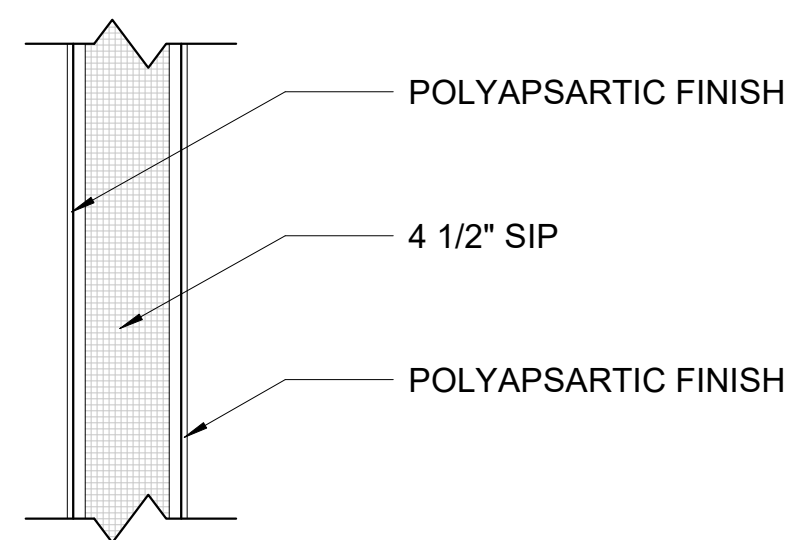
E4 EXTERIOR 6 1/2" SIP - POLY/ALUMINUM CLADDING



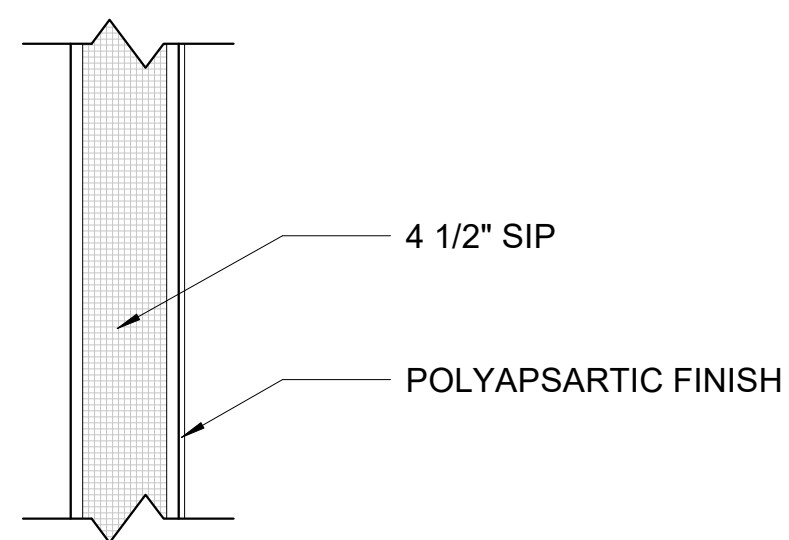
E5 EXTERIOR 6 1/2" SIP - STAINLESS CLADDING



A5 INTERIOR 4 1/2" SIP WALL NO FINISH



A6 INTERIOR 4 1/2" SIP - POLY



A7 INTERIOR 4 1/2" SIP - PLY/POLY

**WALL
 ASSEMBLIES**

date: 03/01/21
 scale: 1 1/2" = 1'-0"

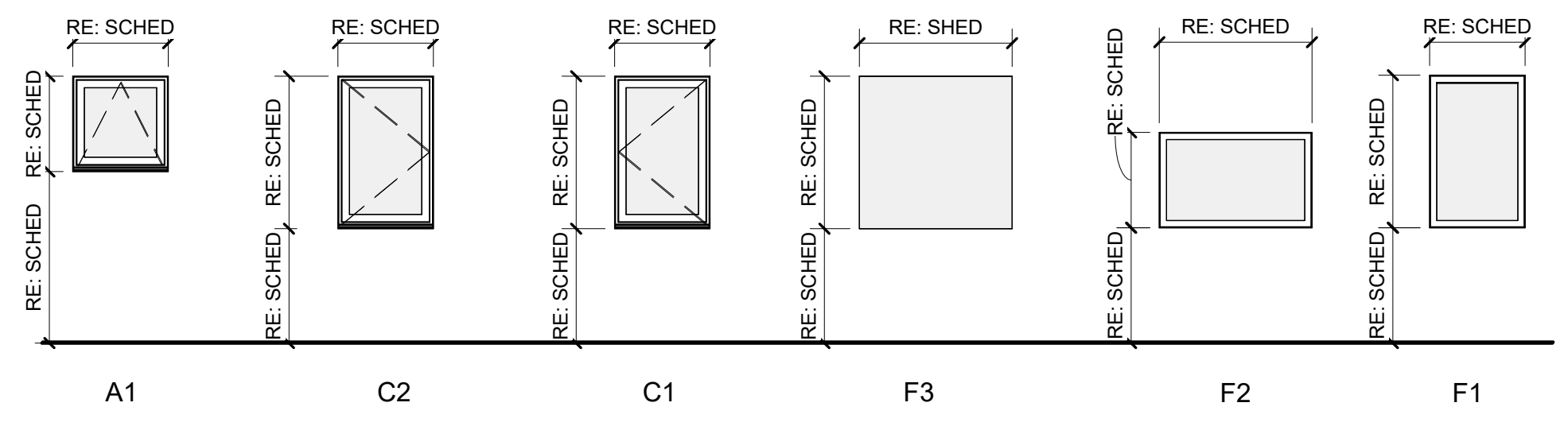
A-501

DOOR SCHEDULE												
DOOR						FRAME						
LEVEL	MARK	WIDTH	HEIGHT	THICKNESS	PANEL A TYPE	PANEL MATERIAL	PANEL FINISH	FRAME TYPE	FRAME DEPTH	FRAME MATERIAL	FRAME FINISH	COMMENTS
LEVEL 1	H01	3' - 0"	6' - 8"	0' - 2"	HL		TBD	WD - A	0' - 6 1/2"		DARK BRONZE	
LEVEL 1	H02	2' - 6"	6' - 8"	0' - 2"	S		TBD	WD - A	0' - 6 1/2"		DARK BRONZE	
LEVEL 1	H03	2' - 6"	6' - 8"	0' - 2"	S		TBD	WD - A	0' - 6 1/2"		DARK BRONZE	
LEVEL 1	H04	2' - 6"	6' - 8"	0' - 2"	S		TBD	WD - A	0' - 6 1/2"		DARK BRONZE	
LEVEL 1	H05	3' - 0"	6' - 8"	0' - 2"	HL		TBD	WD - A	0' - 6 3/4"		DARK BRONZE	

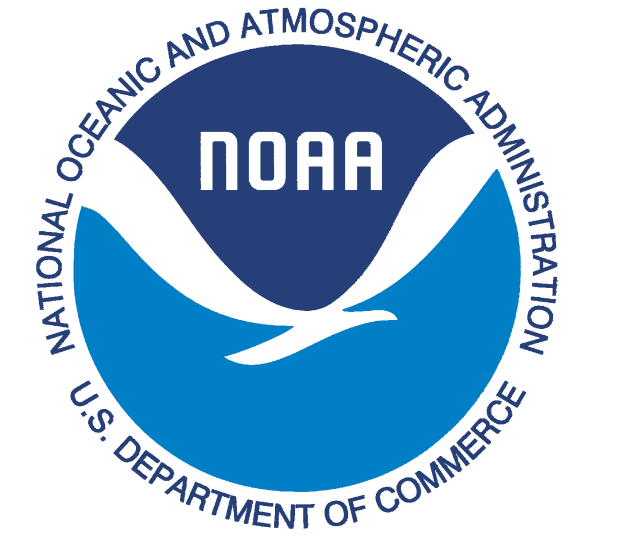
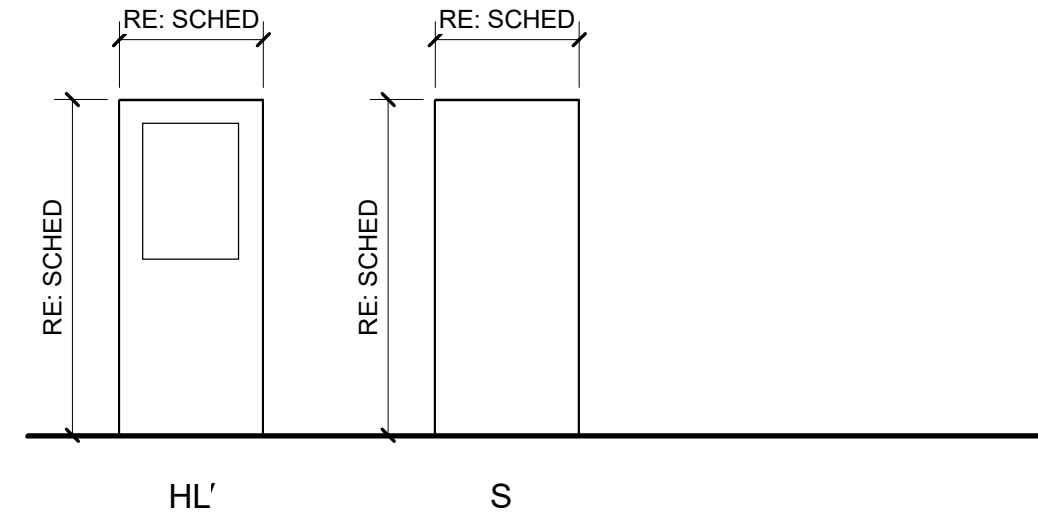
WINDOWS SCHEDULE												
MARK	SILL HEIGHT	HEIGHT	WIDTH	ROUGH WIDTH	ROUGH HEIGHT	AREA	FRAME FINISH	GLAZING GRADE	IGU TYPE	SILL STARTER	TYPE	DESCRIPTION
A1	4' - 6"	1' - 5 1/2"	1' - 5 1/2"	1' - 6"	1' - 6"	2 SF	<By Category>	GLASS STANDARD	IGU - 3 Pane	•	3232 XPT AWNING	
A1	4' - 6"	1' - 5 1/2"	1' - 5 1/2"	1' - 6"	1' - 6"	2 SF	<By Category>	GLASS STANDARD	IGU - 3 Pane	•	3232 XPT AWNING	
C1	2' - 5 3/4"	3' - 11 1/2"	2' - 5 1/2"	2' - 6"	4' - 0"	10 SF	TBD	GLASS STANDARD	IGU - 2 Pane	•	3232 XPT CASEMENT	
C1	4' - 6"	3' - 11 1/2"	2' - 5 1/2"	2' - 6"	4' - 0"	10 SF	TBD	GLASS STANDARD	IGU - 2 Pane	•	3232 XPT CASEMENT	
C1	3' - 0"	3' - 11 1/2"	2' - 5 1/2"	2' - 6"	4' - 0"	10 SF	TBD	GLASS STANDARD	IGU - 2 Pane	•	3232 XPT CASEMENT	
Grand total: 5						33 SF						

FRAMELESS IGU SCHEDULE												
MARK	SILL HEIGHT	HEIGHT	WIDTH	ROUGH WIDTH	ROUGH HEIGHT	AREA	FRAME FINISH	GLAZING GRADE	IGU TYPE	TYPE	DESCRIPTION	
F3	2' - 6"	4' - 0"	4' - 0"	3' - 11 1/2"	3' - 11 1/2"	16 SF	TBD	GLASS STANDARD	IGU - 3 Pane			
F3	2' - 3 1/2"	4' - 0"	4' - 0"	3' - 11 1/2"	3' - 11 1/2"	16 SF	TBD	GLASS STANDARD	IGU - 3 Pane			
Grand total: 2						32 SF						

WINDOW TYPES



DOOR PANEL TYPES



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**WINDOW &
DOOR
SCHEDULE**

date: 03/01/22
scale: 1/4" = 1'-0"

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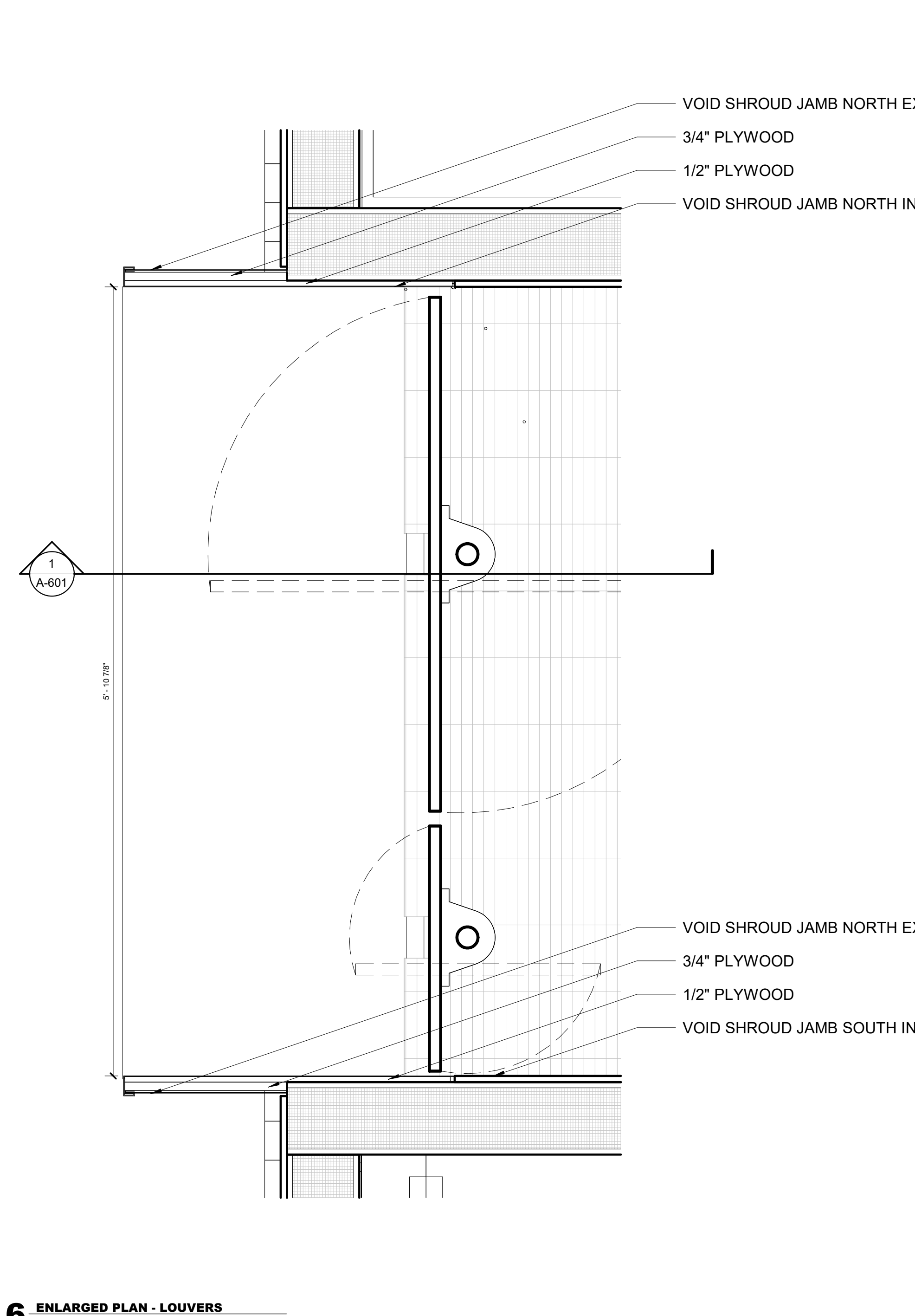
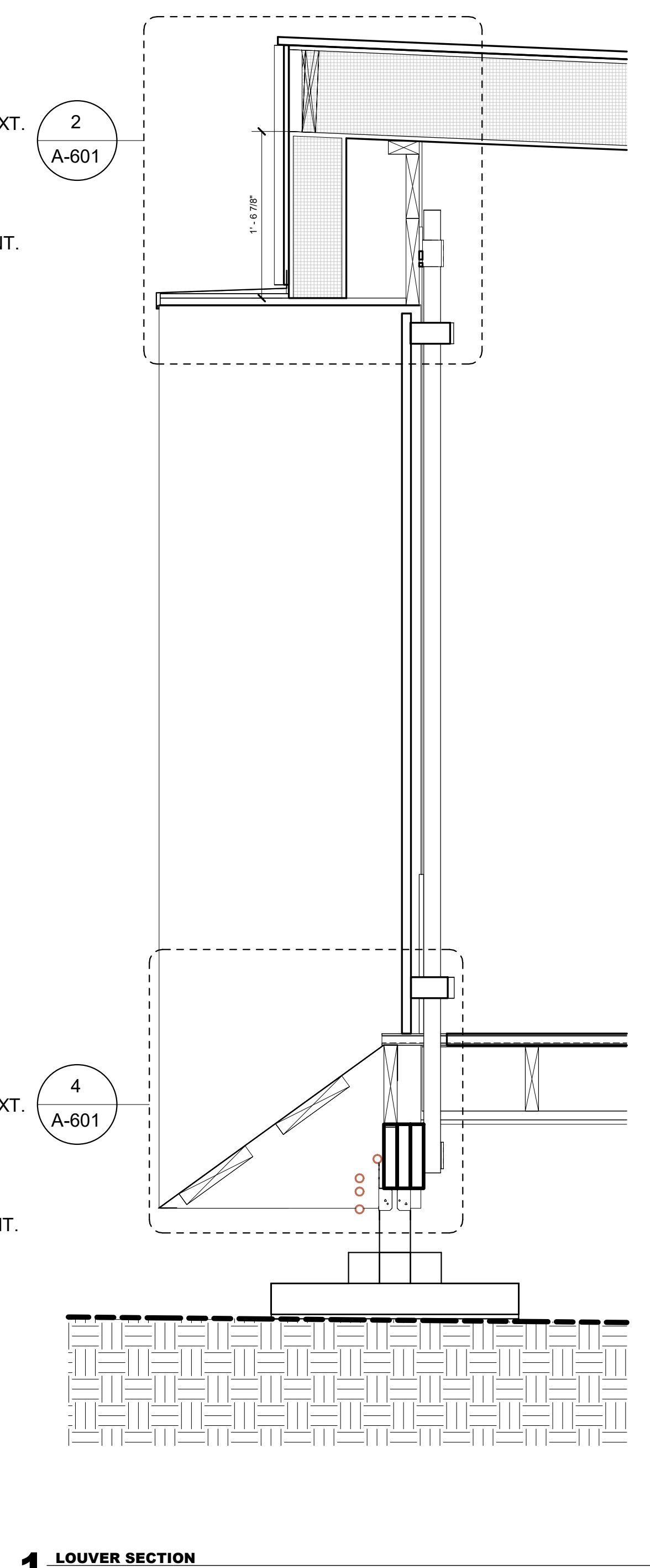
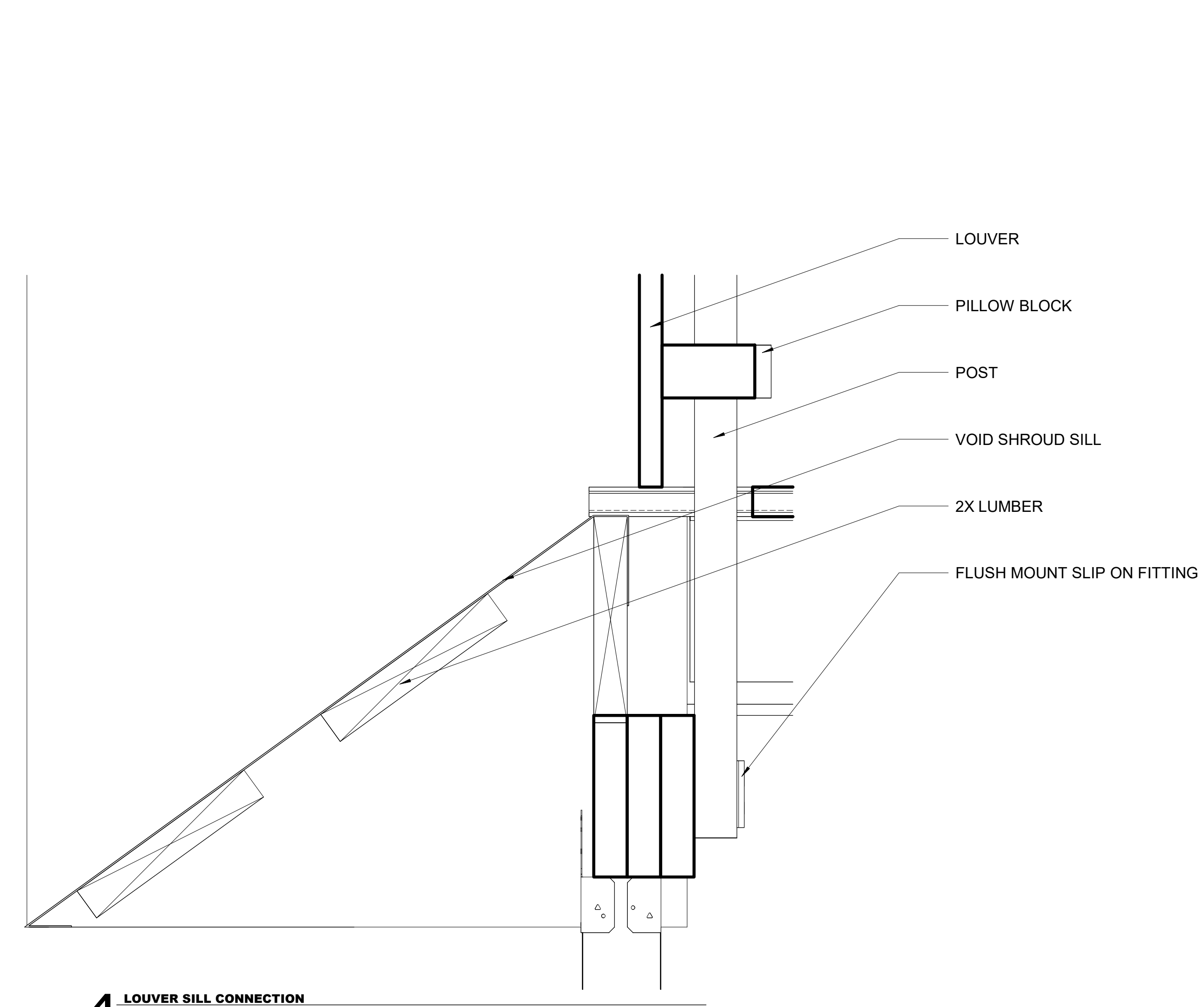
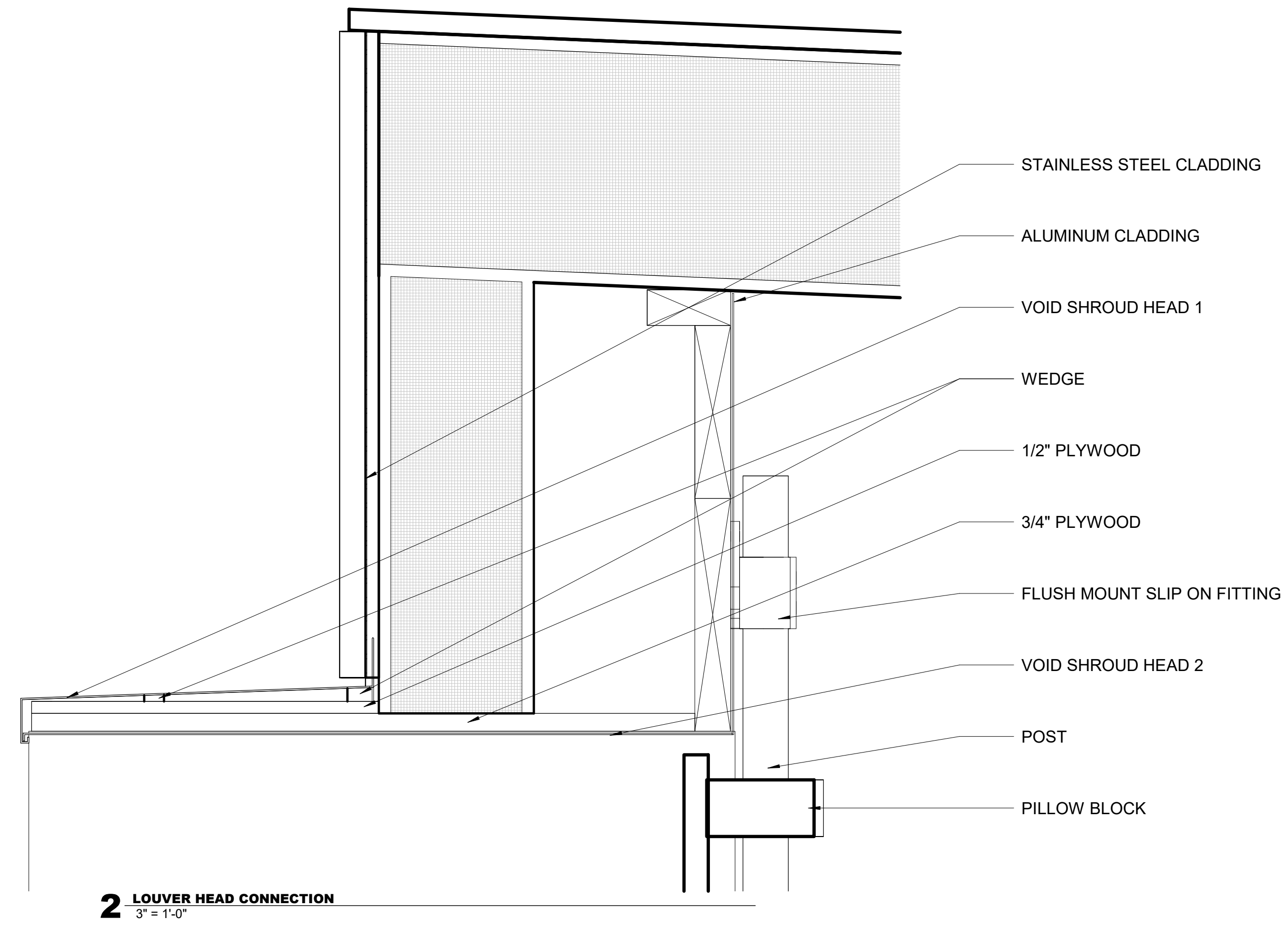
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REV. DATE: REV. NAME: REV. NO:

**EXTERIOR
DETAIL -
LOUVERS**

date: 03/13/23
scale: As indicated

A-601

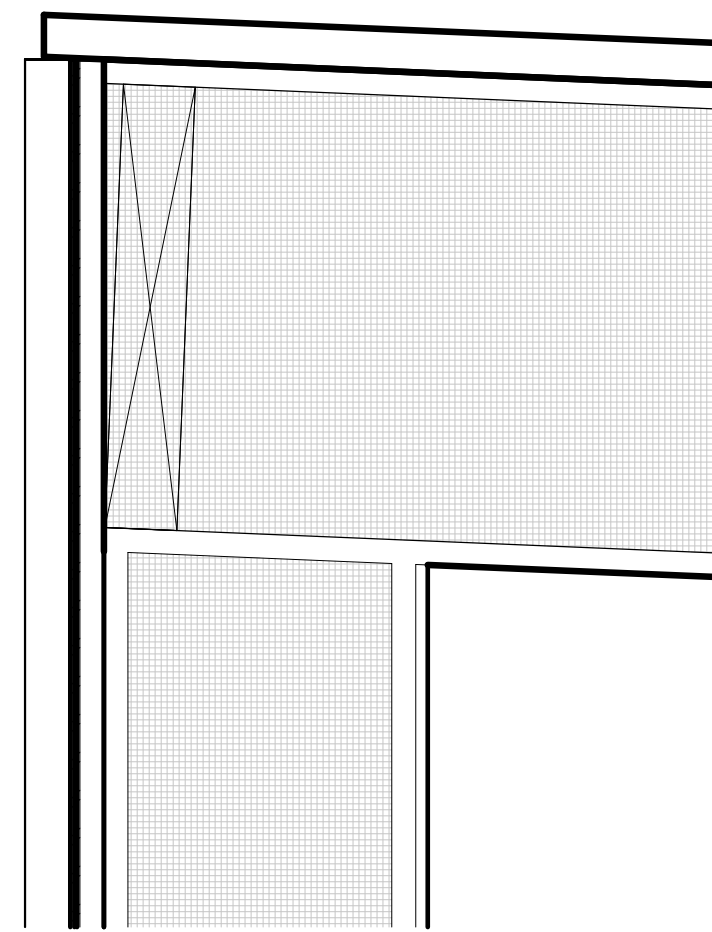


6 ENLARGED PLAN - LOUVERS
1 1/2" = 1'-0"

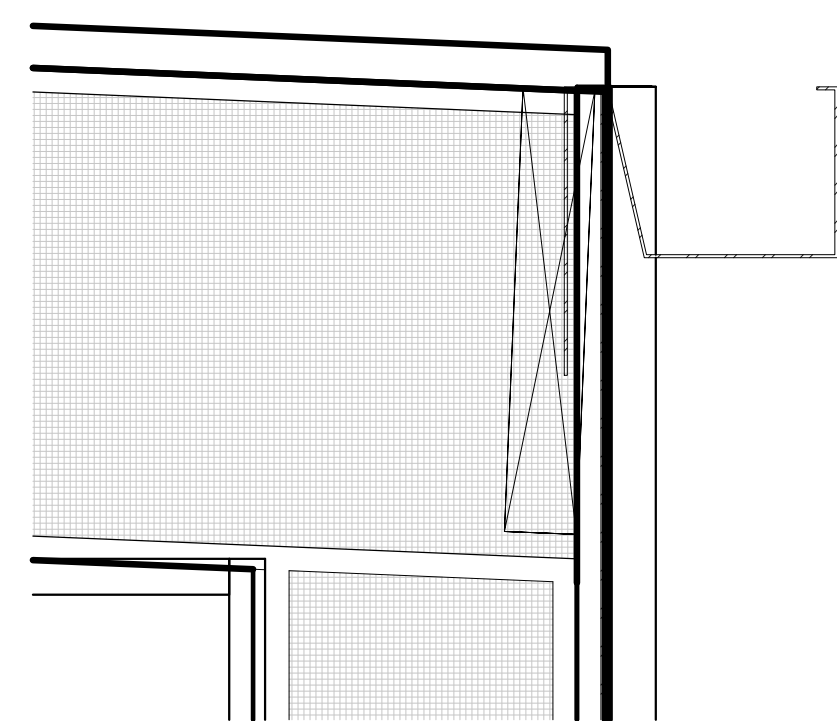
1 LOUVER SECTION
1" = 1'-0"

4 LOUVER SILL CONNECTION
3" = 1'-0"

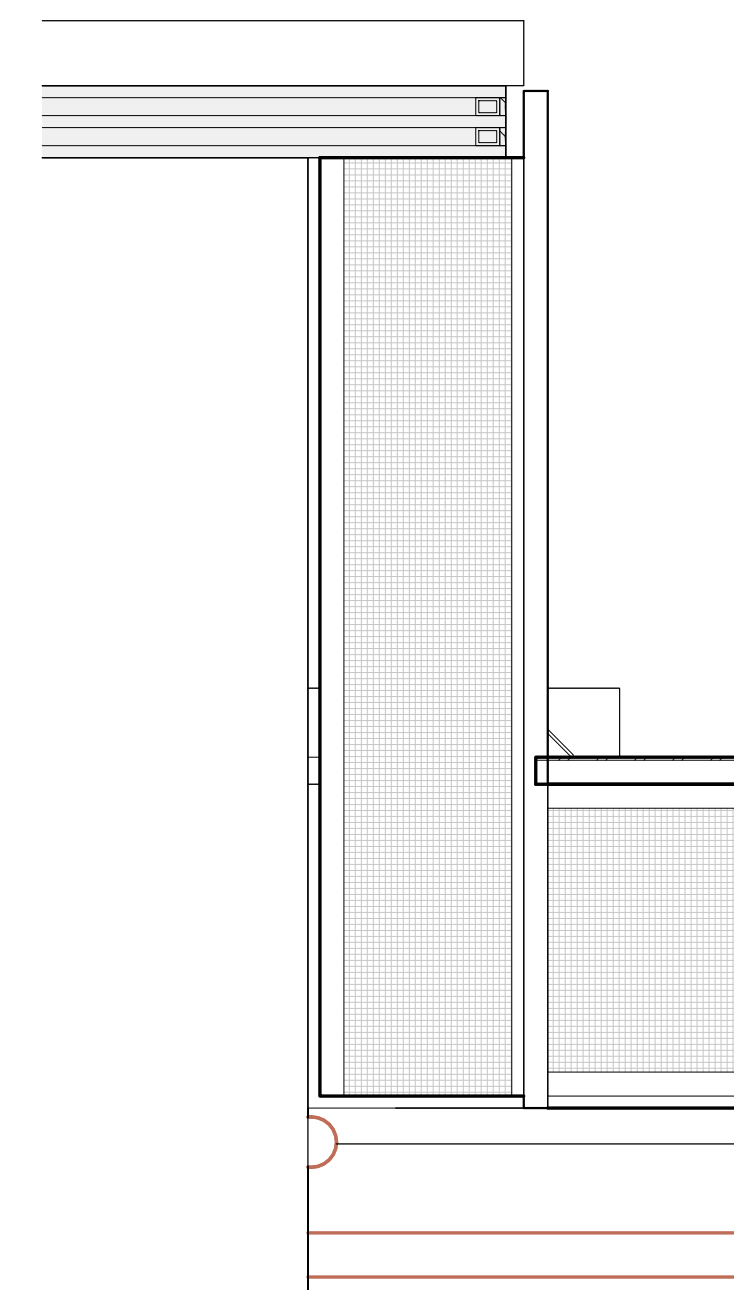
2 LOUVER HEAD CONNECTION
3" = 1'-0"



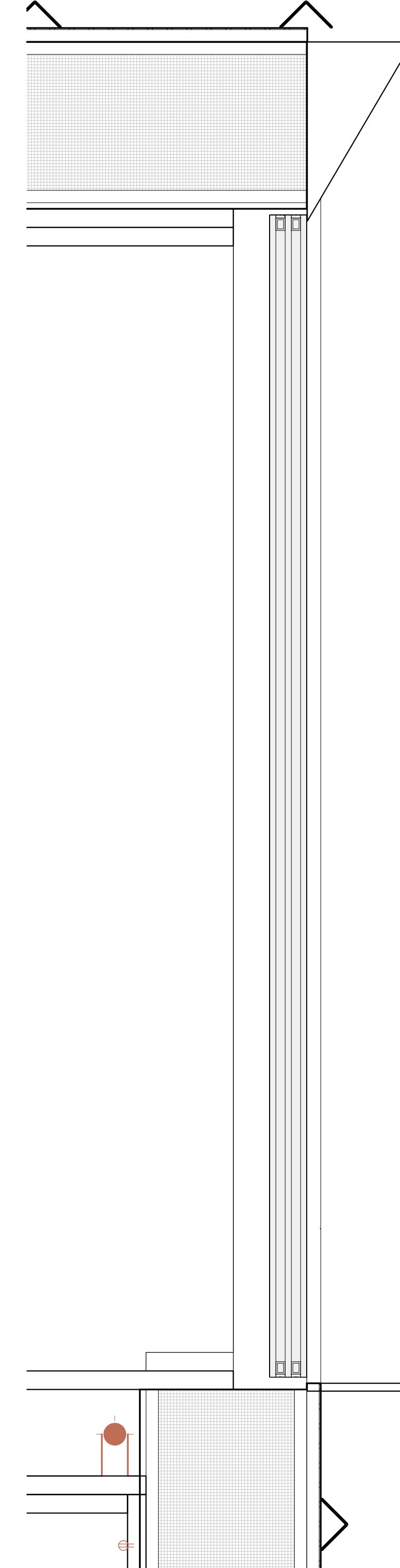
2 EXTERIOR WALL CLADDING MEETING ROOF
3" = 1'-0"



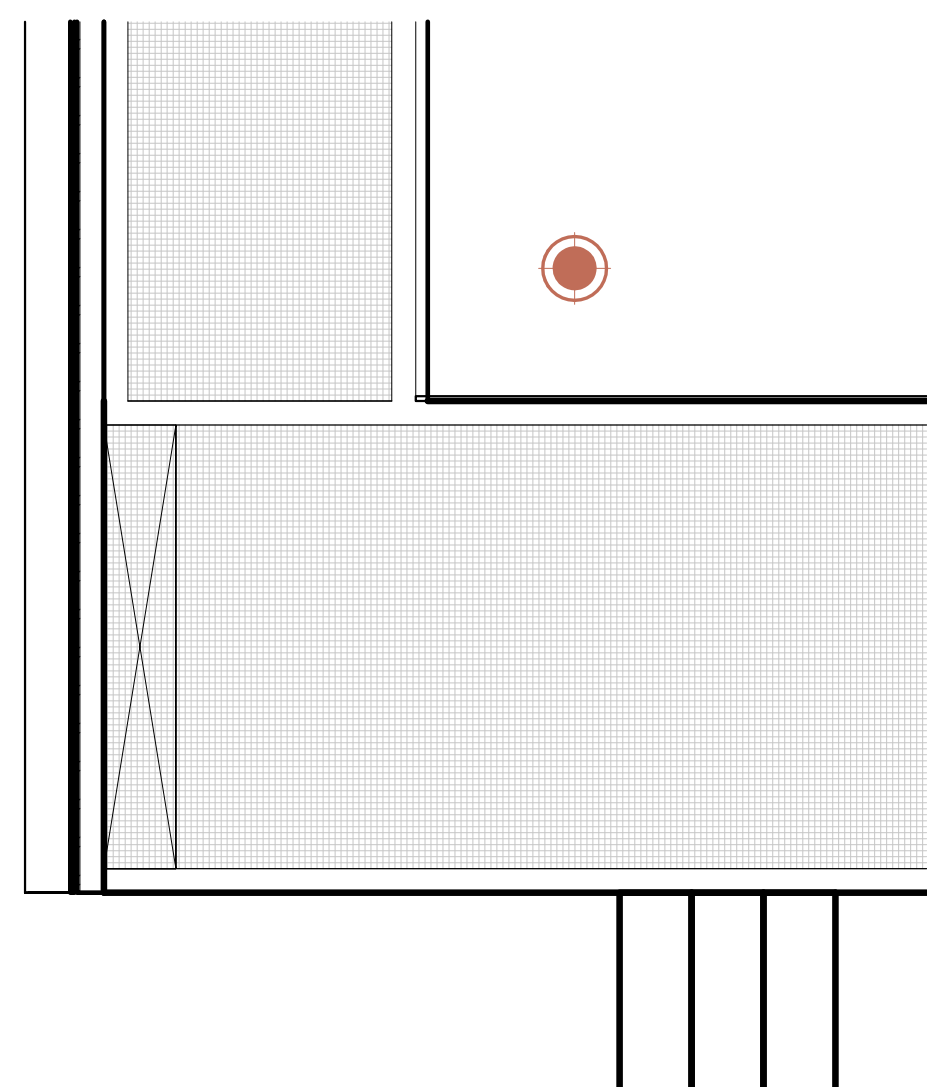
1 GUTTER DETAIL
3" = 1'-0"



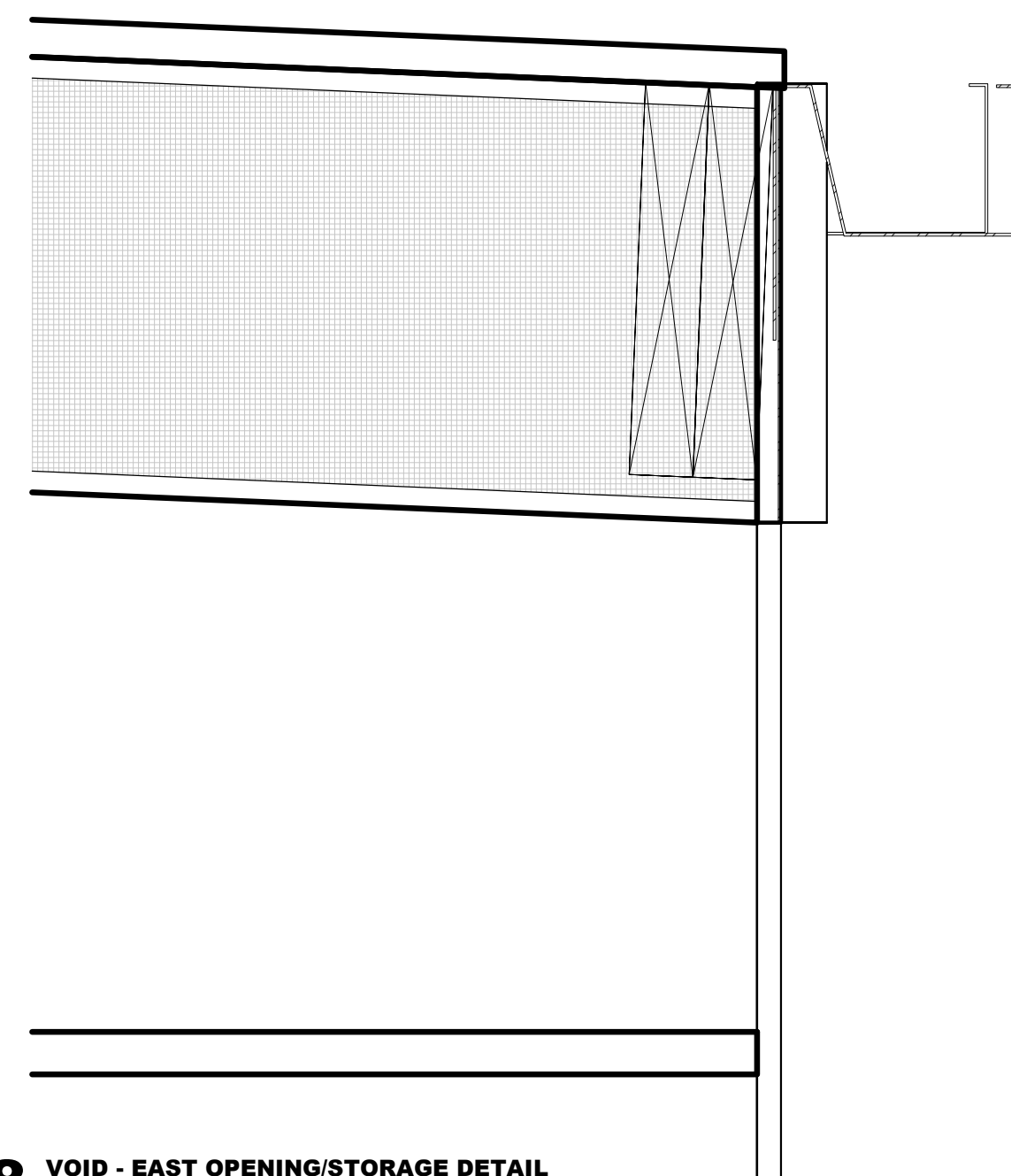
7 LAB - INTERIOR CORNER CLADDING AND WINDOW DETAIL
3" = 1'-0"



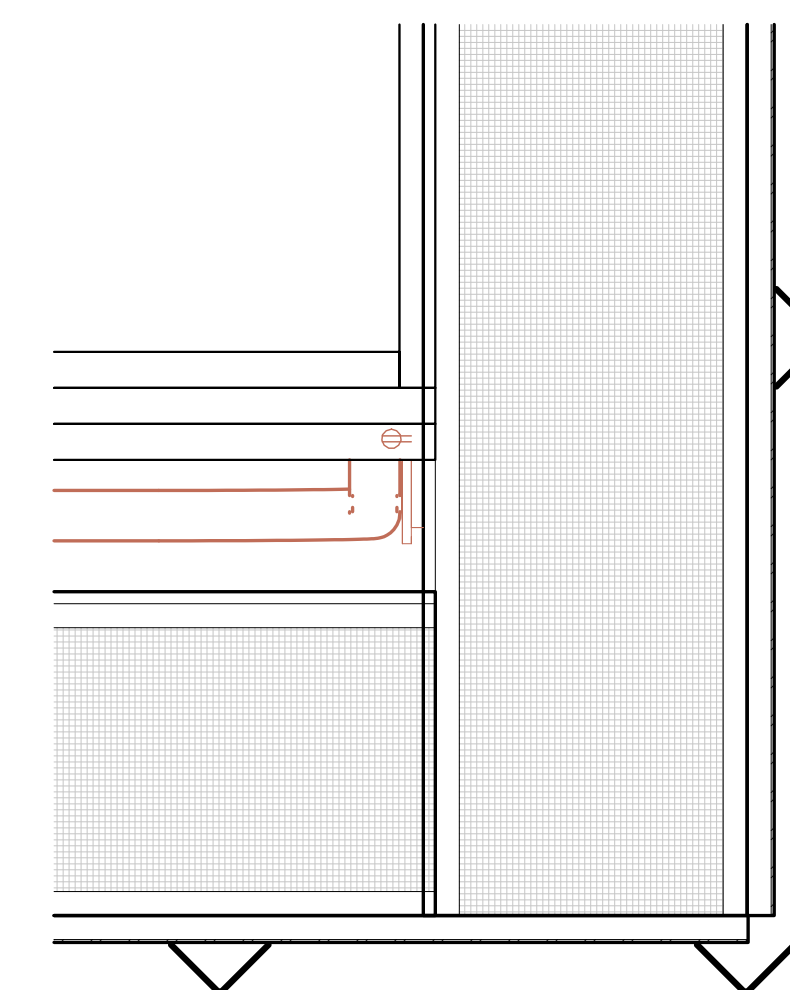
6 LAB - CORNER CLADDING AND WINDOW DETAIL
3" = 1'-0"



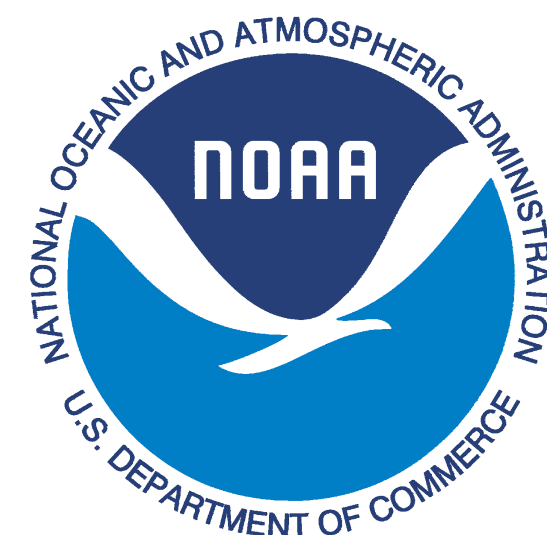
3 EXTERIOR WALL CLADDING MEETING FLOOR
3" = 1'-0"



8 VOID - EAST OPENING/STORAGE DETAIL
3" = 1'-0"



5 LAB - CORNER CLADDING AND VENTING DETAIL
3" = 1'-0"



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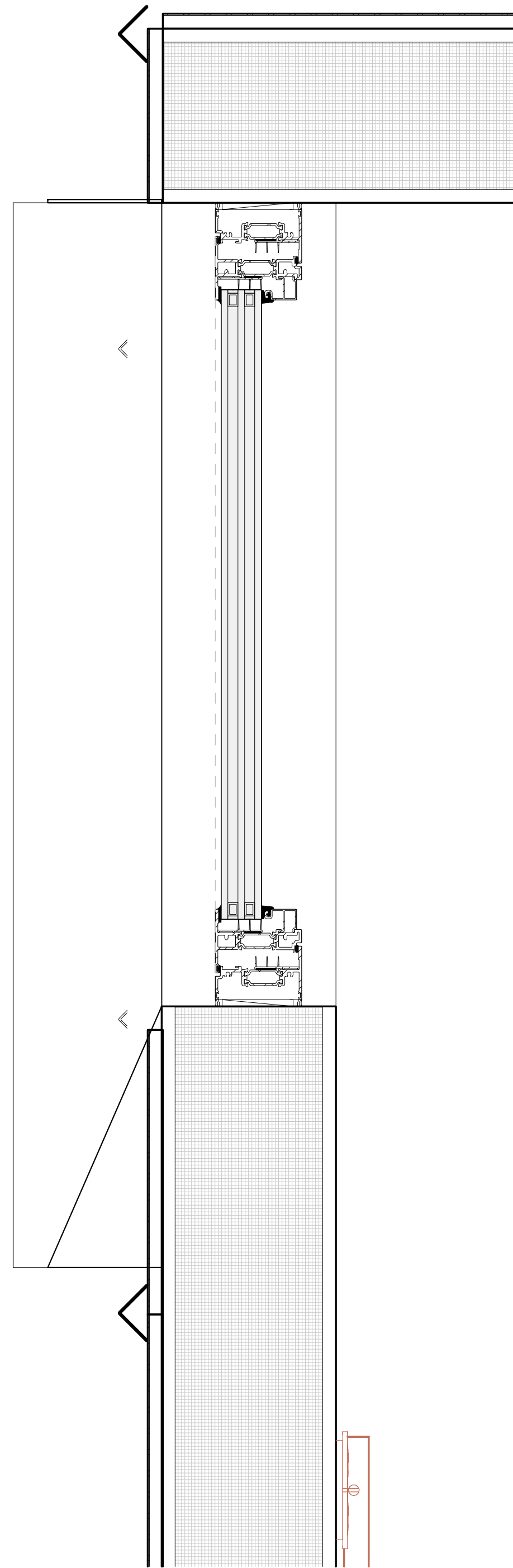
REV. DATE: REV. NAME: REV. NO:

**EXTERIOR
DETAILS -
CLADDING**

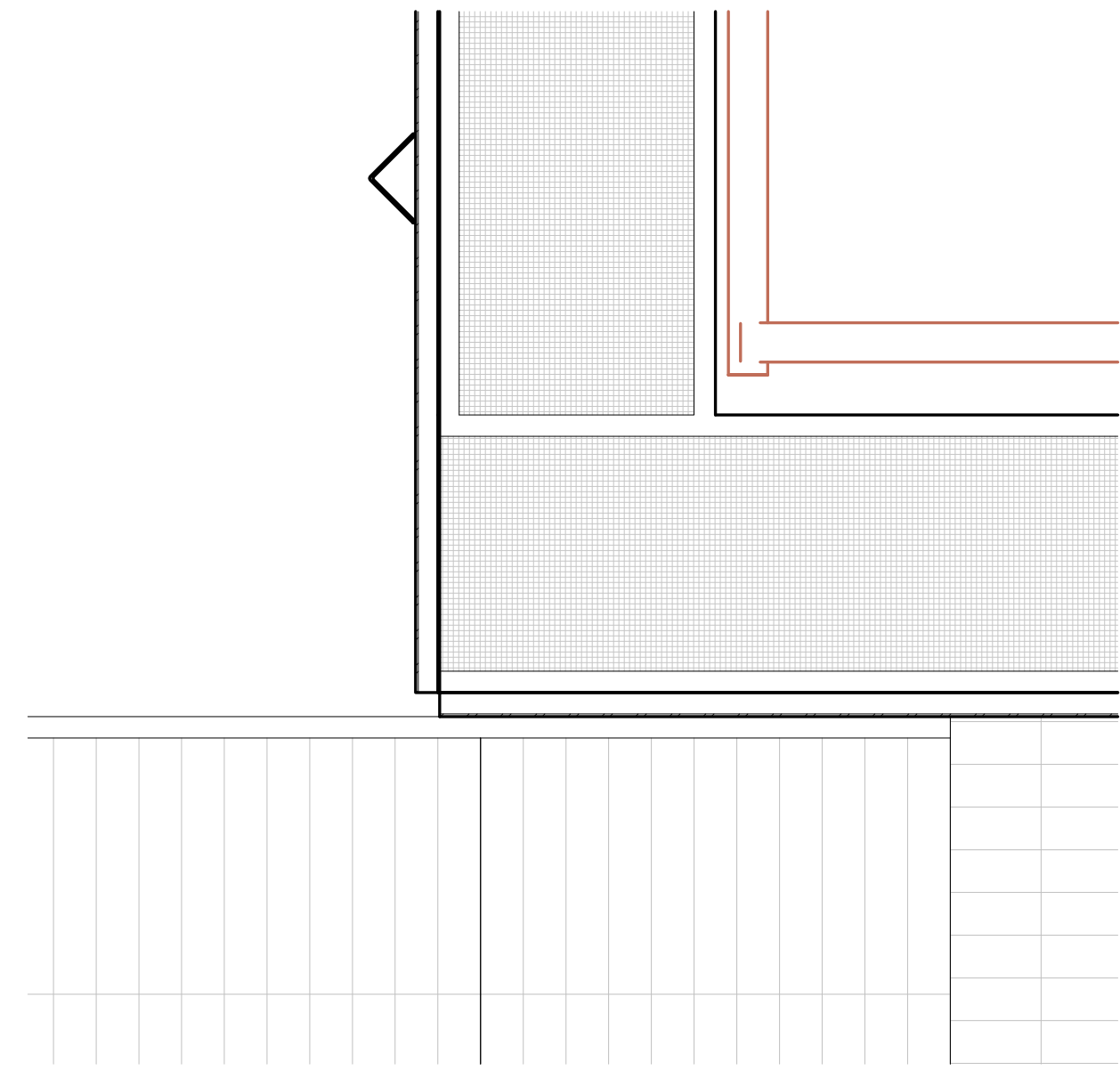
date: 03/13/23
scale: 3" = 1'-0"

A-603

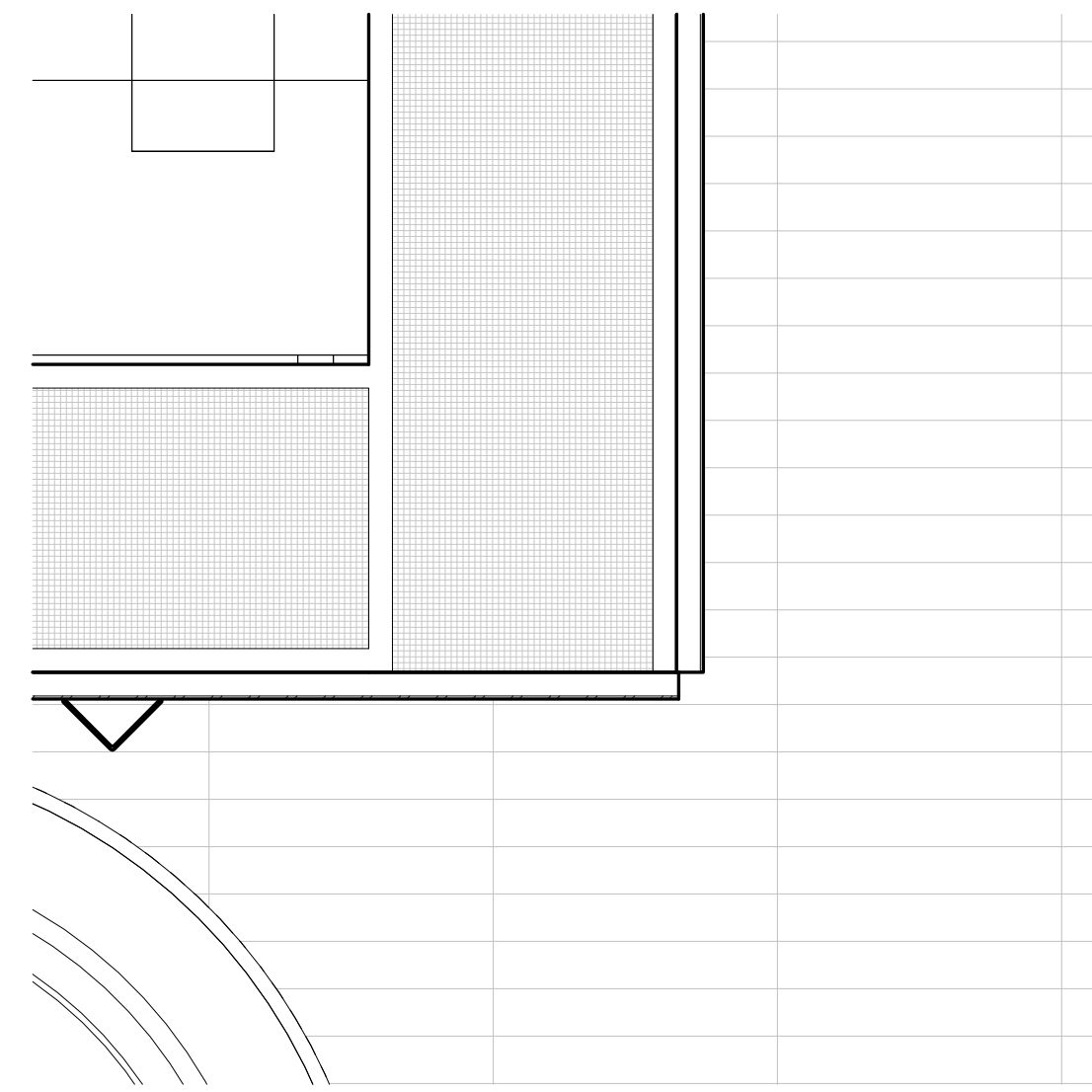
11/03/2023 11:27:40 AM



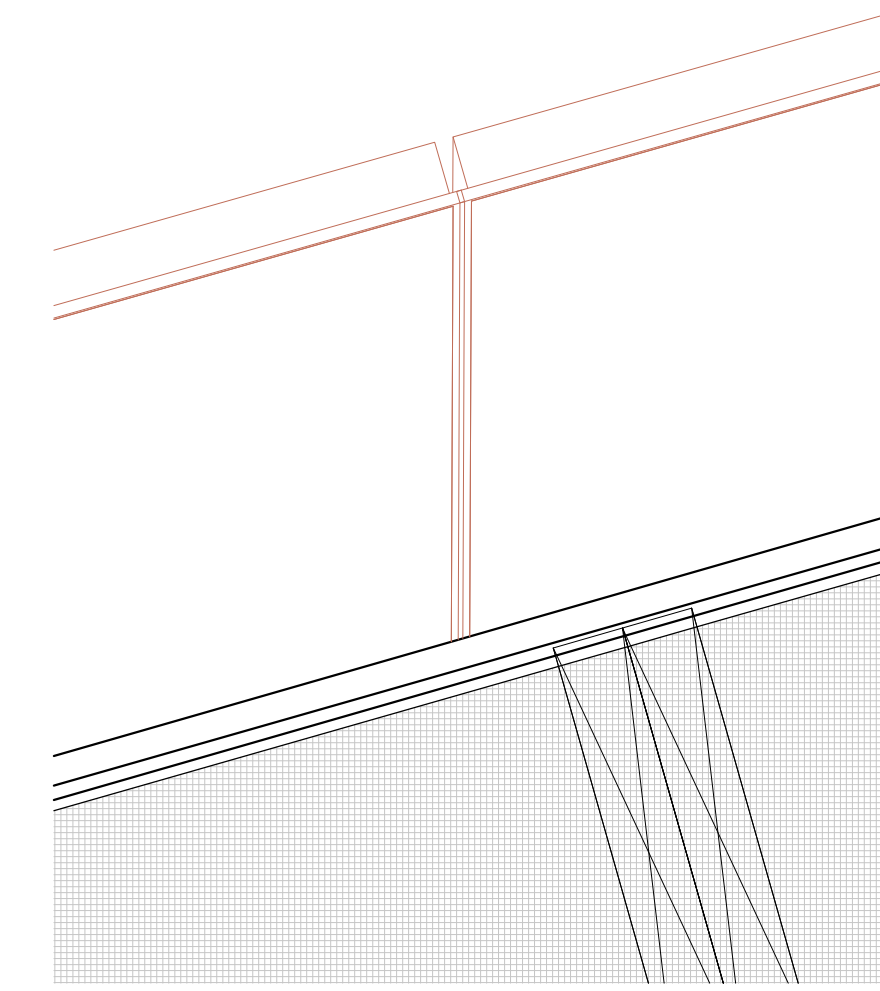
1 SHOP - CORNER CLADDING AND WINDOW DETAIL
3" = 1'-0"



2 SHOP - CORNER CLADDING DETAIL
3" = 1'-0"



3 VOID - CORNER CLADDING DETAIL
3" = 1'-0"



4 PV ATTACHMENT DETAIL
3" = 1'-0"



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**EXTERIOR
DETAILS -
CLADDING**

date: 04/23/23
scale: 3" = 1'-0"

A-604

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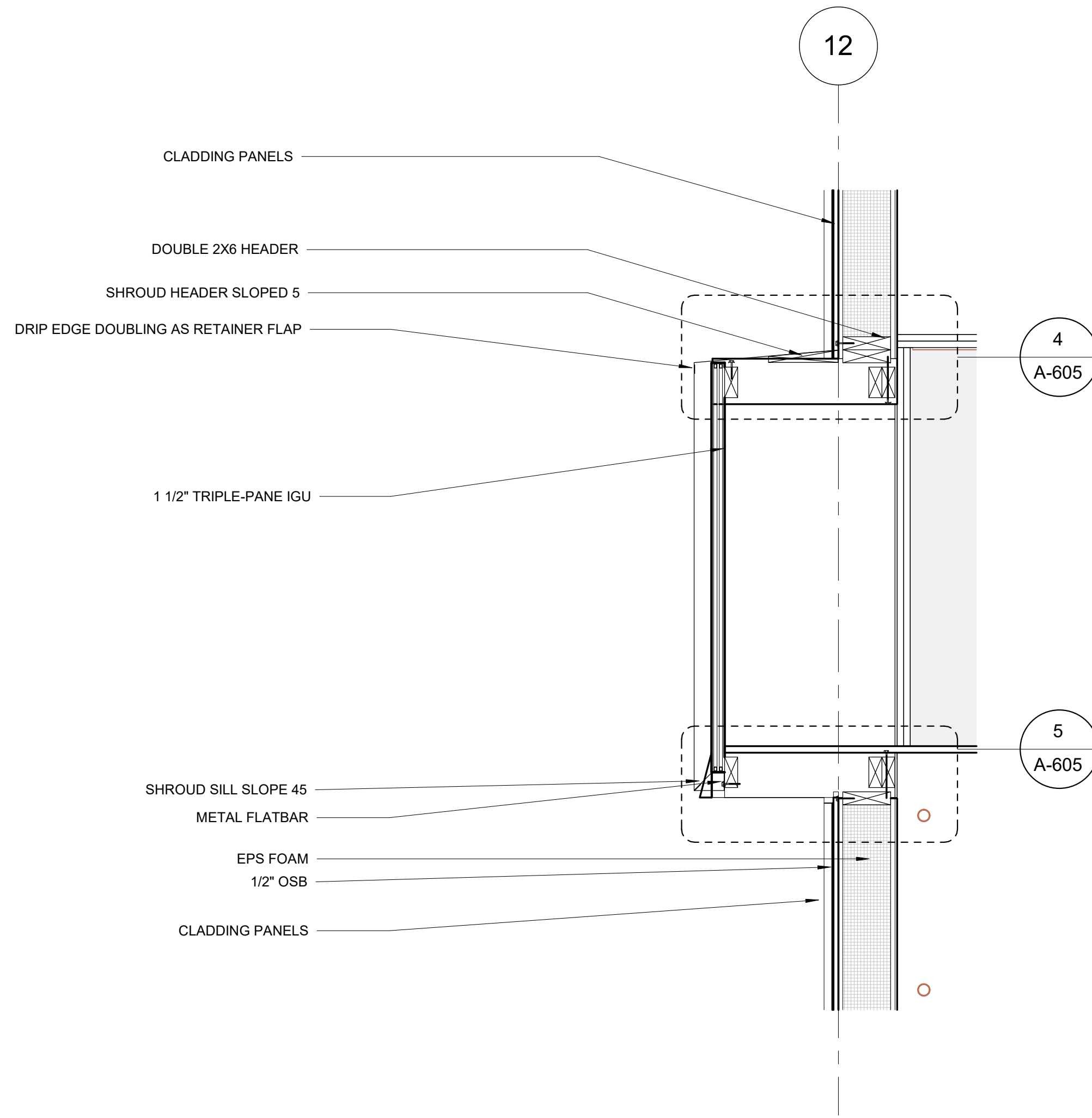
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REV. DATE:	REV. NAME:	REV. NO.:

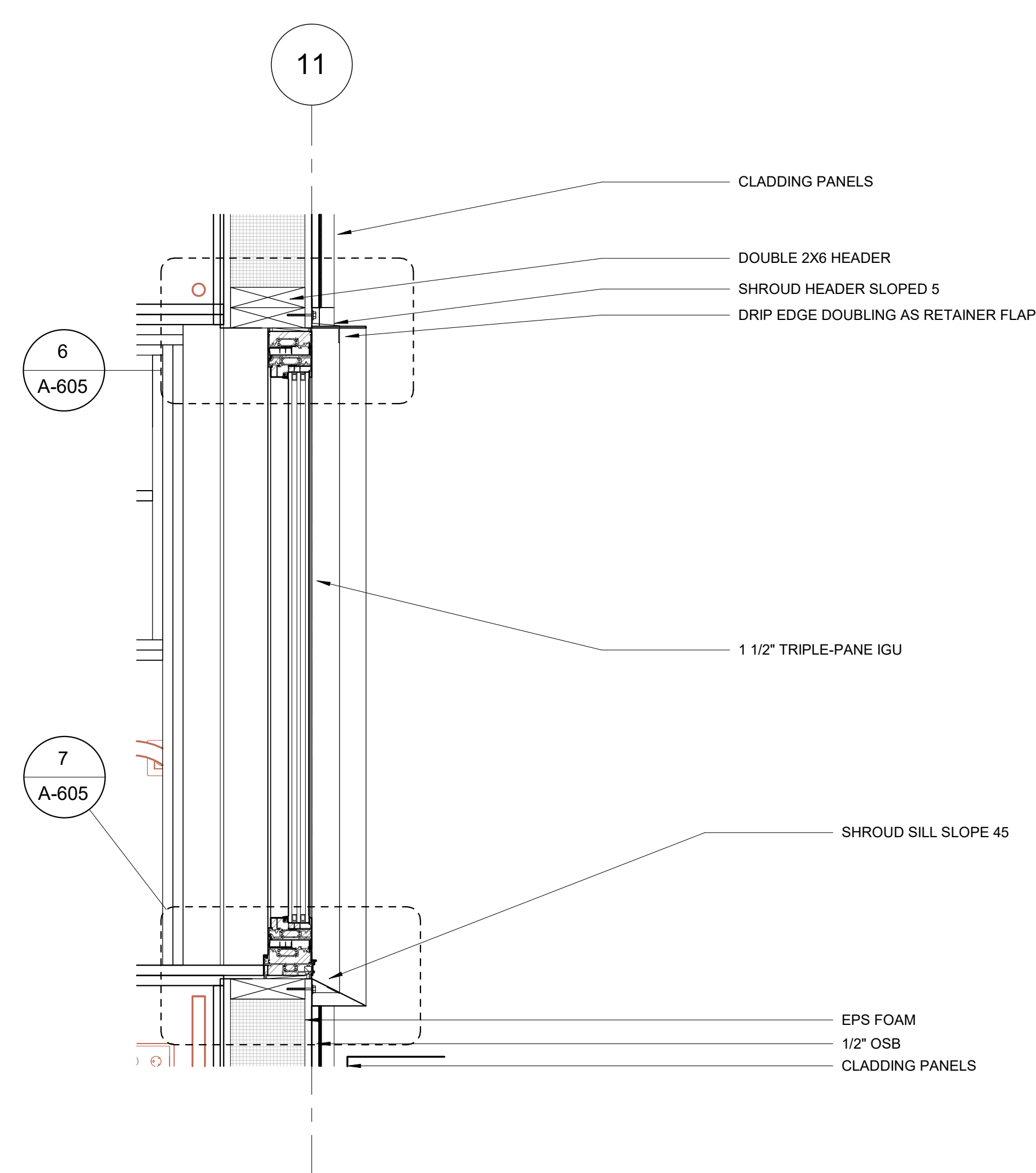
**EXTERIOR
DETAILS -
WINDOWS**

date: 03/13/23
scale: As indicated

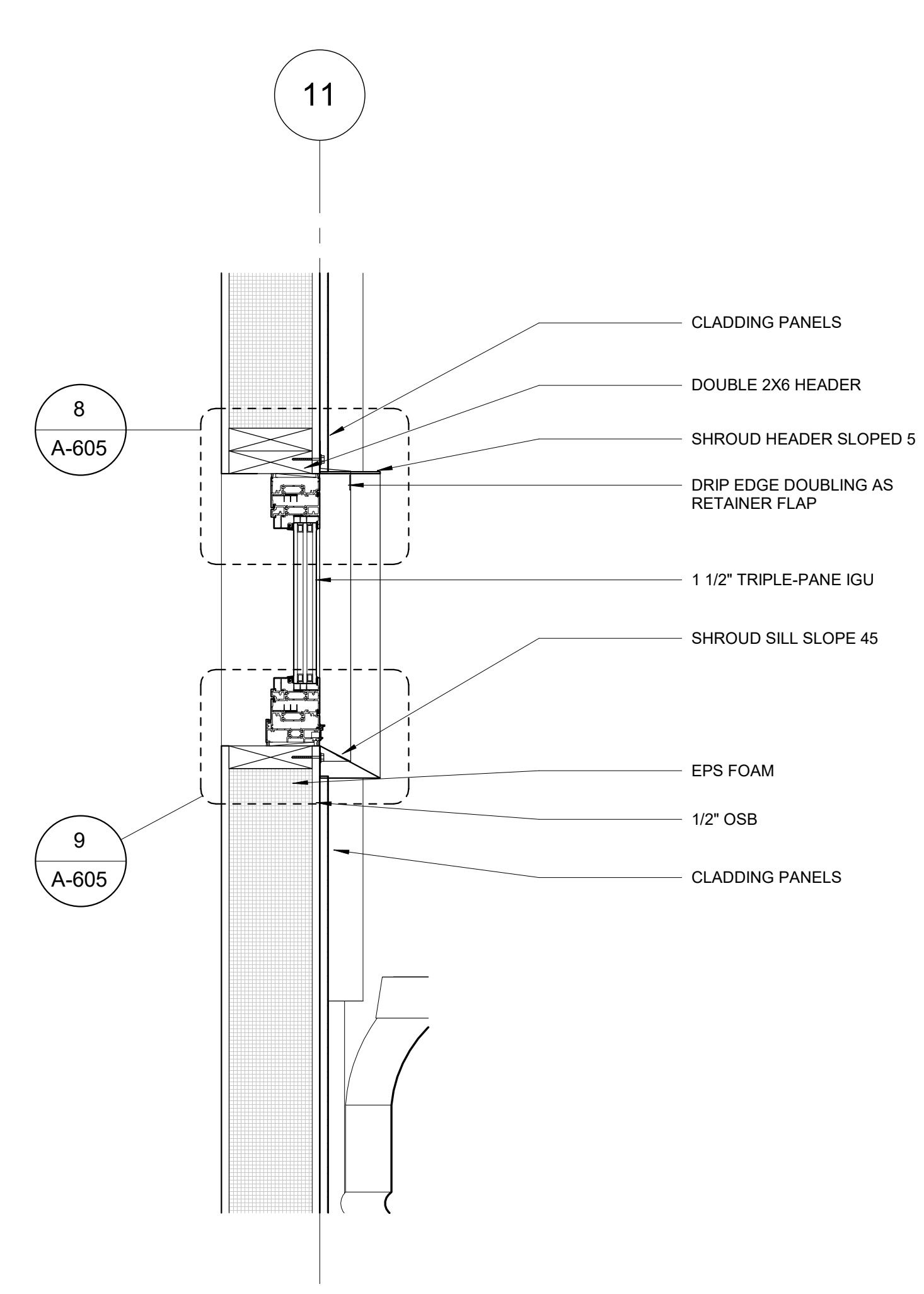
A-605



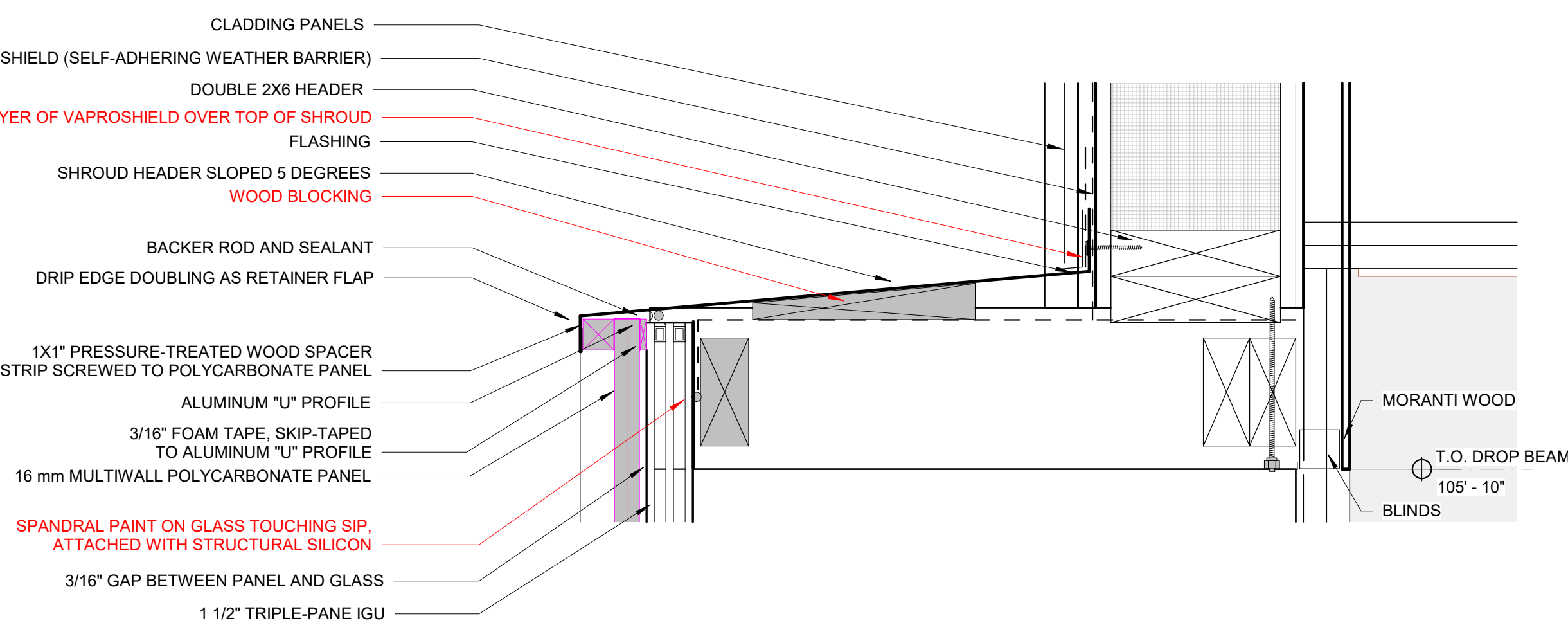
2 WINDOW DETAIL - WEST PROJECTION
1" = 1'-0"



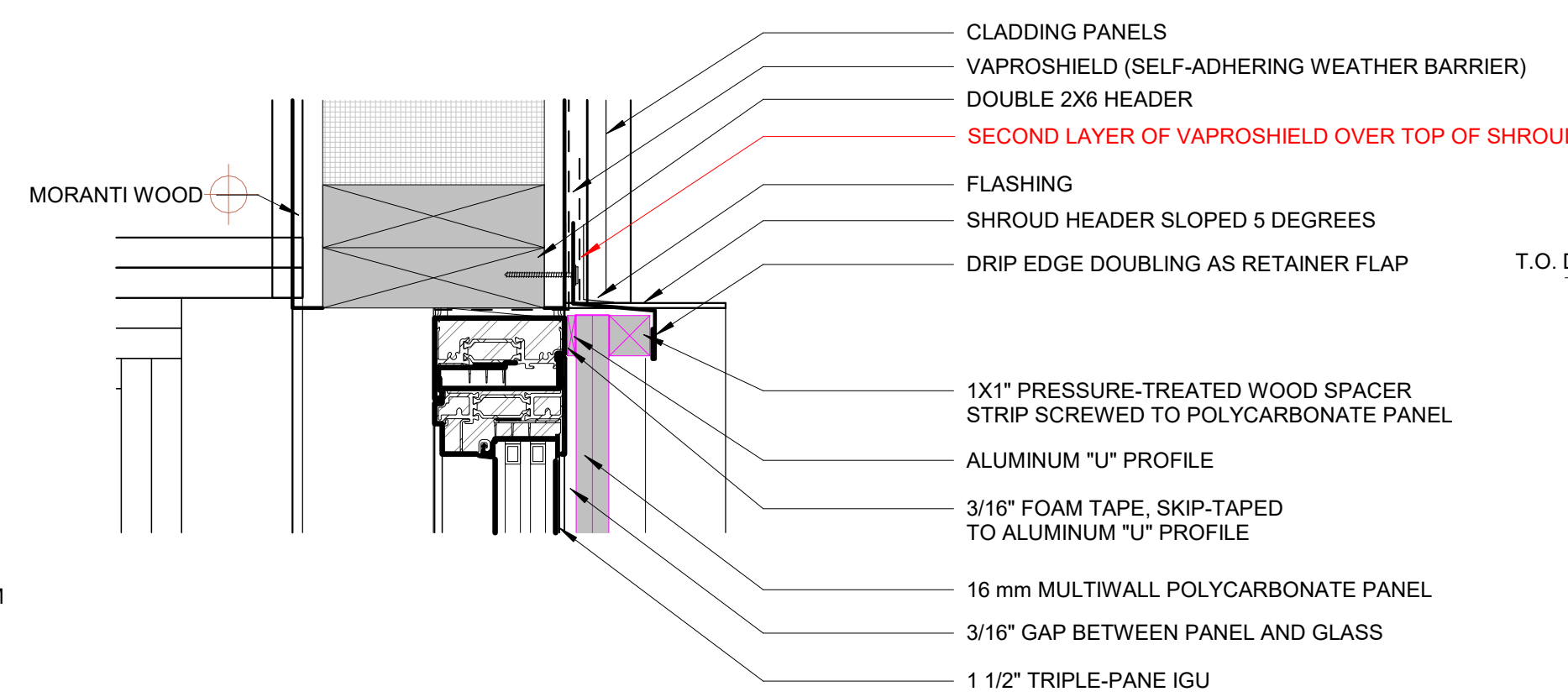
1 WINDOW DETAIL - LAB EAST
1 1/2" = 1'-0"



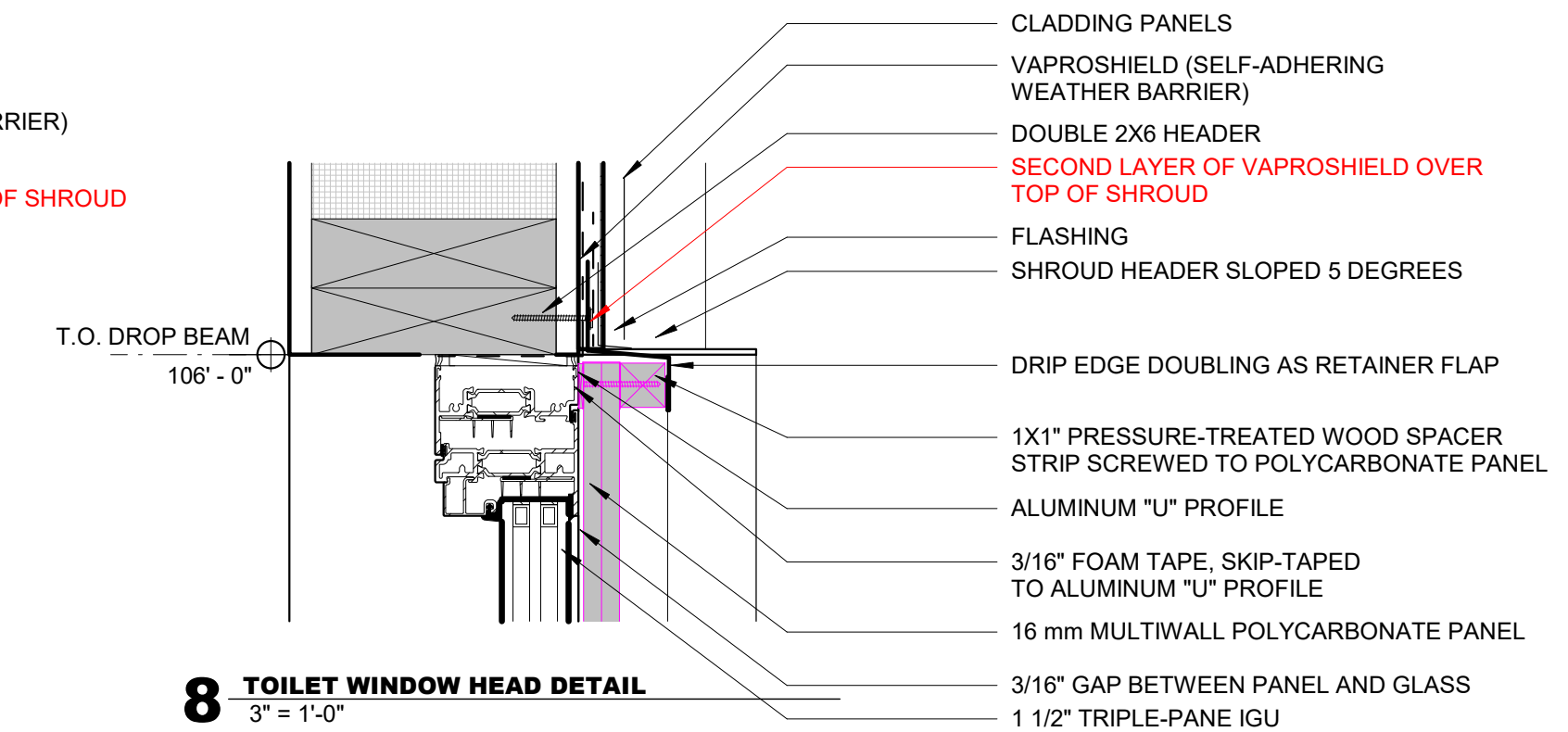
3 WINDOW DETAIL - TOILET
1 1/2" = 1'-0"



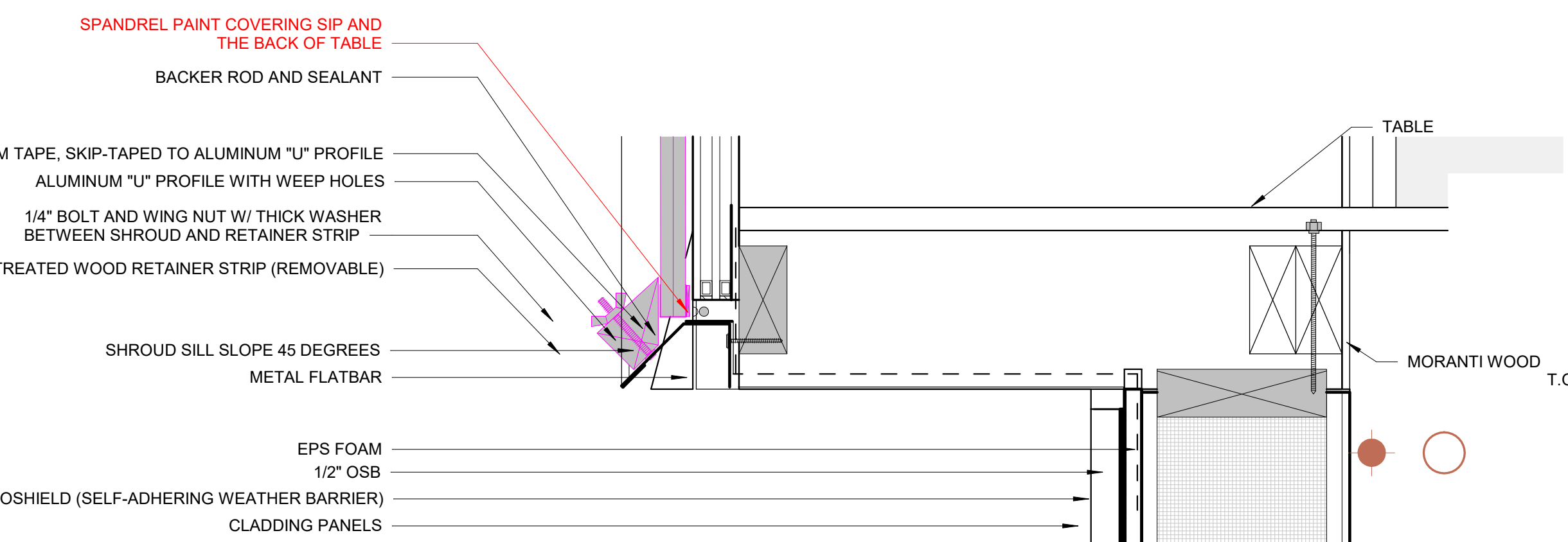
4 PROJECTION WINDOW HEAD DETAIL
3" = 1'-0"



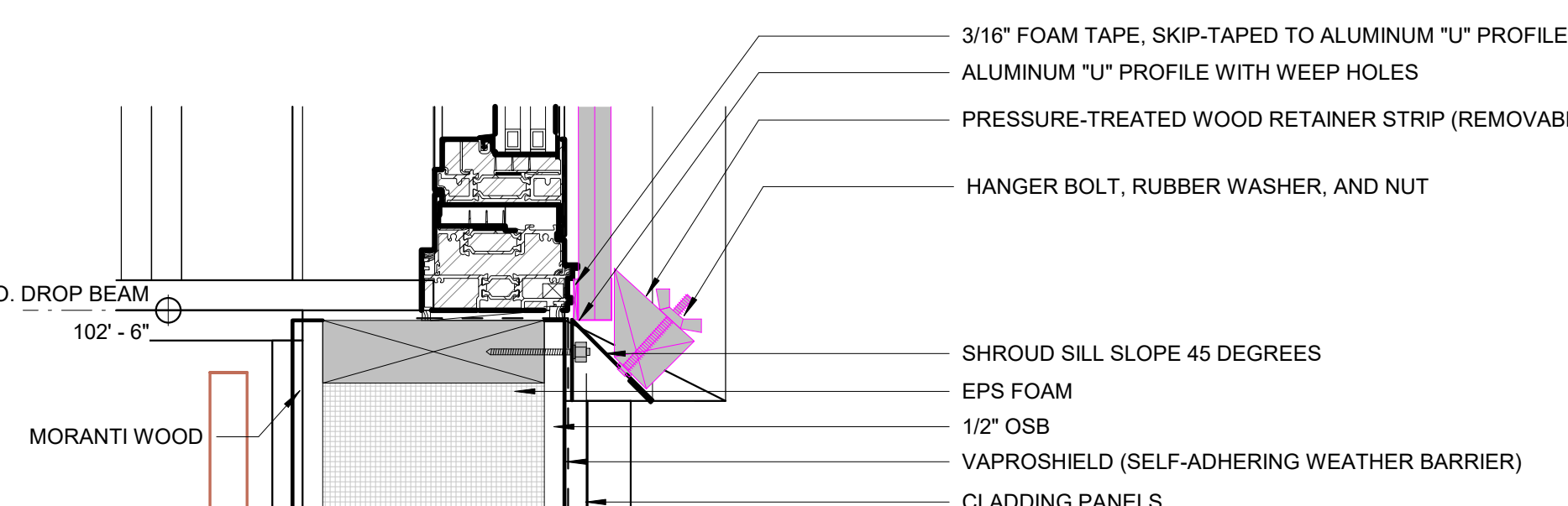
6 LAB EAST WINDOW HEAD DETAIL
3" = 1'-0"



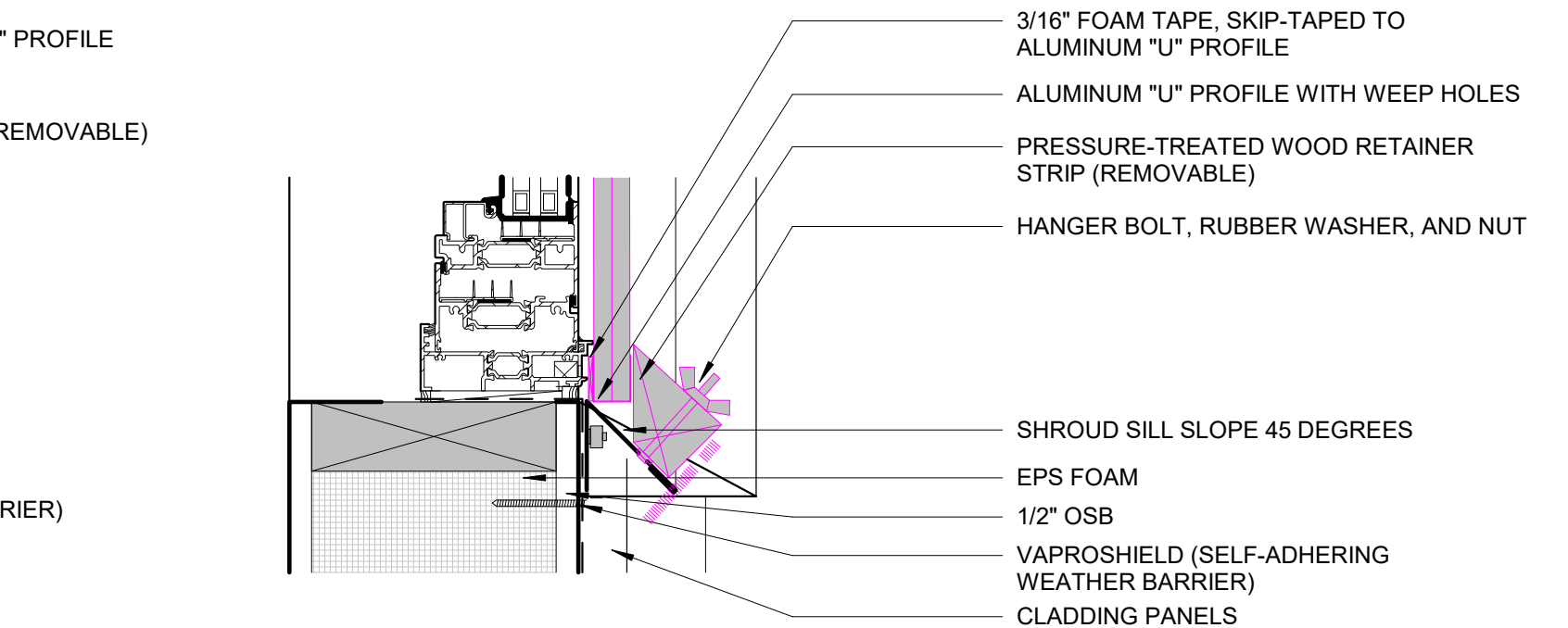
8 TOILET WINDOW HEAD DETAIL
3" = 1'-0"



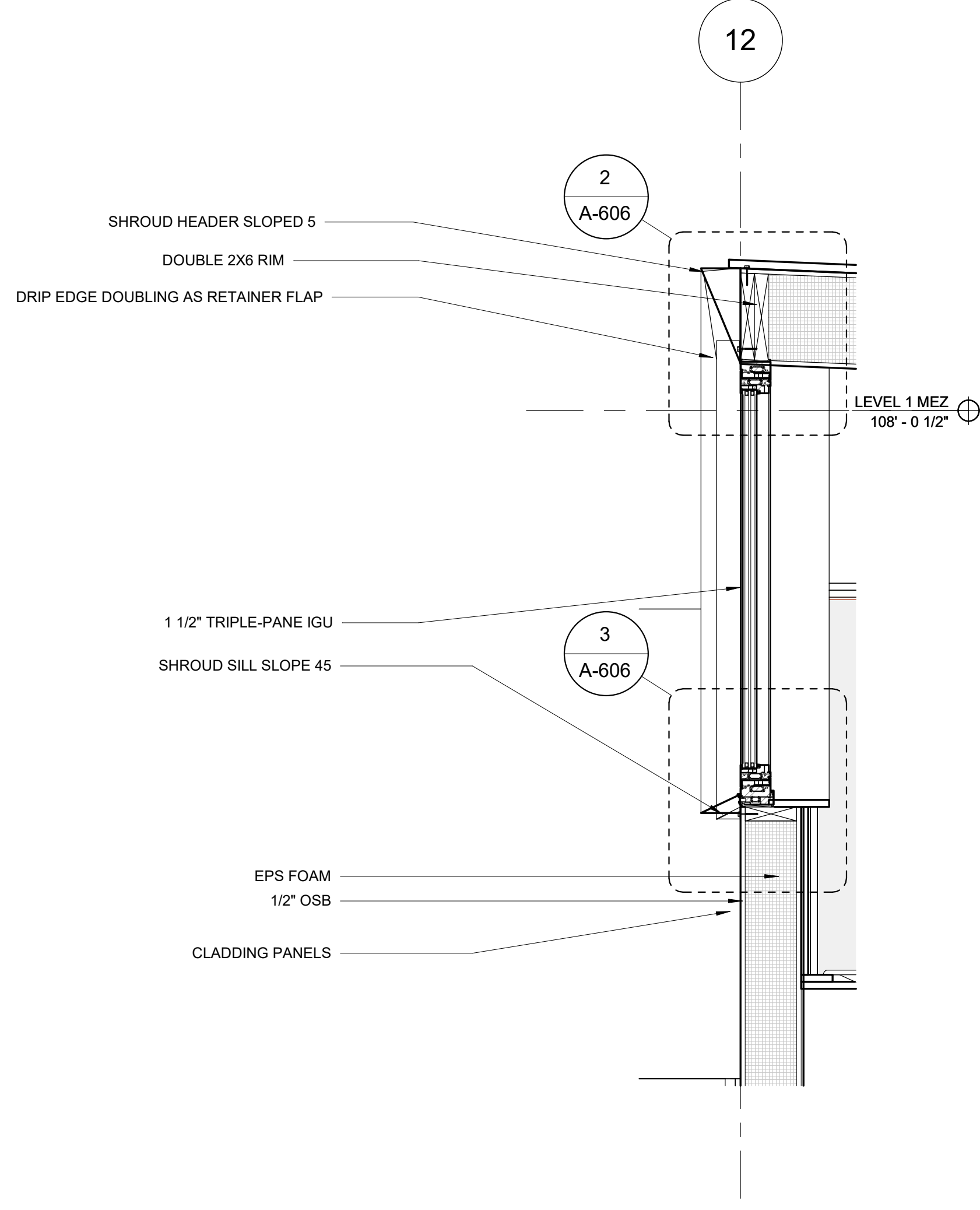
5 PROJECTION WINDOW SILL DETAIL
3" = 1'-0"



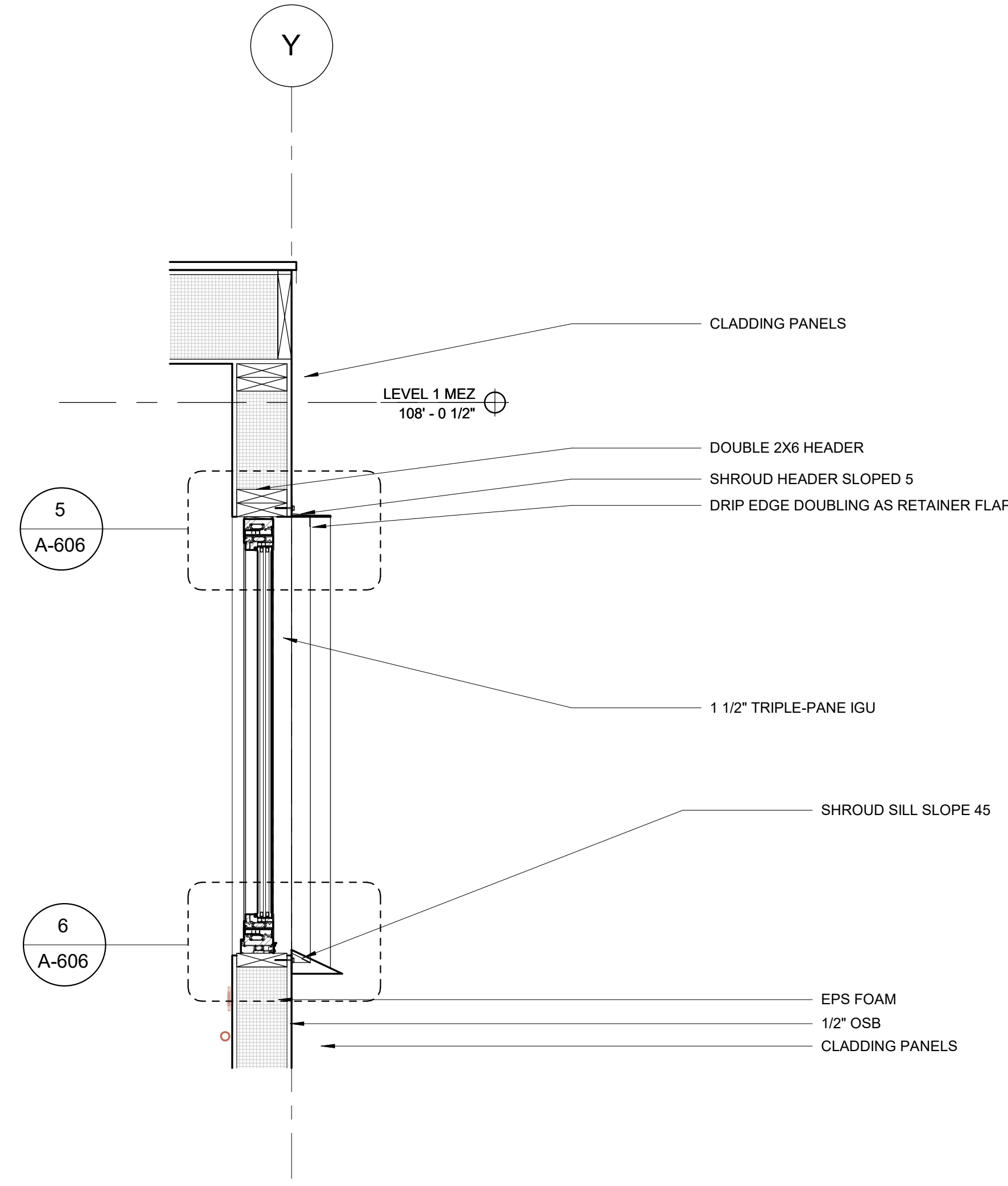
7 LAB EAST WINDOW SILL DETAIL
3" = 1'-0"



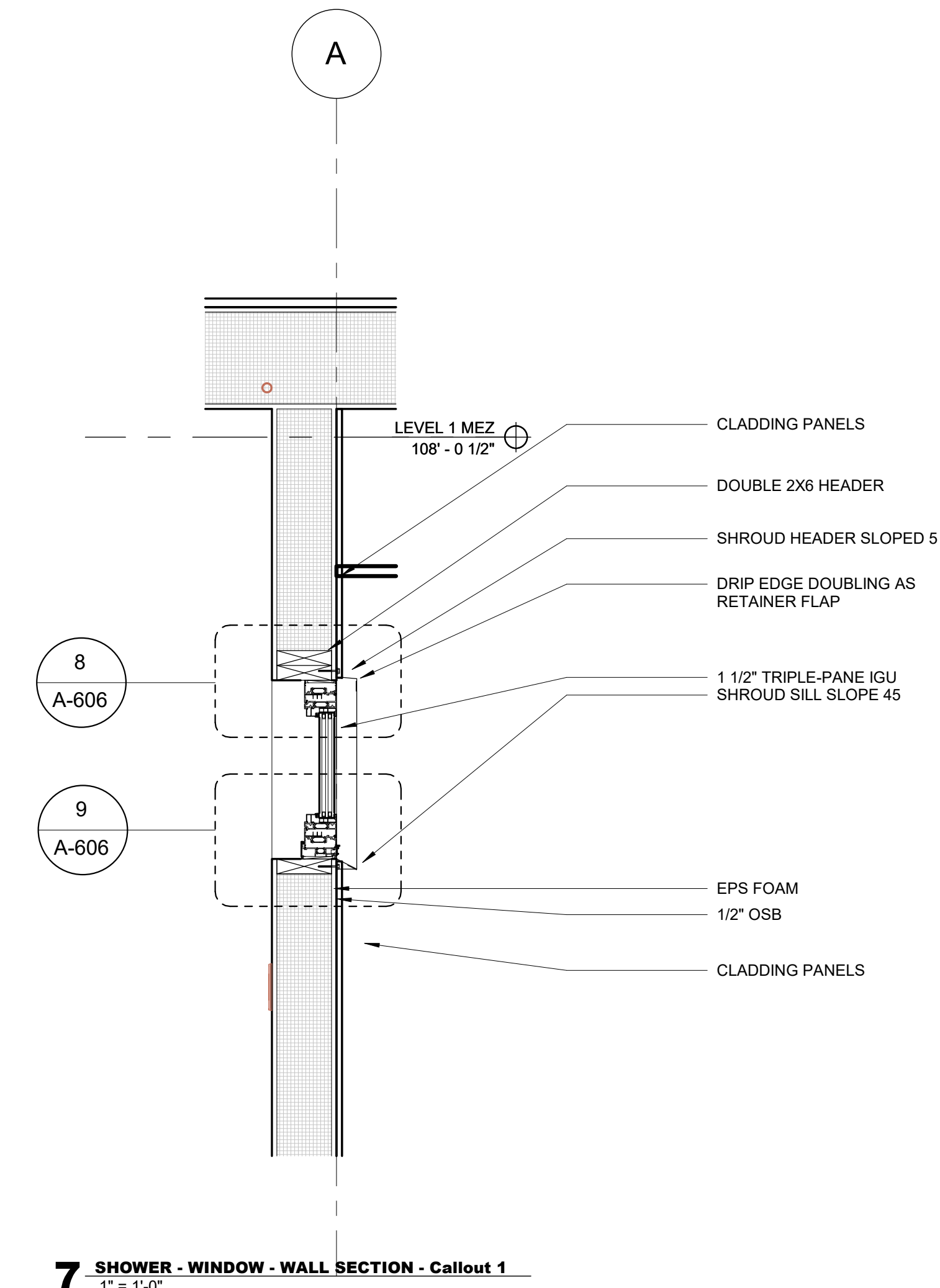
9 TOILET WINDOW SILL DETAIL
3" = 1'-0"



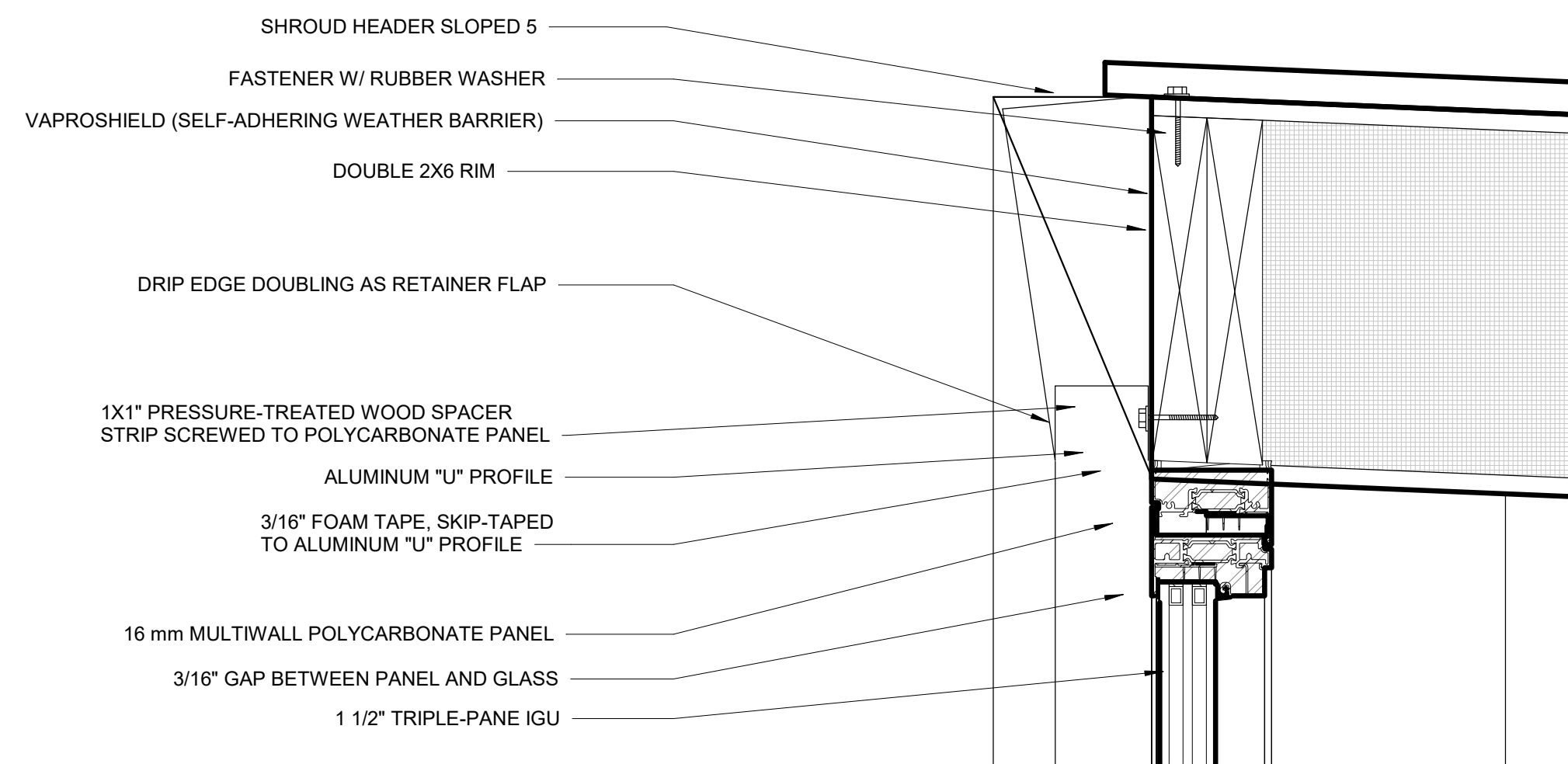
1 LAB - WEST WINDOW DETAIL
1" = 1'-0"



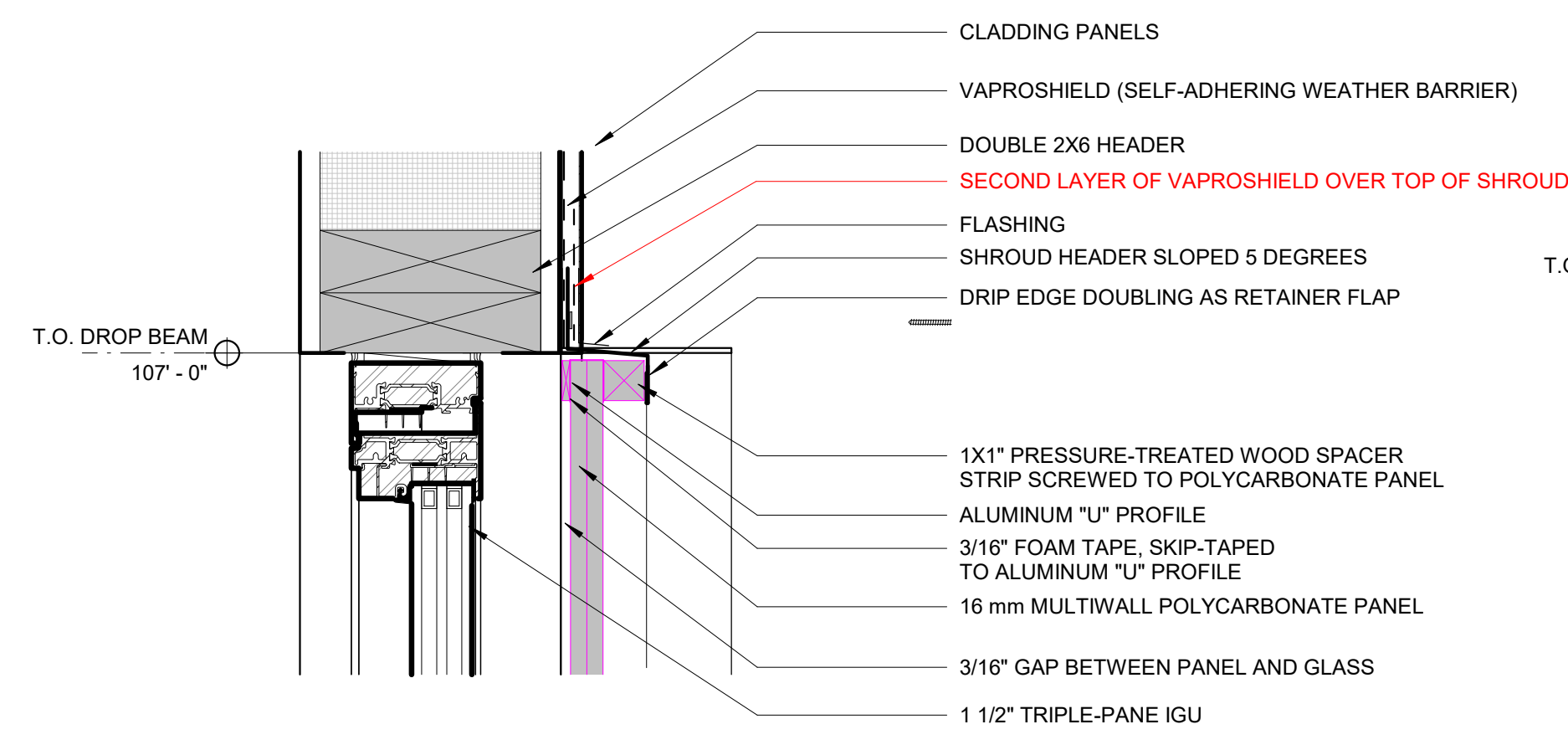
4 SHOP - WINDOW - WALL SECTION - Callout 1
1" = 1'-0"



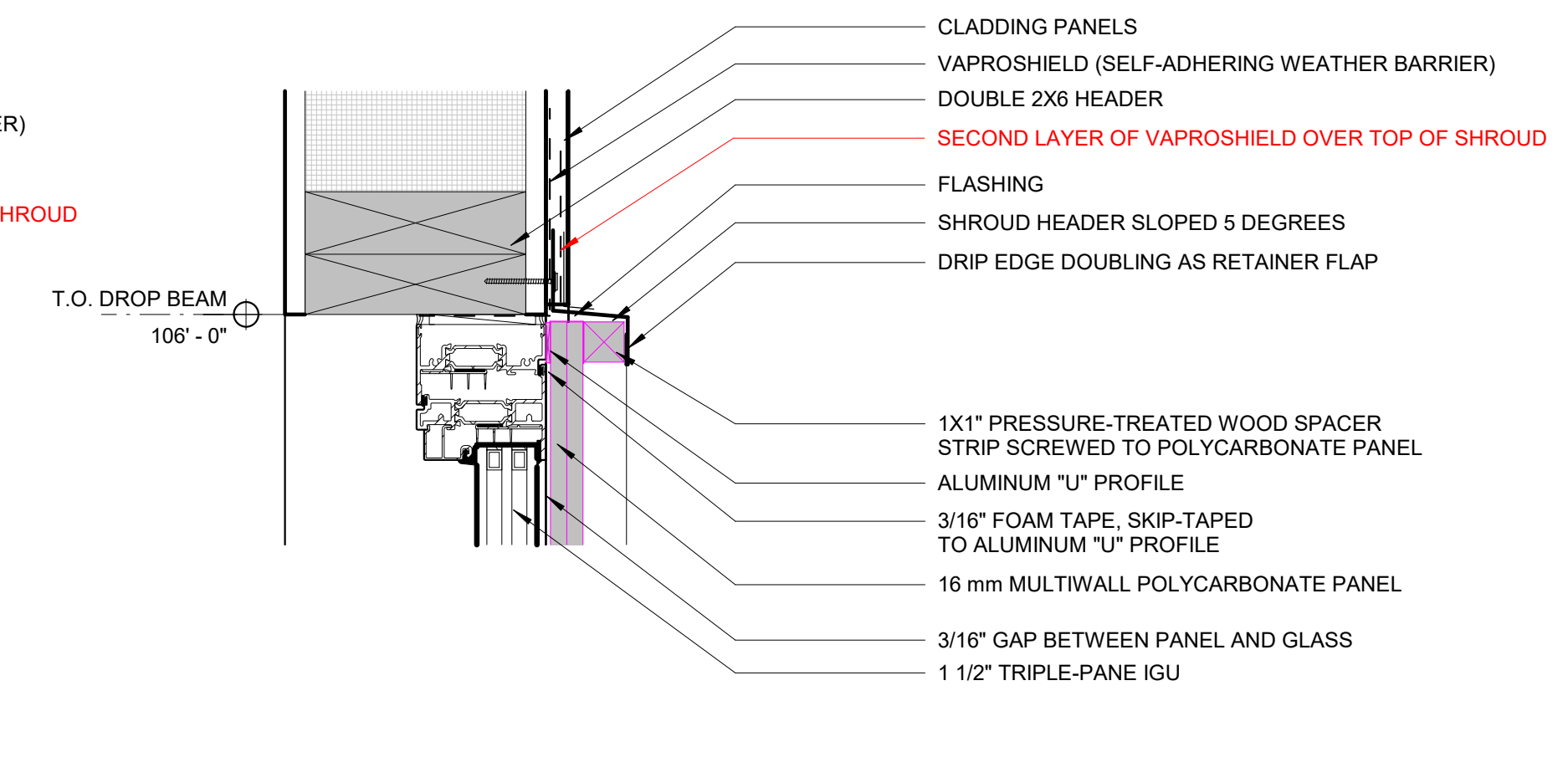
7 SHOWER - WINDOW - WALL SECTION - Callout 1
1" = 1'-0"



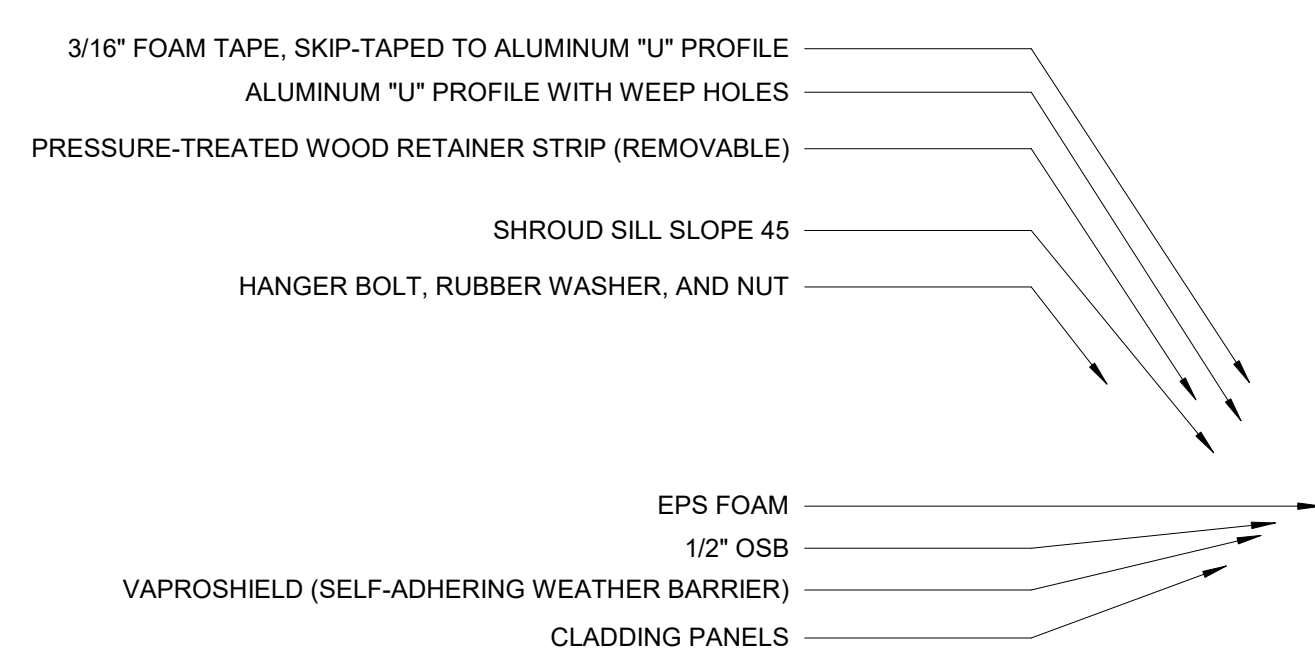
2 LAB WEST WINDOW HEAD DETAIL
3" = 1'-0"



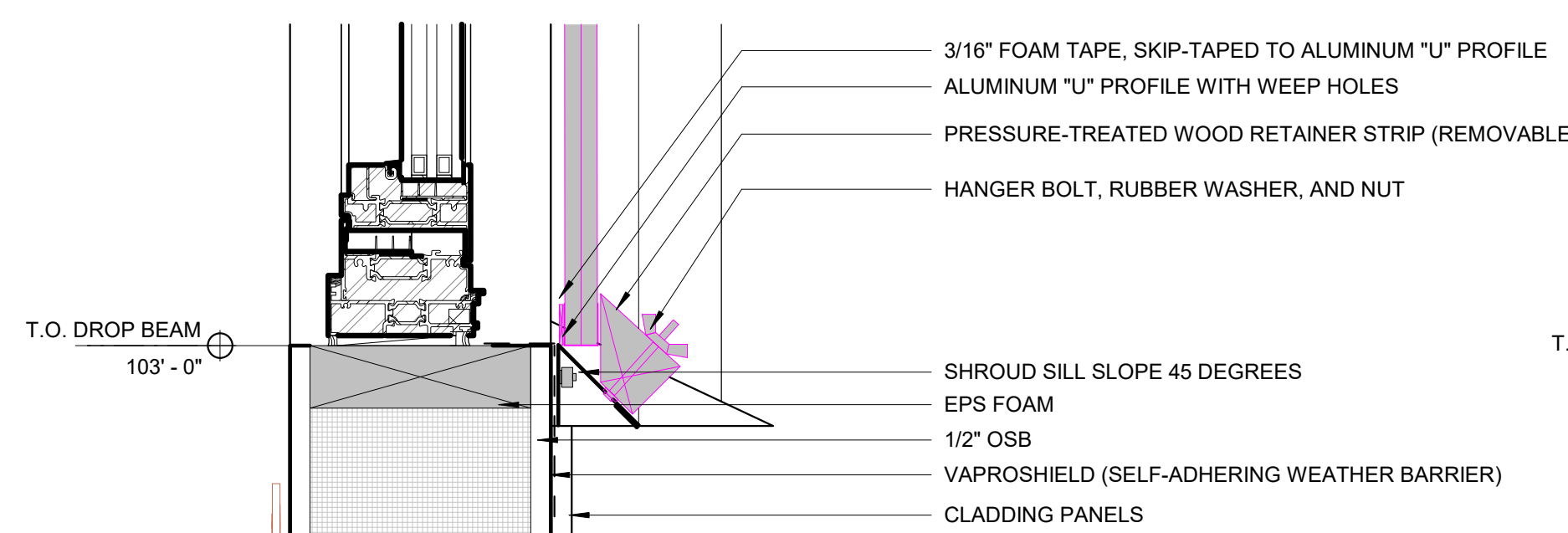
5 SHOP WINDOW HEAD DETAIL
3" = 1'-0"



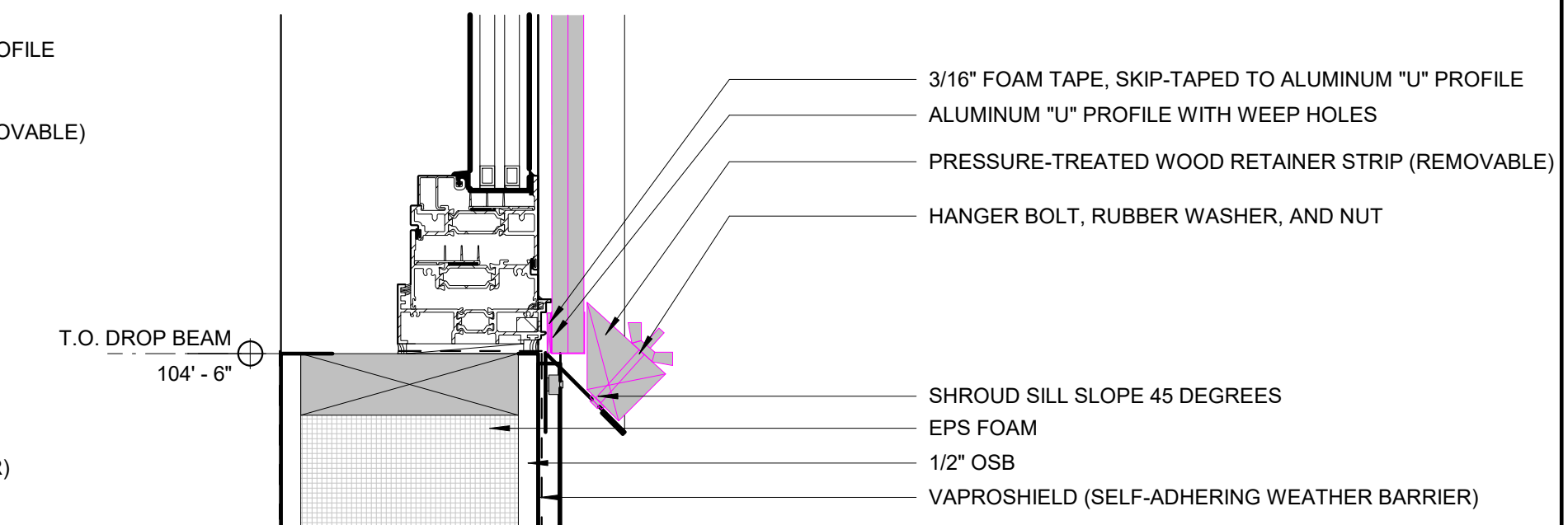
8 SHOWER WINDOW HEAD DETAIL
3" = 1'-0"



3 LAB WEST WINDOW SILL DETAIL
3" = 1'-0"



6 SHOP WINDOW SILL DETAIL
3" = 1'-0"



9 SHOWER WINDOW SILL DETAIL
3" = 1'-0"



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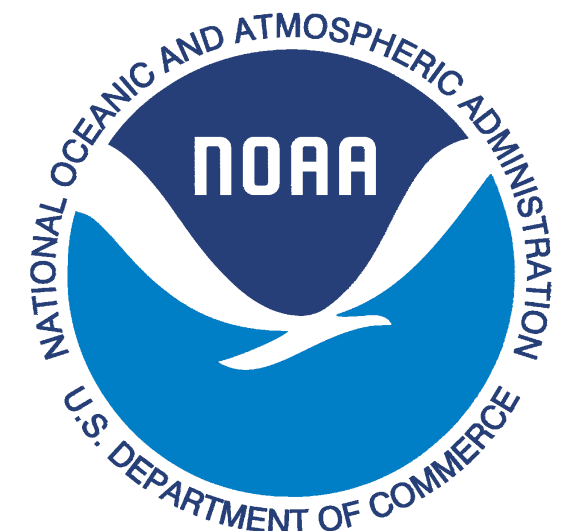
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EXTERIOR DETAILS - WINDOWS

date: 03/28/23
scale: As indicated

A-606

11/03/2023 11:27:56 AM



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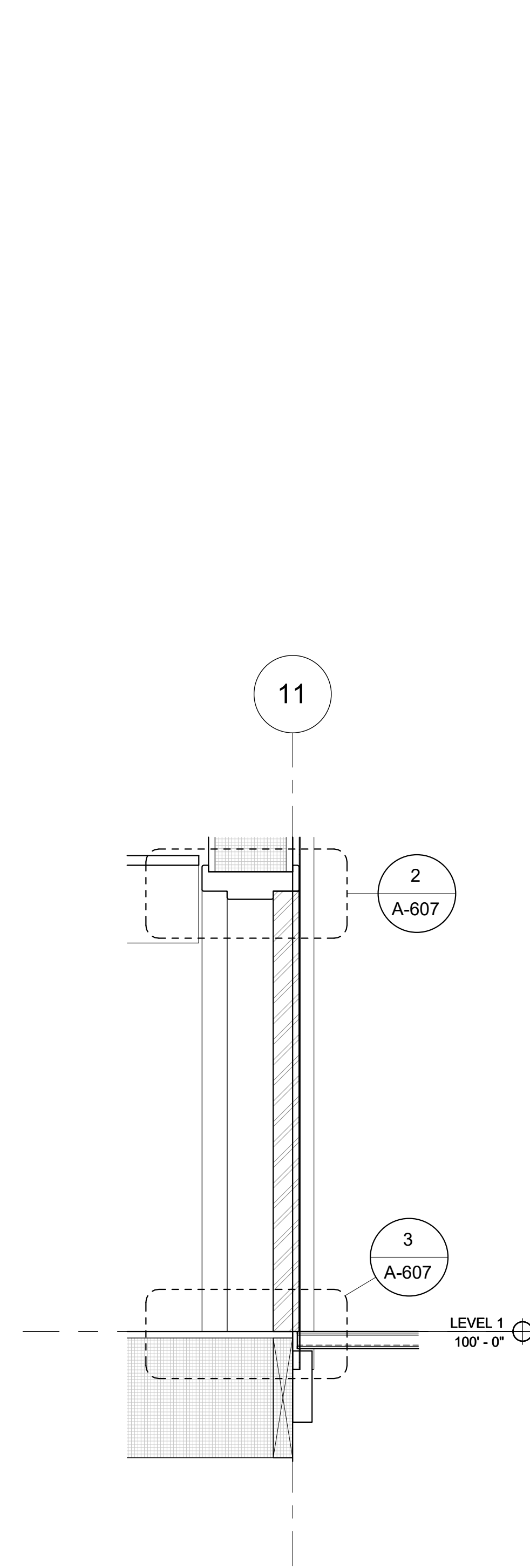
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REV. DATE: REV. NAME: REV. NO:

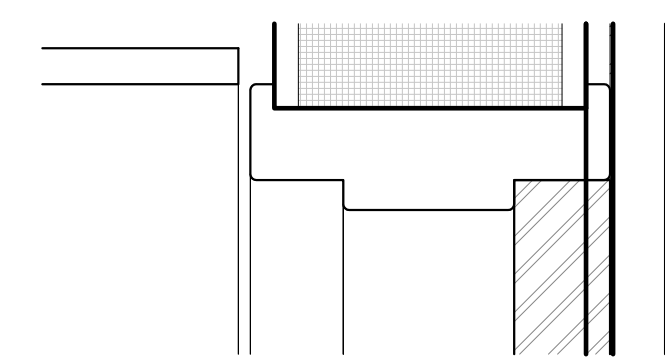
**EXTERIOR
 DETAILS -
 DOORS**

date: 03/13/23
 scale: As indicated

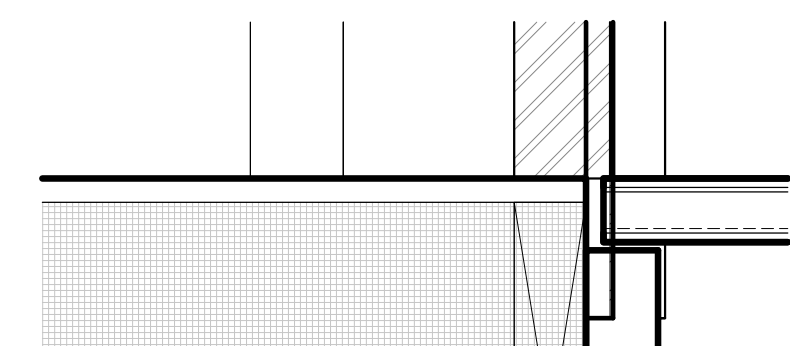
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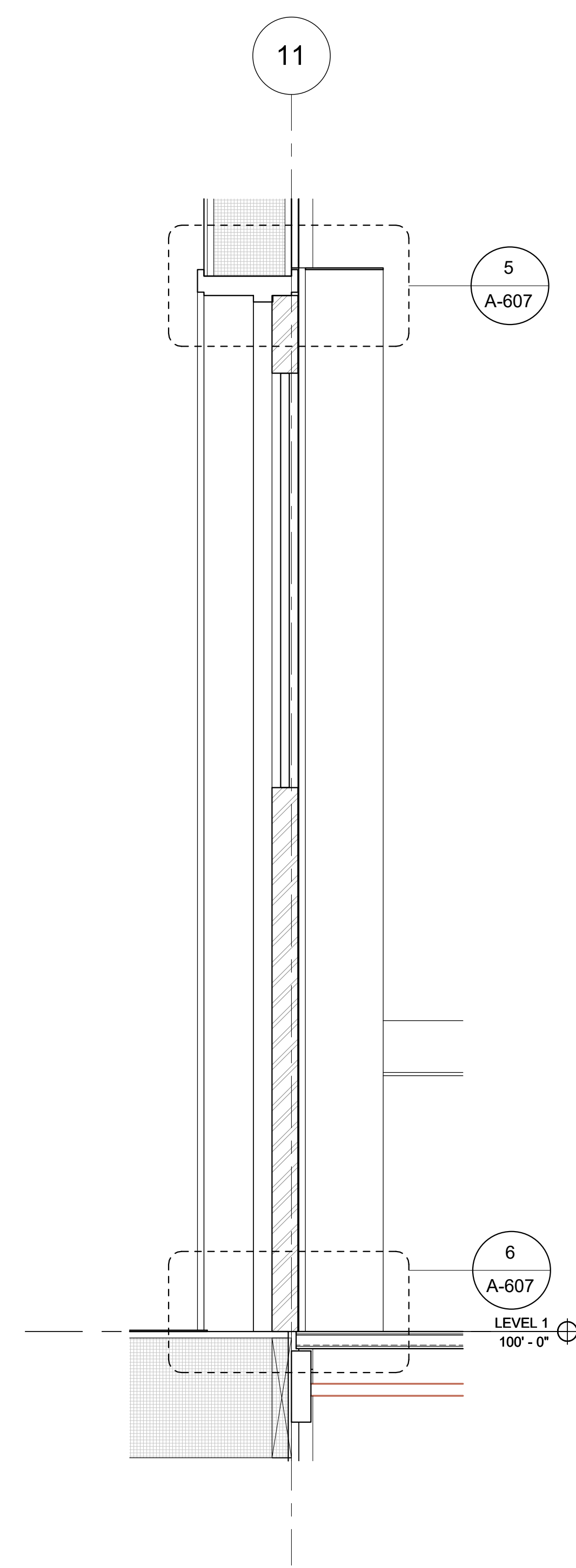
1 GENERATOR DOOR DETAIL
 1 1/2" = 1'-0"



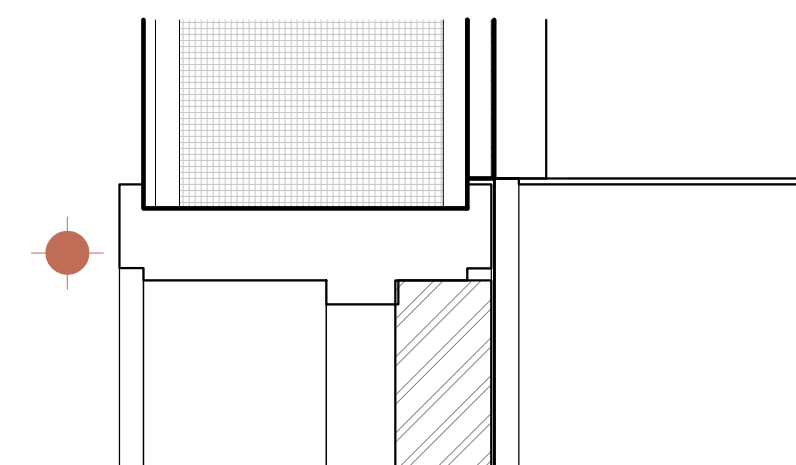
2 GENERATOR DOOR HEAD DETAIL
 3" = 1'-0"



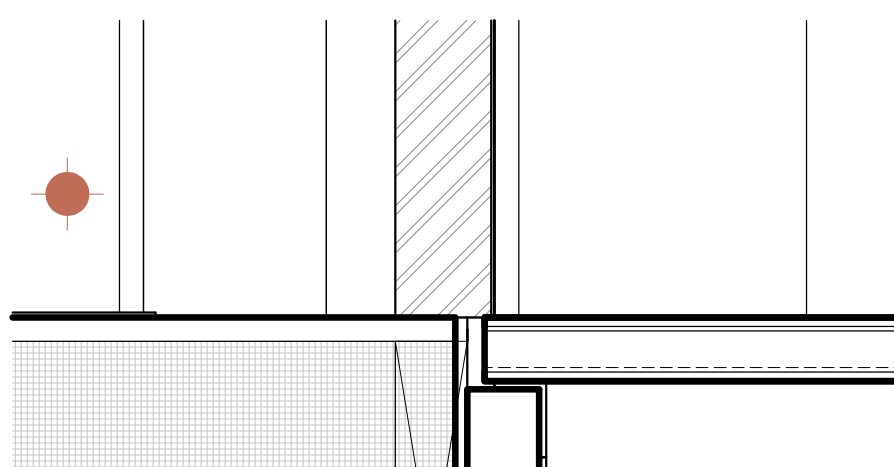
3 GENERATOR DOOR SILL DETAIL
 3" = 1'-0"



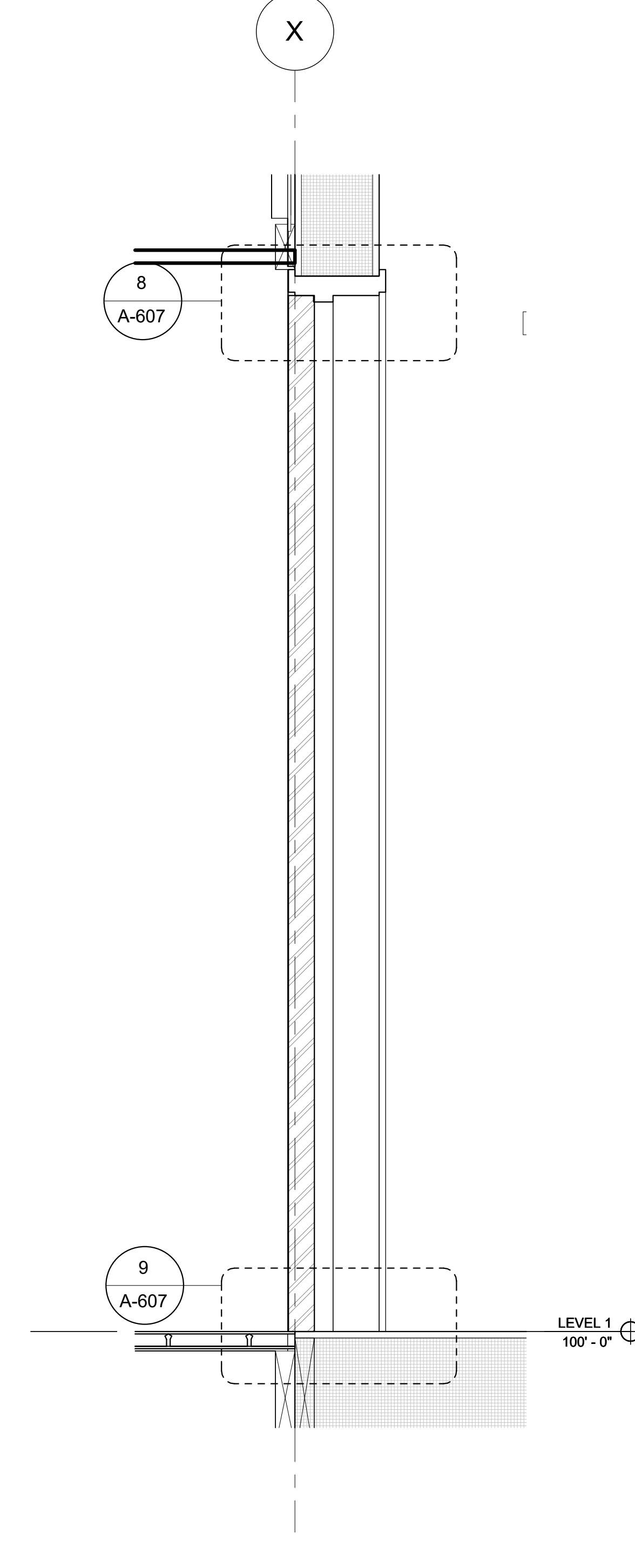
4 DOOR DETAIL - LAB
 1 1/2" = 1'-0"



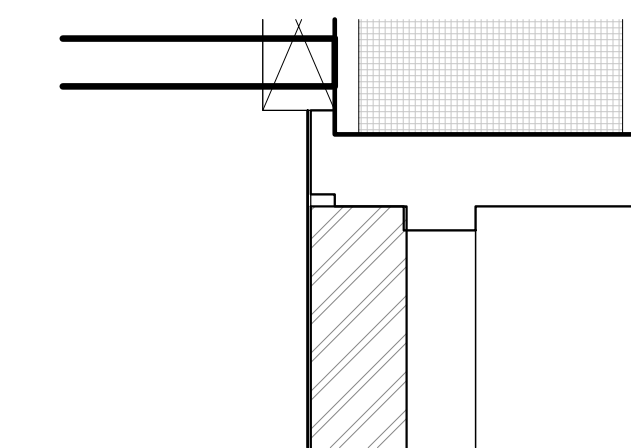
5 LAB DOOR HEAD DETAIL
 3" = 1'-0"



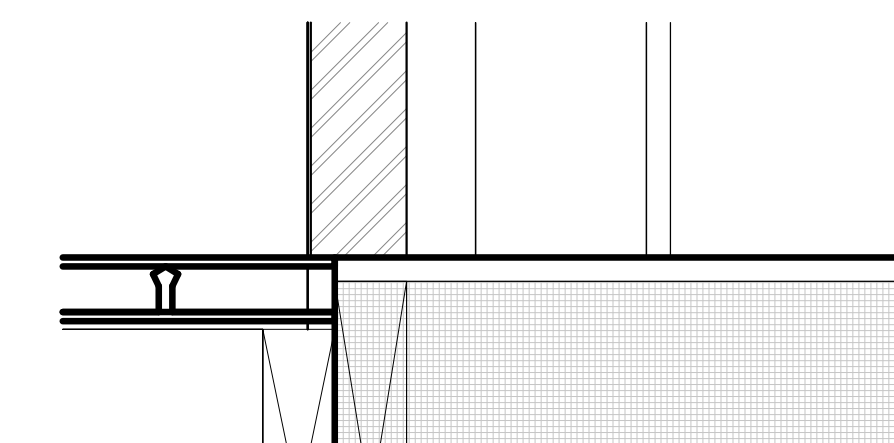
6 LAB DOOR SILL DETAIL
 3" = 1'-0"



7 TOILET/SHOWER - DOOR TYP. - DETAIL
 1 1/2" = 1'-0"



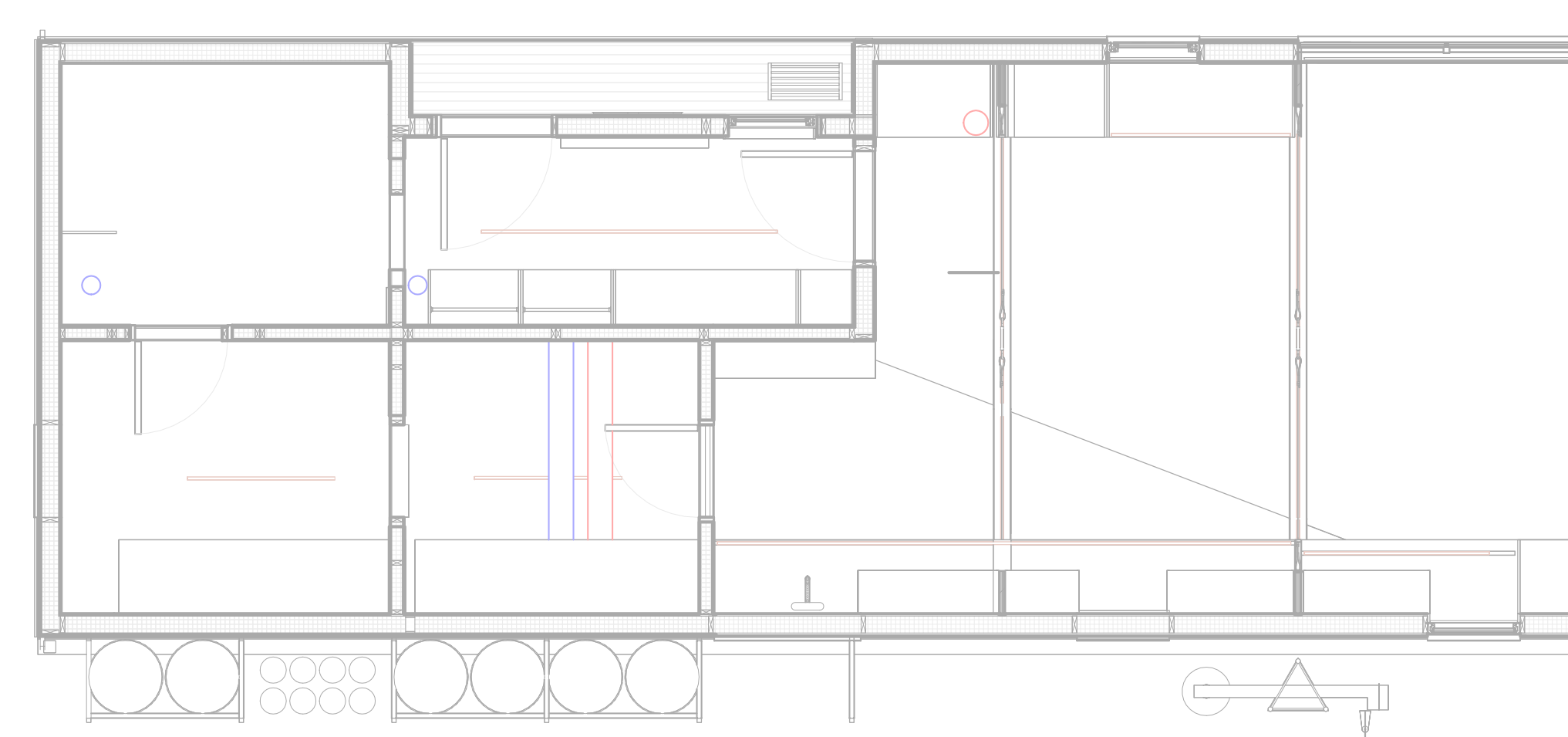
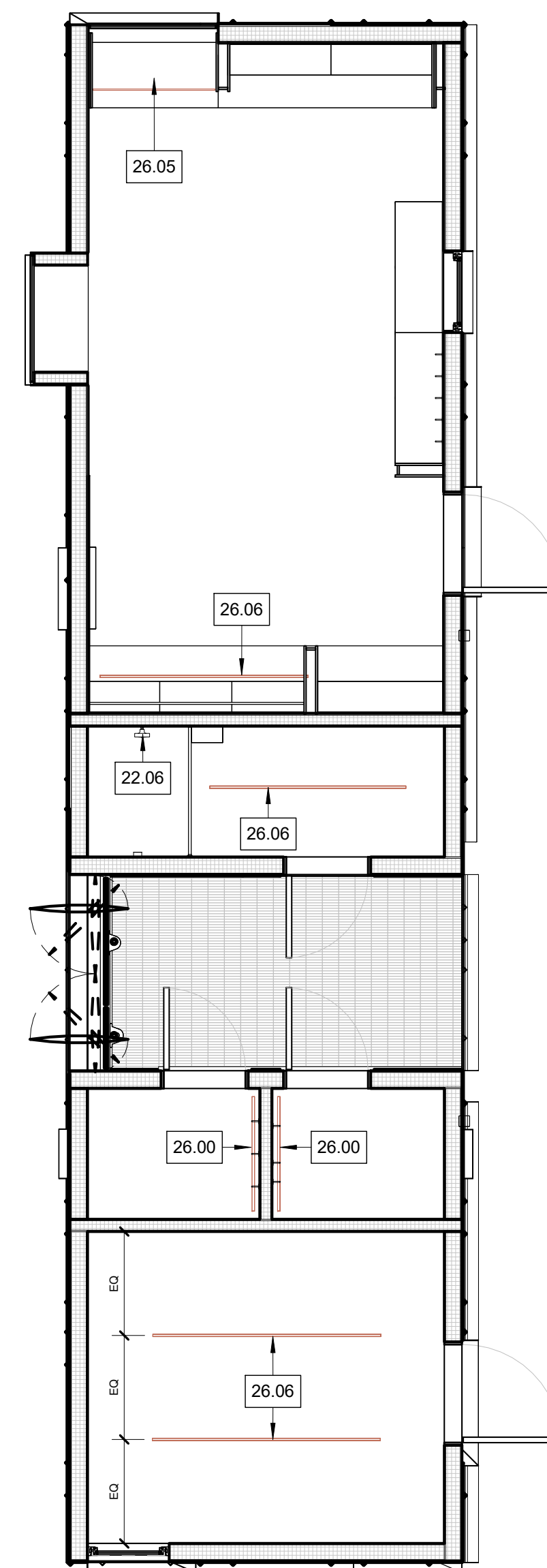
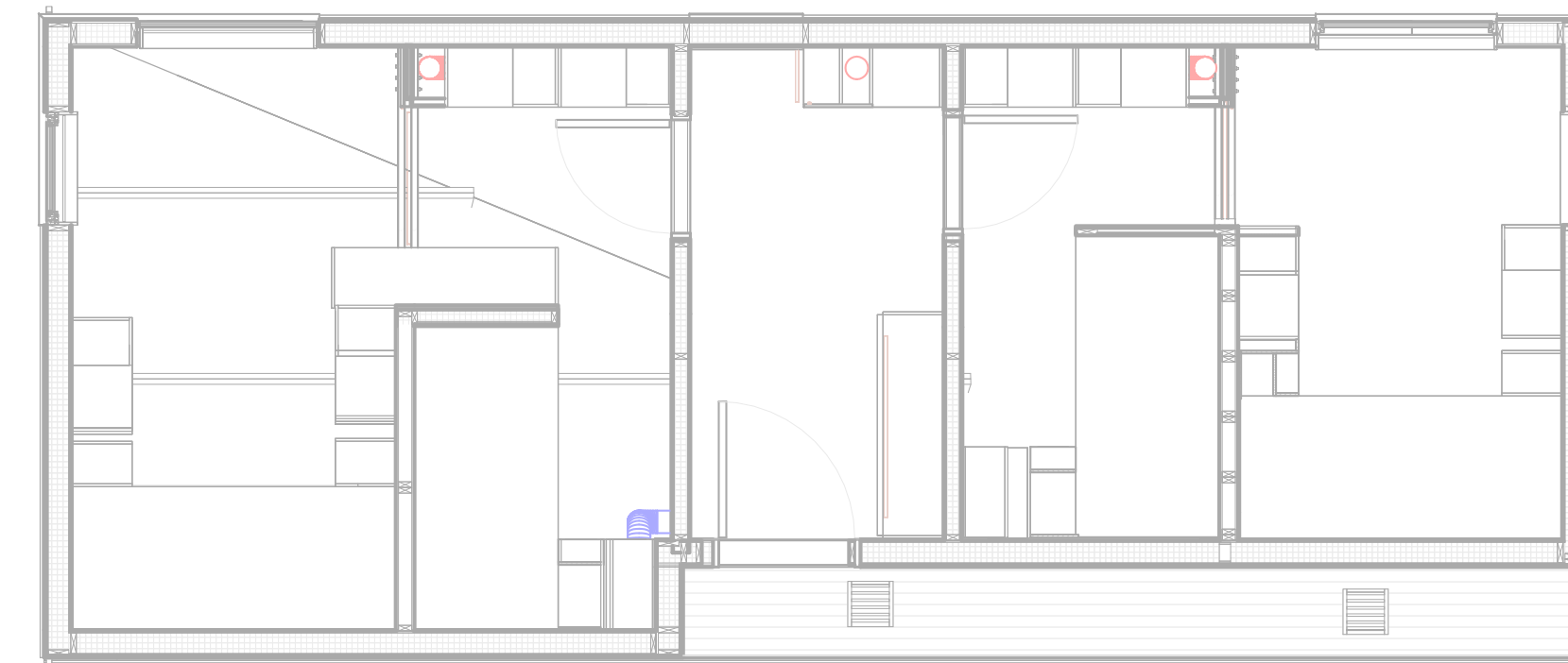
8 TOILET/SHOWER TYP DOOR HEAD DETAIL
 3" = 1'-0"



9 TOILET/SHOWER TYP DOOR SILL DETAIL
 3" = 1'-0"

WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
22.06	KOLHER SHOWER HEAD ***spec***
26.00	Division 26 - Electrical
26.05	LED LIGHTING STRIP IN BELUX XT02 ALLUMINUM STRIP.
26.06	ELECTRICAL FIXTURE RE: ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.



1 LEVEL 1
1/4" = 1'-0"



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1250 14th Street
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Golden, Colorado 80401
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**REFLECTED
CEILING PLAN**

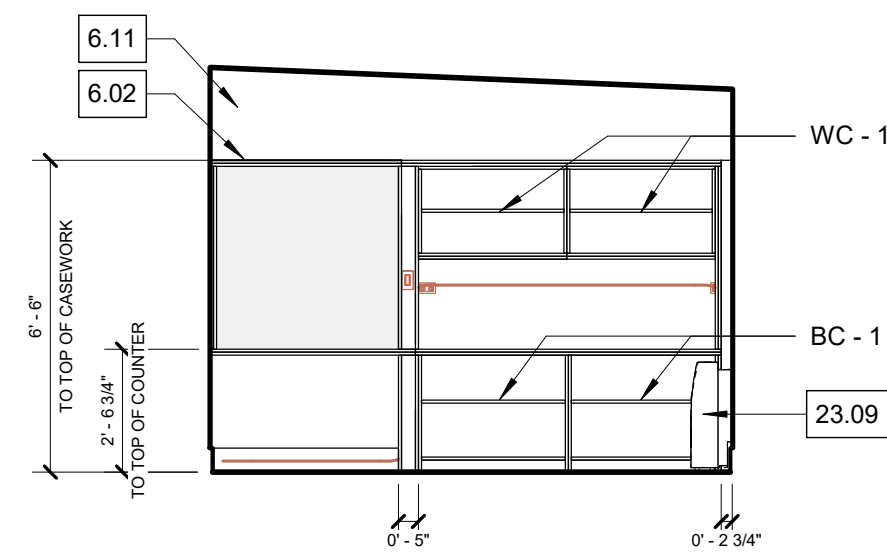
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A-701

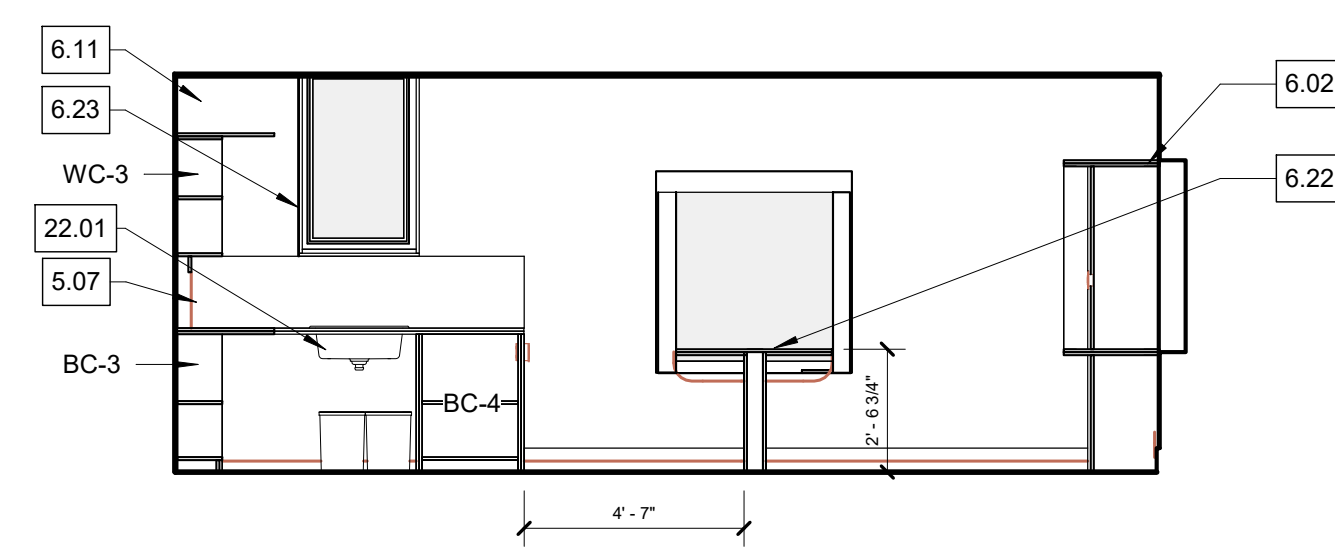
WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE

KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT

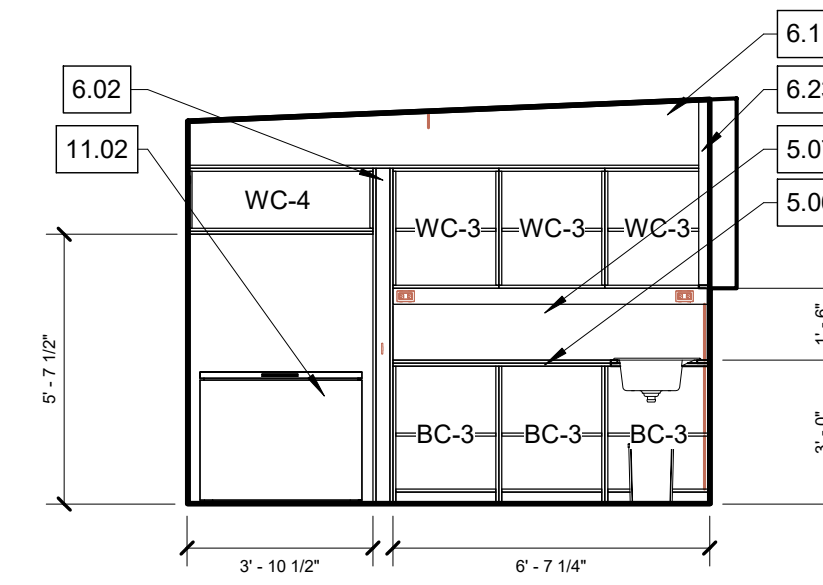
5.06	STAINLESS STEEL COUNTERTOP. STAINLESS STEEL SHEET TO BE ADHERED TO 3/4" MERANTI PLYWOOD.
5.07	STAINLESS STEEL BACKSPLASH. STAINLESS STEEL SHEET TO BE ADHERED TO 3/4" MERANTI PLYWOOD.
6.02	CUSTOM PLYWOOD SHELVING/DESK. RE: MILLWORK DETAILS/AXON FOR EXACT DIMENSIONS AND FINISHES.
6.11	INTERIOR SURFACE FINISH. 1/4" MERANTI PLYWOOD
6.22	CUSTOM PLYWOOD TABLE. RE: MILLWORK DETAILS/AXON FOR EXACT DIMENSIONS.
6.23	WINDOW TO BE FRAMED WITH WITH 3/4" MERONTI PLYWOOD, BLACK STAIN.
11.02	FREEZER ***spec***
12.05	CLOTHING HOOK
22.01	KOLHER KITCHEN SINK. CAIRN K-25786
22.06	KOLHER SHOWER HEAD ***spec***
22.07	SHOWER PAN ***spec***
22.09	SHOWER WATER PUMP/HEATER ***spec***
23.07	MECHANICAL PROPANE HEATER SMALLER ***spec***
23.08	CUSTOM SHEET METAL VENT CAP
23.09	PROPANE HEATER
26.06	ELECTRICAL FIXTURE RE: ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.



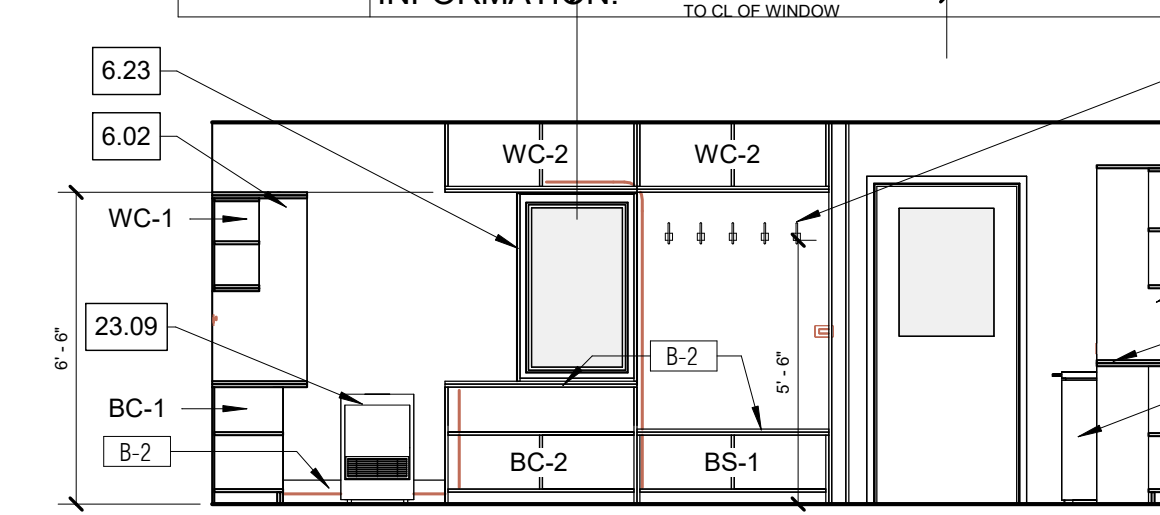
1 LAB - NORTH ELEVATION
1/4" = 1'-0"



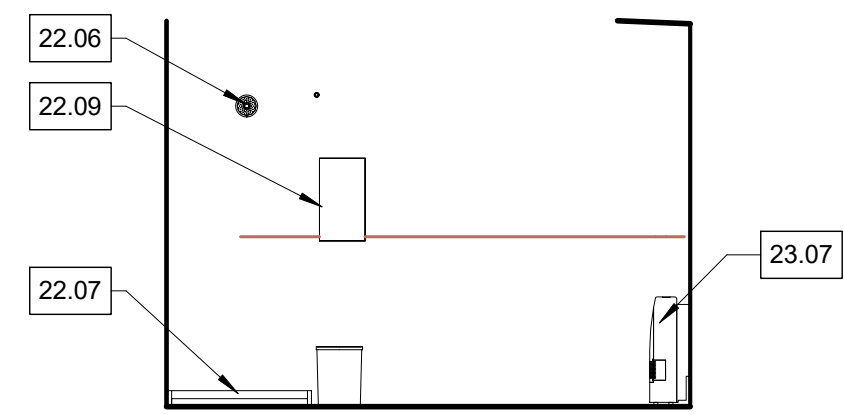
2 LAB - WEST ELEVATION
1/4" = 1'-0"



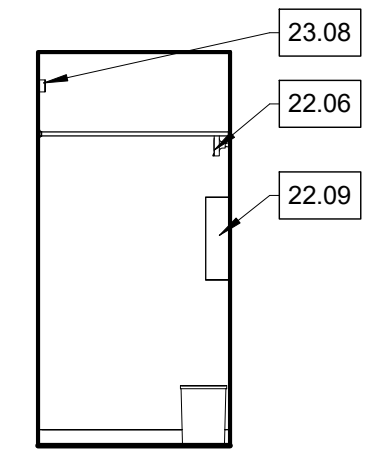
3 LAB - SOUTH ELEVATION
1/4" = 1'-0"



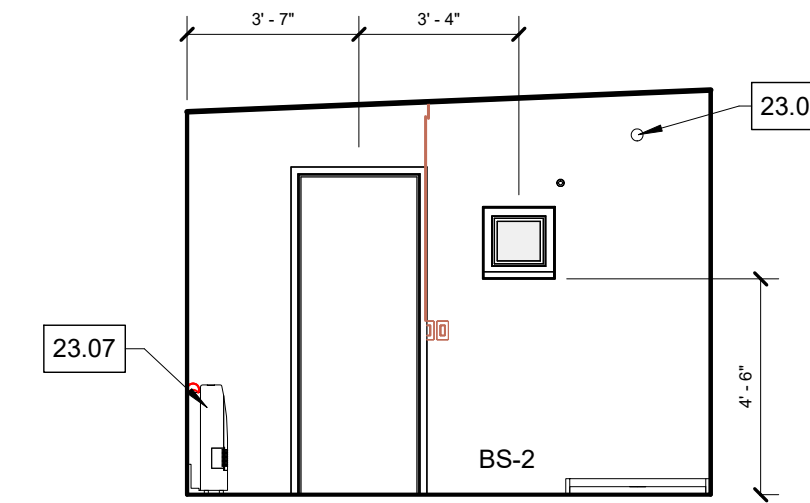
4 LAB - EAST ELEVATION
1/4" = 1'-0"



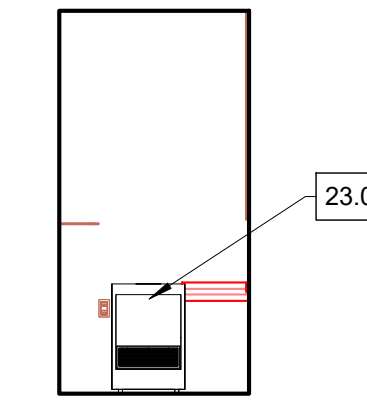
5 SHOWER - NORTH ELEVATION
1/4" = 1'-0"



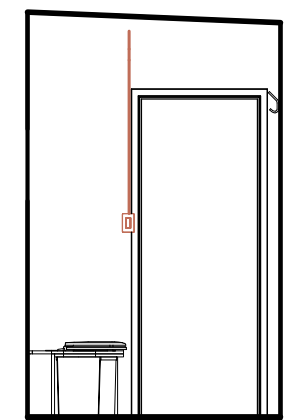
6 SHOWER - WEST ELEVATION
1/4" = 1'-0"



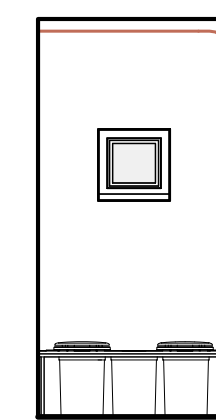
7 SHOWER - SOUTH ELEVATION
1/4" = 1'-0"



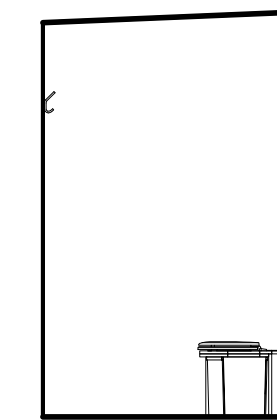
8 SHOWER - EAST ELEVATION
1/4" = 1'-0"



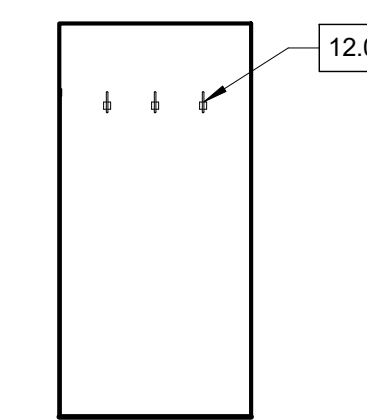
9 TOILET - NORTH ELEVATION
1/4" = 1'-0"



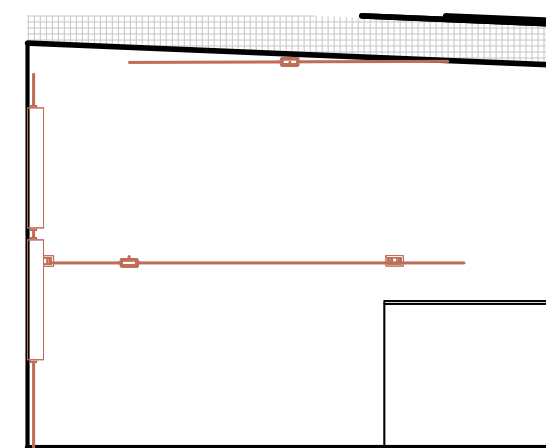
10 TOILET - WEST ELEVATION
1/4" = 1'-0"



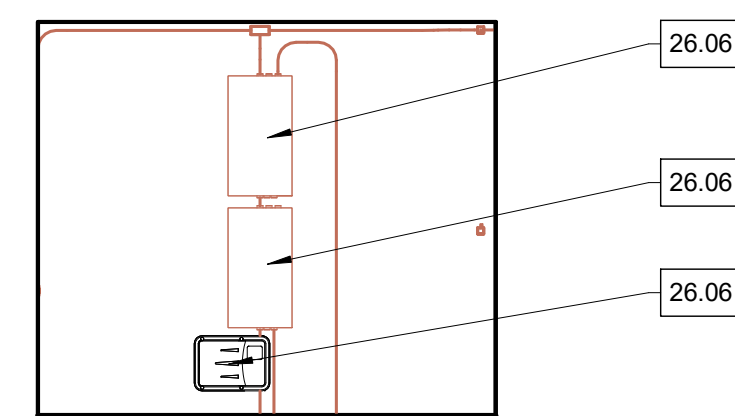
11 TOILET - SOUTH ELEVATION
1/4" = 1'-0"



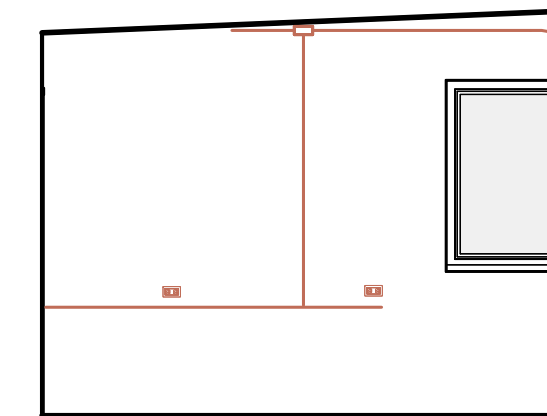
12 TOILET - EAST ELEVATION
1/4" = 1'-0"



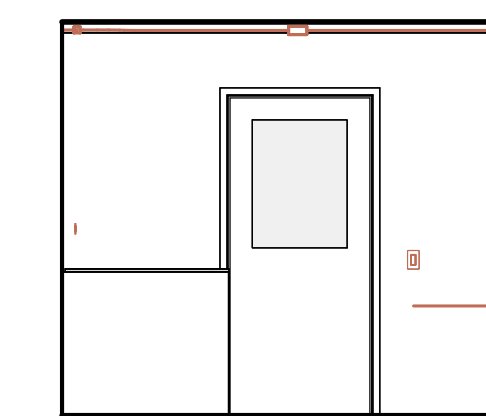
13 SHOP - NORTH ELEVATION
1/4" = 1'-0"



14 SHOP - WEST ELEVATION
1/4" = 1'-0"



15 SHOP - SOUTH ELEVATION
1/4" = 1'-0"



16 SHOP - EAST ELEVATION
1/4" = 1'-0"



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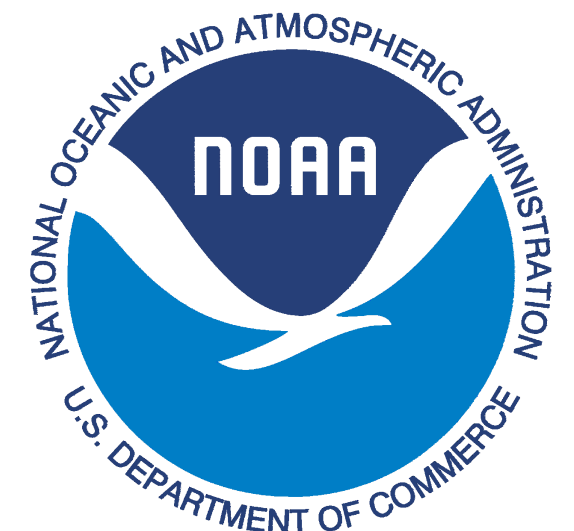
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INTERIOR ELEVATIONS

date: 03/01/21
scale: 1/4" = 1'-0"

A-801



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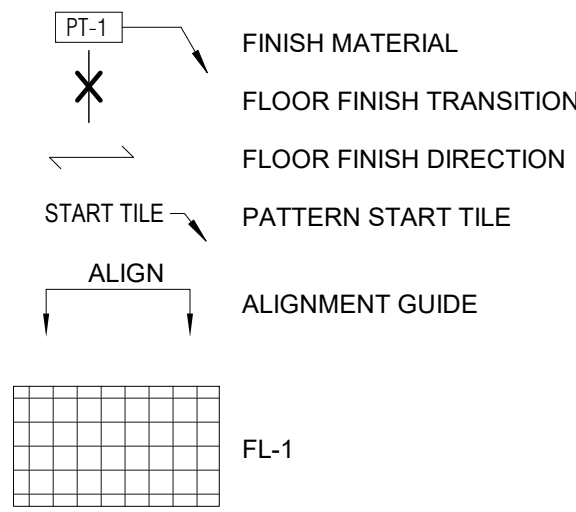
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**FINISH FLOOR
 PLAN**

date: 03/02/22
 scale: As indicated

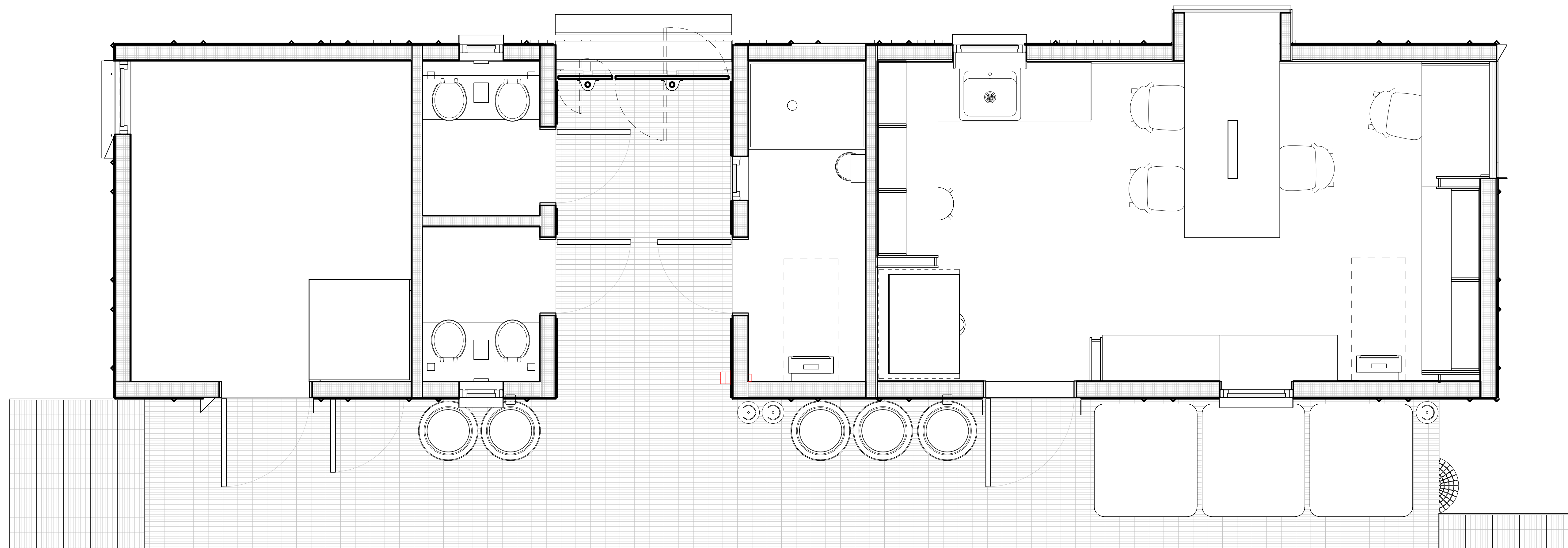
A-1001

LEGEND



FINISH SPECIFICATIONS

- FL-1** MANUFACTURER: FORBO
 PRODUCT: MCT
 COLOR: GREY DUSK
 FINISH: N/A
 NOTES: INCLUDE 4 GALLONS OF EZ-ON ADHESIVE WITH FLOORING ORDER
- SS-1** MANUFACTURER: RAW CREATIVE
 PRODUCT: GFR CONCRETE
 COLOR: N/A
 FINISH: N/A
 NOTES: ALL COUNTERTOPS TO BE 1-1/2" THICK AND ALL BACKSPALSH TO BE 1/2" THICK
- WD-1** MANUFACTURER: AUSTIN HARDWOODS
 PRODUCT: 1/4" PLYWOOD
 COLOR: LUAN
 FINISH: N/A
 NOTES: ALL INTERIOR WALLS AND CEILING TO BE SHEATHED WITH WD-1, U.O.N.
- WD-3** MANUFACTURER: AUSTIN HARDWOODS
 PRODUCT: 3/4" PLYWOOD
 COLOR: LUAN
 FINISH: N/A
 NOTES: ALL BUILT IN MILLWORK TO BE WD-3, U.O.N.
- B-1** MANUFACTURER: TARKETT
 PRODUCT: BASEWORKS THERMOSET RUBBER, 4" BURN'T LUMBER
 COLOR: N/A
 FINISH: N/A
 NOTES: WALL BASE TO APPLIED IN ALL AREAS WHERE THERE IS NOT MILLWORK. REFER TO PLAN FOR FURTHER INFORMATION
- PT-1** MANUFACTURER: SHERWIN WILLIAMS
 PRODUCT: EMERALD INTERIOR LATEX PAINT
 COLOR: SNOWBOUND 7004
 FINISH: SEMIGLOSS
 NOTES: N/A



1 FINISH FLOOR PLAN
 1/2" = 1'-0"

ELECTRICAL LEGEND							
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SWITCH		CONDUIT RUN		110 V DUPLEX OUTLET		12V BUS BATTERY
	3-WAY SWITCH		VERTICAL SURFACE-MOUNTED LED TAPE		110 V QUADRUPLEX RECEPTACLE		DRIVER
	DIMMER SWITCH		ROTATING VERTICAL SURFACE-MOUNTED LED TAPE		110 V DUPLEX OUTLET - WATERPROOF		SMOKE DETECTOR
	SURFACE-MOUNTED LED TAPE IN EXTRUSION, MOUNTED ON WALL SURFACE, UNDER-CABINET		FIRE EXTINGUISHER UNDER CABINET		110 V DUPLEX OUTLET W/ INTEGRATED USB		CARBON MONOXIDE DETECTOR
	LED TAPE IN EXTRUSION, SUSPENDED FROM BEAM, OR ON CEILING SURFACE		ANTENNA		COMMUNICATIONS JACK		
	ROTATING SURFACE-MOUNTED LED TAPE IN EXTRUSION		110 V DUPLEX OUTLET- GROUND FAULT CIRCUIT INTERRUPTER		PANELBOARD		

ABBREVIATIONS AND SYMBOLS	
A	AMPERE(S)
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERES INTERRUPTING CAPACITY
C	CONDUIT
EC	ELECTRICAL CONTRACTOR
G	GROUND
GC	GENERAL CONTRACTOR
IDF	INTERMEDIATE DISTRIBUTION FACILITY
KVA	KILOVOLT AMPERE(S)
KW	KILOWATT(S)
LTG	LIGHTING
MLO	MAIN LUGS ONLY
N	NEW
PH, Ø	PHASE
PNL	PANEL
POE	POWER OVER ETHERNET
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
V	VOLT(S)
W	WATT(S) OR WIRE
WP	WEATHERPROOF

LIGHTING FIXTURES	
	LUMINAIRE TYPE, REFERENCING LUMINAIRE SCHEDULE, TYPICAL ALL FIXTURES. SUBSCRIPT, IF SHOWN, REFERENCES WALL SWITCH OR RELAY/ZONE CONTROL.
	SURFACE OR PENDANT MOUNTED LUMINAIRE
	LIGHTING CONTROL MOTION SENSOR

WIRING DEVICES	
	JUNCTION BOX
	WALL MOUNTED J-BOX

ELECTRICAL GENERAL NOTES	
1.	THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL NECESSARY FOR A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM.
2.	MATERIALS AND INSTALLATION SHALL COMPLY WITH CODES, LAWS AND ORDINANCES OF FEDERAL, STATE AND LOCAL GOVERNING BODIES HAVING JURISDICTION.
3.	MATERIALS AND EQUIPMENT SHALL BE LISTED AND/OR LABELED BY U.L., ETL, CSA OR ANOTHER RECOGNIZED TESTING LAB.
4.	ALL WORK REQUIRED FOR THE INSTALLATION AS SHOWN ON DRAWINGS INCLUDING LABOR, EQUIPMENT AND MATERIALS SHALL BE IN STRICT COMPLIANCE WITH THE BUILDING STANDARDS, EXCEPT AS NOTED OTHERWISE.
5.	THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, GOVERNMENTAL FEES, TAXES AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE ELECTRICAL WORK.
6.	THE CONTRACTOR SHALL PREPARE AND SUBMIT TO GOVERNMENTAL AGENCIES AND UTILITY COMPANIES SHOP DRAWINGS, WHICH ARE REQUIRED BY THESE AGENCIES, FOR THEIR APPROVAL.
7.	THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER/OWNER OF ANY MATERIALS OR APPARATUS BELIEVED TO BE INADEQUATE, UNSUITABLE, IN VIOLATION OF LAWS, ORDINANCES, RULES OR REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
8.	THE CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS, VISIT THE SITE, AND THOROUGHLY BECOME FAMILIAR WITH THE BUILDING STANDARDS AND LOCAL CONDITIONS RELATING TO THE WORK. FAILURE TO DO SO WILL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATIONS OF THE CONTRACT.
9.	ALL MATERIALS, AND EQUIPMENT SHALL BE ERRECTED, INSTALLED, CONNECTED, CLEANED, ADJUSTED, TESTED, CONDITIONED, AND PLACED IN SERVICE IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS.
10.	ALL CUTTING, DRILLING AND PATCHING OF MASONRY, STEEL OR IRON WORK BELONGING TO THE BUILDING MUST BE DONE BY THIS CONTRACTOR IN ORDER THAT HIS WORK MAY BE PROPERLY INSTALLED, BUT UNDER NO CONDITIONS MAY STRUCTURAL WORK BE CUT, EXCEPT AT THE DIRECTION OF THE ARCHITECT-DESIGNER OR THEIR REPRESENTATIVE.
11.	SHOP DRAWINGS SHALL INCLUDE MANUFACTURER'S NAMES, CATALOG NUMBERS, CUTS, DIAGRAMS AND OTHER SUCH DESCRIPTIVE DATA AS MAY BE REQUIRED TO IDENTIFY AND REVIEW THE EQUIPMENT. SUBMITTALS SHALL BE IN LOGICAL GROUPS, FOR EXAMPLE, ALL LIGHTING FIXTURES, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.
12.	SUBMIT (1) ELECTRONIC PDF COPY OF THE FOLLOWING SHOP DRAWINGS FOR REVIEW: A. LIGHT FIXTURES & POWER SUPPLIES B. LIGHTING CONTROLS C. VIDEO SURVEILLANCE CAMERAS D. CARD READERS E. LOW VOLTAGE DATA CABLES F. PROVIDE "AS-BUILT" DRAWINGS AND SUBMIT TO ARCHITECT/DESIGNER.
16.	PROVIDE THE FOLLOWING INFORMATION, PER IECC 2015 C408.2.5.2 TO THE PARTY RESPONSIBLE FOR PROJECT COMMISSIONING PLAN (COMMISSIONING AGENT/ MECHANICAL ENGINEER) AND ELECTRICAL ENGINEER: a. CUTSHEETS FOR ALL INSTALLED LIGHTING AND LIGHTING CONTROLS. b. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF INSTALLED LIGHTING, REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY IDENTIFIED. c. SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS. INSPECTION OF ALL LIGHTING CONTROLS SHALL BE PERFORMED PRIOR TO ELECTRICAL ENGINEER'S COMMISSIONING SITE VISIT. RECALIBRATION OF LIGHTING CONTROLS SHALL BE PERFORMED FOLLOWING SITE VISIT AND SHALL BE BASED UPON THE RECOMMENDATIONS OF THE ELECTRICAL ENGINEER.
17.	ALL MATERIAL, EQUIPMENT, WIRING DEVICES, ETC. SHALL BE NEW, UNLESS SPECIFICALLY INDICATED AS EXISTING TO BE REUSED.
18.	ALL NEW CIRCUIT BREAKERS FOR NEW OR EXISTING PANELBOARDS SHALL MATCH EXISTING BUILDING PANELBOARD MANUFACTURER AND BREAKER TYPE. THE CONTRACTOR SHALL PROVIDE NEW TYPE WRITTEN PANEL DIRECTORIES FOR ALL NEW PANELS AND EXISTING PANELS WHICH HAVE CHANGED. PANELBOARD SHALL BE MARKED WHERE THE SOURCE OF POWER SUPPLY ORIGINATES, AND IF SERIES COMBINATION SYSTEMS ARE UTILIZED AND THEIR LISTED AMPERE RATING.
19.	DO NOT SHARE NEUTRAL CONDUCTORS FOR MULTI-WIRE BRANCH CIRCUITS.
20.	SHOULD ACTUAL FIELD CONDITIONS REQUIRE INDICATED CIRCUIT DESIGNATIONS TO VARY, INDICATE THE CIRCUIT NUMBER USED ON THE "AS-BUILT" DRAWINGS.
21.	PROVIDE COMPLETE METAL RACEWAY SYSTEMS AND ENCLOSURES FOR ALL WIRING THROUGHOUT THE EXTENT OF THE REQUIRED DISTRIBUTION SYSTEM. A. UTILIZE RIGID POLYVINYL CHLORIDE CONDUIT (PVC) IN THE FOLLOWING LOCATIONS: a. UNDERGROUND B. UTILIZE ELECTRICAL METALLIC TUBING (EMT), MINIMUM SIZE OF 3/4", IN THE FOLLOWING LOCATIONS: a. POWER CIRCUIT HOMERUN b. BRANCH CIRCUITS IN CONCEALED OR EXPOSED LOCATIONS c. DATA/CATV ROUGH-IN C. UTILIZE METAL-CLAD CABLE (MC) IN THE FOLLOWING LOCATIONS: a. BRANCH CIRCUIT IN CONCEALED LOCATIONS
24.	ALL NEW CIRCUITS SHALL HAVE A GROUND WIRE INSTALLED.
25.	ALL WIRING NOT INSTALLED IN CONDUIT AND INSTALLED IN THE CEILING SPACE SHALL BE PLENUM RATED.
26.	EACH SWITCH, LIGHT, RECEPTACLE AND OTHER MISCELLANEOUS DEVICE SHALL BE PROVIDED WITH A GALVANIZED OR PRESSED STEEL OUTLET BOX OF THE KNOCKOUT TYPE, OF NOT LESS THAN NO. 14 U.S. GAUGE STEEL. CONDUITS SHALL BE FASTENED WITH LOCKNUTS AND BUSHINGS AND ALL UNUSED KNOCKOUTS MUST BE LEFT SEALED. THERE MUST BE SUFFICIENT ROOM FOR WIRES AND BUSHINGS AND DEEP BOXES SHALL BE INSTALLED WHERE REQUIRED. BOXES SHALL BE SECURELY AND ADEQUATELY SUPPORTED.
27.	IN EXPOSED AND SUSPENDED CEILING APPLICATIONS, ROUTE CONDUIT AS CLOSE TO STRUCTURAL SLAB OR DECK AS POSSIBLE, AND SUPPORT CONDUIT AND JUNCTION BOXES DIRECTLY FROM THE STRUCTURAL SLAB, DECK, OR FRAMING PROVIDED FOR THAT PURPOSE. LIGHTING BRANCH CIRCUIT CONDUITS SHALL NOT BE CLIPPED TO THE CEILING SYSTEM HAS BEEN SPECIFICALLY DESIGNED FOR THAT PURPOSE.
28.	ALL EXPOSED CONDUIT SHALL BE CONCEALED TO THE GREATEST EXTENT POSSIBLE, AND SHALL BE INSTALLED PARALLEL AND CLOSE TO STRUCTURAL MEMBERS. GENERAL CONTRACTOR SHALL PAINT CONDUIT TO MATCH ADJACENT FINISHES.
29.	ALL FACE PLATE AND DEVICE COLORS SHALL BE APPROVED BY ARCHITECT OR OWNER.
30.	ALL DIMMED LIGHTING CIRCUITS ARE TO RECEIVE DEDICATED NEUTRALS. DO NOT SHARE NEUTRALS ON DIMMED LIGHTING CIRCUITS.
31.	THE CONTRACTOR SHALL VERIFY THE CEILING TYPE BEFORE ORDERING LIGHTING LIXTURES.
32.	THE POWER AND CONTROL REQUIREMENTS FOR ALL EQUIPMENT CONNECTIONS SHALL BE CONFIRMED WITH APPROVED SHOP DRAWINGS PRIOR TO ELECTRICAL ROUGH-IN. FINAL POWER REQUIREMENTS, DIMENSIONED ROUGH-IN LOCATIONS, LOW VOLTAGE SYSTEM CONNECTIONS, ETC. SHALL BE CONFIRMED AND MODIFIED AS REQUIRED.
33.	ALL EXISTING ELECTRICAL SERVICES NOT SPECIFICALLY INDICATED TO BE REMOVED OR ALTERED SHALL REMAIN AS THEY PRESENTLY EXIST.
34.	CONTRACTOR TO CONDUCT FUNCTIONAL TESTING OF LIGHTING CONTROLS EQUIPMENT AS REQUIRED BY IECC 2012/2015, SECTION C408.3. AFTER THIS TESTING IS OBSERVED AND COMPLETED, THE COMMISSIONING AUTHORITY SHALL PROVIDE DOCUMENTATION TO THE AHJ THAT CERTIFIES THAT THE INSTALLATION MEETS THE DOCUMENTED PERFORMANCE CRITERIA OF SECTION C405.A
35.	IDENTIFY EACH RECEPTACLE WITH PANELBOARD IDENTIFICATION AND CIRCUIT NUMBER. USE HOT, STAMPED, OR ENGRAVED MACHINE PRINTING WITH BLACK-FILLED LETTERING ON FACE OF PLATE, AND DURABLE FIRE MARKERS OR TAGS INSIDE OUTLET BOXES.



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UNIVERSITY OF COLORADO DENVER
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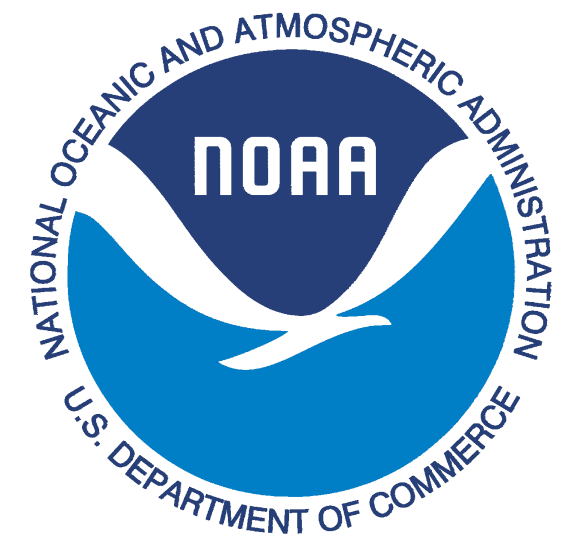
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ELEC. NOTES, SPECIFICATIONS & SYMBOLS

date: 03/31/22
scale: As indicated

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UNIVERSITY OF COLORADO DENVER
1250 14th Street
Denver, Colorado 80202



KL&A
Engineers & Builders
1717 Washington Avenue, Suite 100
Golden, Colorado 80401
P: (303) 384 9910 F: (303) 384 9915
Buffalo, WY • Carbonade, CO • Golden, CO • Loveland, CO



NOAA ANTARCTIC RESEARCH STATION

Cape Shirreff - Livingston Island
Antarctica

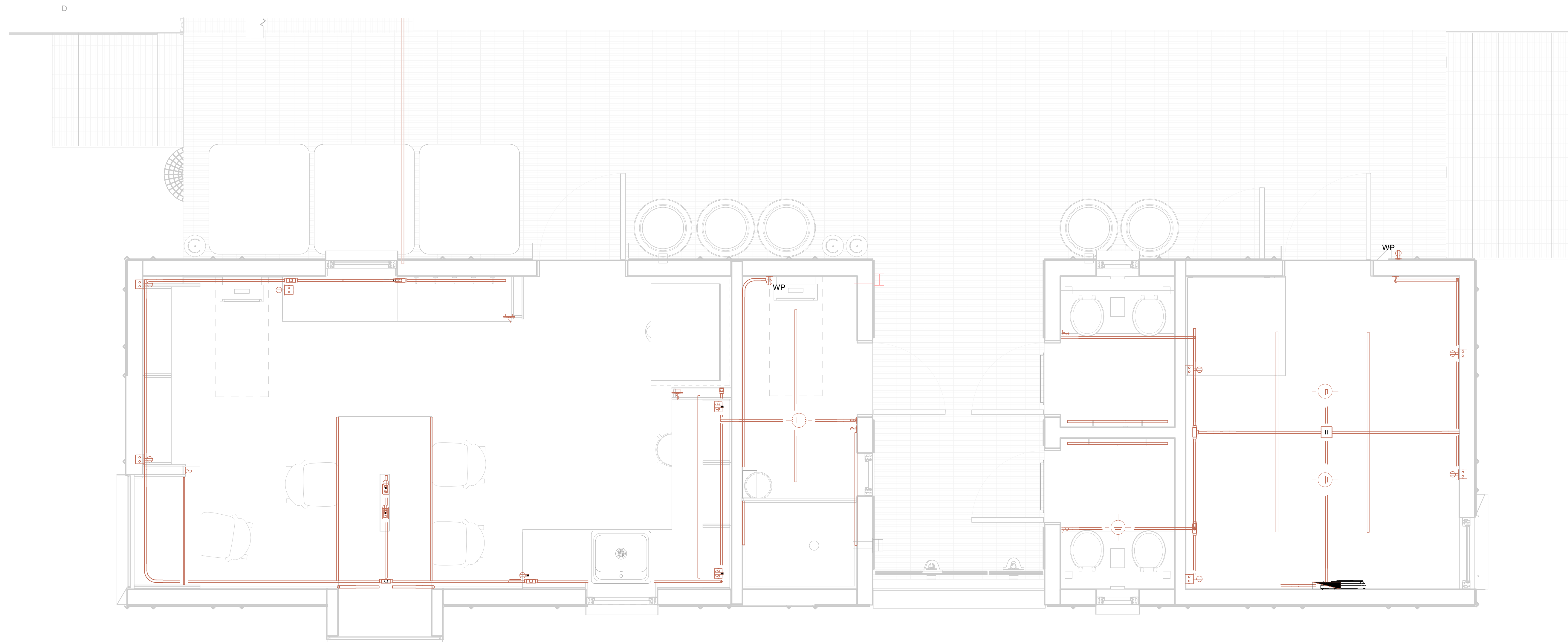
REVISIONS

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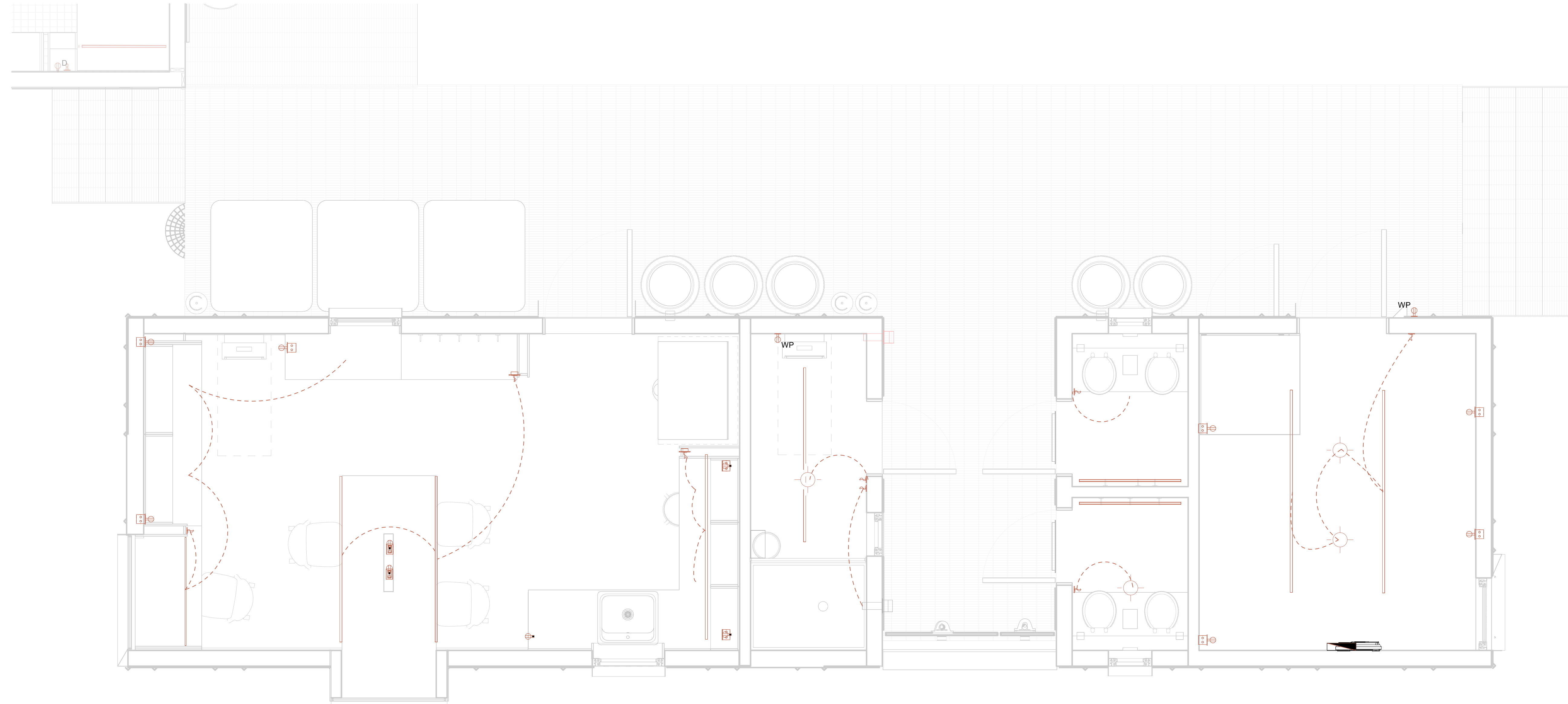
ELECTRICAL PLAN

date: 03/01/21
scale: 1/2" = 1'-0"

E-101



1 CAMPUS ELECTRICAL
1/2" = 1'-0"



1 LEVEL 1 LIGHTING PLAN
1/2" = 1'-0"



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LIGHTING PLAN

date: 03/01/21
scale: 1/2" = 1'-0"

E-102

LIGHTING FIXTURE SCHEDULE											
FIXTURE TYPE	LENGTH	MFR	MODEL	ROOM	DESCRIPTION	VOLTAGE	QUANTITY	WATTAGE	MATERIAL	ELEV FROM LEVEL	COMMENTS
<varies>	6' - 4 3/8"		<varies>	FUR SEAL LAB			2			0' - 0"	
LS-1	11' - 5"		YT02	FUR SEAL LAB			2			0' - 0 1/8"	
<varies>	13' - 11 7/16"		<varies>	SHOP			4			0' - 0"	
<varies>	6' - 0"		<varies>	SHOWER			2			0' - 0"	
	0' - 0"			TOILET			1			0' - 0"	
LS-1	3' - 6"	BELUX	XT02	TOILET			1			8' - 2 5/16"	
LS-1	3' - 6"	BELUX	XT02	TOILET			1			8' - 2 11/16"	

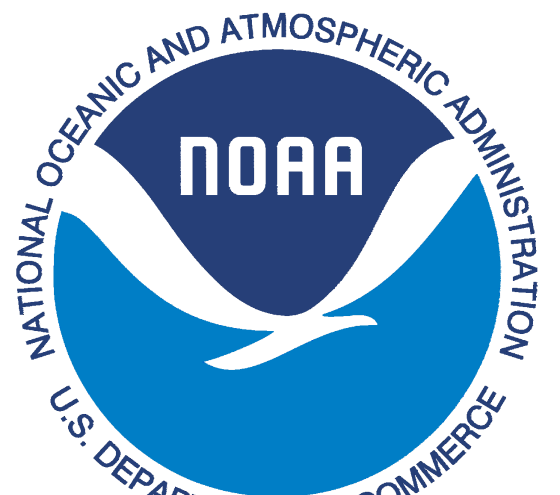
ELECTRICAL FIXTURE SCHEDULE							
ROOM	FIXTURE TYPE	ADDITIONAL FUNCTIONS	QUANTITY	MANUFACTURER	ELEVATION FROM LEVEL	DESCRIPTION	COMMENTS
	2P		1	TBD	0' - 6 1/8"	DUPLEX POWER OUTLET	
FUR SEAL LAB	2P		3	TBD	0' - 0"	DUPLEX POWER OUTLET	
SHOP	2P		4	TBD	0' - 0"	DUPLEX POWER OUTLET	
SHOWER	2P		1	TBD	1' - 9 3/8"	DUPLEX POWER OUTLET	
FUR SEAL LAB	2PU	USB	5	TBD	0' - 0"	DUPLEX POWER OUTLET WITH USB	

LIGHTING DEVICE SCHEDULE							
ROOM	QUANTITY	CIRCUIT #	MANUFACTURER	SWITCH ID	VOLTAGE	FUNCTION	COMMENTS
FUR SEAL LAB	3		TBD		120 V	STANDARD	
SHOP	1		TBD		120 V	STANDARD	
SHOWER	2		TBD		120 V	STANDARD	
TOILET	2		TBD		120 V	STANDARD	

Talk to Electrical engineer for this

PANELBOARD: BERTHING											
LOCATION: FRESHIES		VOLTAGE: X		MOUNTING: WALL - SURFACE		A.I.C. RATING: X		MAIN DEVICE: X			BUS AMPS: X
LOAD DESCRIPTION	BKR	POLES	CKT	PHASE A kVA	PHASE B kVA	PHASE C kVA	CKT	POLES	BKR	LOAD DESCRIPTION	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
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SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	

PANELBOARD: GALLEY											
LOCATION: FRESHIES		VOLTAGE: X		MOUNTING: WALL - SURFACE		A.I.C. RATING: X		MAIN DEVICE: X			BUS AMPS: X
LOAD DESCRIPTION	BKR	POLES	CKT	PHASE A kVA	PHASE B kVA	PHASE C kVA	CKT	POLES	BKR	LOAD DESCRIPTION	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
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SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	
SPARE	0	0	0	0.0	0.0	0.0	0.0	0	0	0	



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ELECTRICAL SCHEDULES

date: 03/31/22
 scale: 12" = 1'-0"

E-201

11/03/2021 11:24:40 AM

HVAC LEGEND
MISC. LEGEND
PIPING LEGEND

DESIGN ASSUMPTIONS
LOCATION: CAPE SHIRREFF, ANTARCTICA MINIMUM DESIGN TEMPERATURE (DURING OCCUPANCY): 0 DEGREES F MINIMUM DESIGN TEMPERATURE (UNOCCUPIED): -20 DEGREES F MAXIMUM FULL TIME OCCUPANCY: 8 PEOPLE

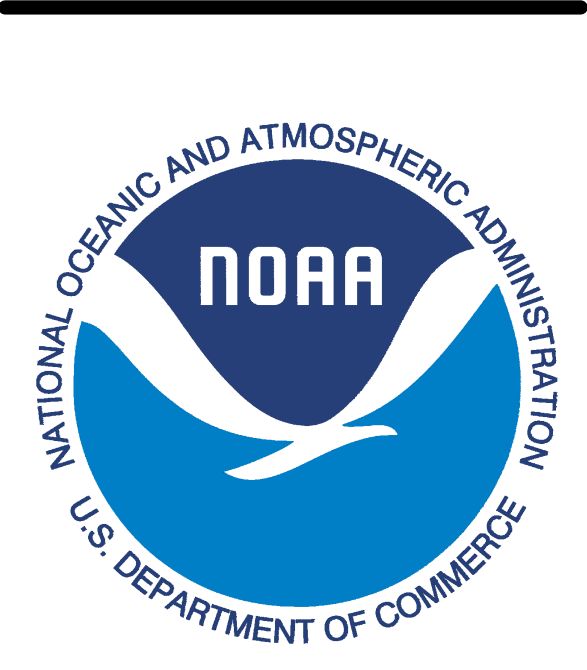
MTG, HEIGHTS U.O.N.
THERMOSTATS (USER ADJ.) 48" AFF CONTROLS (CENTERLINE) 48" AFF

ABBREVIATIONS
A/C AIR CONDITIONING
AFF ABOVE FINISHED FLOOR
AHU AIR HANDLING UNIT
BOD BOTTOM OF DUCT
BOP BOTTOM OF PIPE
BOS BOTTOM OF STRUCTURE
BTU BRITISH THERMAL UNIT
CH CHILLER
CFM CUBIC FEET PER MINUTE
CRAC COMPUTER ROOM AIR CONDITIONING UNIT
CRCU COMPUTER ROOM CONDENSING UNIT
CT COOLING TOWER
CU CONDENSING UNIT
CUH CABINET AIR HEATER
(D) DEMOLISHED
DB DRY RUB
DDC DIRECT DIGITAL CONTROL
DN DOWN DX DIRECT EXPANSION
(E) EXISTING TO REMAIN
EAT ENTERING AIR TEMPERATURE
EDB ENTERING DRY BULB
EF EXHAUST FAN
ERV ENERGY RECOVERY VENTILATOR
EWB ENTERING WET BULB
EWT ENTERING WATER TEMPERATURE
FCU FAN COIL UNIT
FD FIRE DAMPER
FSD FIRE/SMOKE DAMPER
GPM GALLONS PER MINUTE
HD HEAD
HP HORSEPOWER, HEAT PUMP
HOA HAND OFF AUTOMATIC
HRV HEAT RECOVERY VENTILATOR
HSTAT HUMIDISTAT
HTG HEATING
IN WC INCHES OF WATER COLUMN
LAT LEAVING AIR TEMPERATURE
LRA LOCKED ROTOR AMPS
LWT LEAVING WATER TEMPERATURE
MAU MAKE UP AIR UNIT
MBH 1000 BTU PER HOUR
MCA MINIMUM CIRCUIT AMPACITY
MFR MANUFACTURER
MMBH 1,000,000 BTU PER HOUR
(N) NEW
NA NOT APPLICABLE
NC NOISE CRITERIA, NORMALLY CLOSED
NO NORMALLY OPEN
OA OUTSIDE AIR
PH, Ø PHASE
PRV PRESSURE REDUCING VALVE
(R) RELOCATED EXISTING
RA RETURN AIR
RH RELATIVE HUMIDITY
RLA RUNNING LOAD AMPS
RPM REVOLUTIONS PER MINUTE
RTU ROOF TOP UNIT
SA SUPPLY AIR
SD SMOKE DAMPER
SF SQUARE FEET, SUPPLY FAN
SP STATIC PRESSURE
SS STAINLESS STEEL
ST SOUND TRAP, STEAM TRAP
STM STEAM
TA TRANSFER AIR OPENING
TD TRANSFER DUCT
TDH TOTAL DYNAMIC HEAD
TSTAT THERMOSTAT
TYP TYPICAL
UH UNIT HEATER
VAC VACUUM
VAV VARIABLE AIR VOLUME
W WITH
W/O WITHOUT
WB WET BULB
WC WATER COLUMN
WPD WATER PRESSURE DROP

MECHANICAL GENERAL NOTES
1. THE PLANS ARE, TO A GREAT EXTENT, DIAGRAMMATIC IN NATURE. DRAWING SCALES SHOULD BE VERIFIED FROM DIMENSIONS ON ARCH PLANS. THE INFORMATION PRESENTED IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS, LEVELS, ECT. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE
2. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ORDINANCES, AND ALL AUTHORITIES HAVING JURISDICTION
3. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL ENGINEERING REQUIREMENTS, THE OWNER'S DESIGN CRITERIA, UTILITY COMPANY REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY, AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION
4. RECORD DRAWINGS - PREPARE AND SUBMIT TO THE OWNER RECORD DRAWINGS INDICATING THE EXACT LOCATION OF ALL EQUIPMENT INCLUDING THE EQUIPMENTS "AS INSTALLED" SIZES(S), MANUFACTURER, MODEL NUMBERS, AND PERFORMANCE RATINGS
5. SUPPORTS - EQUIPMENT, PIPING, DUCTWORK OR ANY OTHER ACCESSORY SHALL NOT BE SUPPORTED FROM OTHER PIPING, DUCTWORK, METAL ROOF DECK, LATERAL BRACING BRIDGING OR CONDUIT. ITEMS SHALL ONLY BE SUPPORTED FROM BUILDING STRUCTURE.
6. COORDINATE EXACT LOCATION OF ALL DUCTWORK, AIR TERMINAL UNITS, PIPING, ECT. WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND OTHER MECHANICAL SYSTEMS
7. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE
8. ALL DUCTWORK, PIPING AND TEMPERATURE CONTROL CONDUIT TO VIBRATING EQUIPMENT SHALL HAVE FLEXIBLE CONNECTORS
9. COORDINATE ALL ROOF AND CHASE PENETRATIONS WITH STRUCTURAL DRAWINGS AND ROOF INSTALLER
10. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED
11. ALL SA DUCT BRANCH TAKE-OFFS TO DIFFUSER TO BE SAME SIZE AS SIFFUSER NECK UNLESS OTHERWISE NOTED
12. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS
13. PROVIDE MINIMUM OF 5'-0" DUCT FROM ROOM TERMINAL UNITS TO FIRST DIFFUSER TAKE-OFFS
14. CONTRACTOR SHALL COORDINATE LOCATION OF ALL DIFFUSERS AND GRILLES WITH STRUCTURAL, ELECTRICAL AND ARCHITECTURAL REFLECTED CEILING PLANS
15. BEFORE INSTALLATION, EQUIPMENT CONTRACTOR SHALL VERIFY THAT COILS CAN BE REMOVED WITHOUT INTERFERENCE. CONTRACTOR SHALL PROVIDE ADEQUATE ACCESS AND COIL REMOVAL SPACE FOR ALL EQUIPMENT
16. ACCESS PANELS ARE REQUIRED (MIN 18" X 18") FOR ACCESS TO EVERY VALVE, DAMPER, AIR TERMINAL UNIT, AND CONTROL SENSOR IF NOT OTHERWISE ACCESSIBLE

HVAC SPECIFICATIONS
CODE COMPLIANCE AND STANDARDS: IMC 2021
DUCTWORK: GALVANIZED SHEET METAL, ASTM A572 COATING DESIGNATION G90 INSTALL TURNING VANES IN ALL SQUARE ELBOWS
DUCT INSULATION INTERIOR: 1-1/2" 3/4 LB DENSITY FLEXIBLE FIBERGLASS WRAO ASTM C553 TYPE II CLASS F-1
DUCT INSULATION JACKET INTERIOR: SCRIM FOIL FACED VAPOR BARRIER, ASTM C921 TYPE 1
FIRE HAZARD CLASSIFICATION FOR INSULATING MATERIALS: FLAME SPREAD 25 OR LESS, SMOKE RATING 50 OR LESS
ADHESIVE & FASTENERS: COMPLY WITH NFPA 90A AND INDUSTRY STANDARD
DUCT CONSTRUCTION & INSTALLATION: CONSTRUCT IN ACCORDANCE TO LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS"
FLEXIBLE DUCTWORK: INSULATED PRESSURE RATING SUITABLE FOR APPLICATION MAXIMUM LENGTH IS 5'-0"
FIRE HAZARD CLASSIFICATIONS FOR INSULATING MATERIALS: FLAME SPREAD RATING OF 25 OR LESS SMOKE DEVELOPED RATING OF 50 OR LESS
PIPING MATERIAL: COPPER TUBING, ASTM B 280, TYPE ACR, OR ASTM B 88, TYPE L HARD DRAWN STRAIGHT LENGTHS, AND SOFT ANNEALED COILS, SEAMLESS COPPER TUBING
FITTINGS: WROUGHT-COPPER FITTINGS-ANSI B16.22 STREAMLINED PATTERN
JOINING MATERIALS: BRAZING FILLER METALS: AWS A5.8, CLASSIFICATION BAG-1 (SILVER) INSULATE SUCTION LINES WITH 3/4" FLEXIBLE ELASTOMERIC INSULATION
PIPING INSTALLATION: INSTALL IN ACCORDANCE WITH ASHRAE STANDAR 15 - "THE SAFETY CODE FOR MECHANICAL REFRIGERATION" INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS INSTALL PIPING FREE OF SACS AND BENDS SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE INSTALL PIPING AS SHORT AND DIRECT AS POSSIBLE, WITH A MINIMUM NUMBER OF JOINTS, ELBOWS, AND FITTINGS. INSTALL VLAVES AND SPECIALTIES IN ACCESSIBLE LOCATIONS TO ALLOW FOR SERVICE AND INSPECTION INSTALL PIPE SLEEVES AT PENETRATIONS IN EXTERIOR WALLS AND FLOOR ASSEMBLIES INSTALL SLEEVES THROUGH FLOORS, WALLS, OR CEILINGS, SIZED TO PERMIT INSTALLATION OF FULL THICKNESS INSULATION SLOPE REFRIGERANT PIPING AS FOLLOWS: INSTALL HORIZONTAL HOT-GAS DISCHARGE PIPING WITH A UNIFORM SLOPE DOWNWARD AWAY FROM COMPRESSOR INSTALL HORIZONTAL SUCTION LINES WITH A UNIFORM SLOPE DOWNWARD TO COMPRESSOR INSTALL TRAPS AND DOUBLE RISERS TO ENTRAIN OIL IN VERTICAL RUNS LIQUID LINES MAY BE INSTALLED LEVEL
PIPE JOINT CONSTRUCTION: REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY SOLDERED JOINTS: CONSTRUCT JOINTS ACCORDING TO ASTM 828 OR CDA'S "COPPER TUBE HANDBOOK" BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK", CHAPTER "PIPE AND TUBE"
HANGERS AND SUPPORTS: INSTALLS THE FOLLOWING PIPE ATTACHMENTS: ADJUSTABLE STEEL CLEVIS HANGERS FOR INDIVIDUAL HORIZONTAL RUNS LESS THAN 20 FEET LONG ROLLER HANGERS AND SPRING HANGERS FOR INDIVIDUAL HORIZONTAL RUNS 20 FEET OR LONGER COPPER-CLAD HANGERS AND SUPPORTS FOR HANGERS AND SUPPORTS IN DIRECT CONTACT WITH COPPER PIPE INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD SIZES: NPS 1/2": MAXIMUM SPAN, 60 INCHES, MINIMUM ROD SIZE, 1/4 INCH NPS 3/8": MAXIMUM SPAN, 60 INCHES, MINIMUM ROD SIZE, 1/4 INCH NPS 1": MAXIMUM SPAN, 72 INCHES, MINIMUM ROD SIZE, 1/4 INCH NPS 1-1/4": MAXIMUM SPAN, 96 INCHES, MINIMUM ROD SIZE, 3/8 INCH NPS 1-1/2": MAXIMUM SPAN, 96 INCHES, MINIMUM ROD SIZE, 3/8 INCH

PLUMBING SPECIFICATIONS
CODE COMPLIANCE: LOCAL PLUMBING CODE, UL, ASSOCIATED FACTORY MUTUAL RESEARCH
CW AND HW PIPING: TYPE L COPPER TUBE ASTM B88 WITH WROUGHT COPPER 95-5 TIN-ANTIMONY SOLDER - JOINT FITTINGS ANSI B16.22
PEX PIPING FOR DOMESTIC CW AND HW PIPING: PEX TUBE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) UTILIZING THE HIGH PRESSURE PEROXIDE METHOD (PEXA) WITH A MINIMUM CROSSLINKING OF 70-89% ASTM F 876/877, PEX 3006, 9 SDR, ASTM F2023. COLOR - BLUE FOR CW, RED FOR HW, WHITE FOR HWC, MAX FLAME SPREAD OF 25/50 PER ASTM E 84. FITTINGS MUST MEET ASTM F 1960-2159 PEX SHALL NOT BE USED WITH INSTANTANEOUS WATER HEATERS. THERE SHALL BE A MINIMUM OF 18-INCHES FROM THE CONNECTION FROM THE WATER HEATER TO PEX PIPING. PEX SHALL ONLY BE USED ABOVE GROUND
ABOVE GRADE WASTE AND VENT: HUBLESS CAST IRON SERVICE WEIGHT SOIL PIPE AND FITTINGS CISPI STANDARD 301 WITH ASTM C 564 RUBBER SLEEVE OR GASKET WITH CORROSION-RESISTANT FASTENERS PVC PLASTIC PIPE, SCHEDULE 40
ABOVE GRADE CONDENSATE PIPING: TYPE L COPPER
BELOW GRADE WASTE AND VENT: PVC PLASTIC PIPE, SCHEDULE 40
FITTINGS FOR WASTE AND VENT: PVC SOCKET FITTINGS AND SOLVENT-CEMENTED JOINTS INSTALL HANGERS FOR ABS AND PVC PLASTIC PIPING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD DIAMETERS LESS THAN 2-INCH-NPS: MAXIMUM HORIZONTAL SPACING, 48 INCHES WITH 3/8 INCH MINIMUM ROD DIAMETER, MAXIMUM VERTICAL SPACING, 48 INCHES
EXPOSED PVC PIPING: PROTECT PLUMBING VENTS EXPOSED TO SUNLIGHT WITH 2 COATS OF WATER-BASED LATEX PAINT
SUPPLY PIPING INSULATION: FIBERGLASS, PERFORMED RIGID PIPE INSULATION, ASTM C547, CLASS 1 JACKETED, CW, HW AND HWC ARE TO BE INSULATED. CW PIPING IS TO HAVE A VAPOR BARRIER JACKET. FIRE HAZARD CLASSIFICATION OF FLAME SPREAD 25 OR LESS, SMOKE DEVELOPED 50 OR LESS COLD WATER NPS SIZES 1" AND SMALLER: 1/2" THICKNESS COLD WATER NPS SIZES 1-1/4" AND LARGER: 1" THICKNESS HOT WATER (<140F) NPS SIZES 1-1/4" AND SMALLER: 1" THICKNESS HOT WATER (<140F) NPS SIZES 1-1/2" AND LARGER: 1-1/2" THICKNESS HOT WATER (>140F) NPS SIZES 1-1/4" AND SMALLER: 1-1/2" THICKNESS HOT WATER (>140F) NPS SIZES 1-1/2" AND LARGER: 2" THICKNESS
CW AND HW VALVES: TWO OR THREE PIECE BRONZE BODY WITH CHROME PLATED BALL, TEFLON OR TFE SEAT RATED FOR 400 WOG PRESSURE. ALL STOP VALVES AT FIXTURES SHALL BE BALL TYPE, 1/4-TURN AND LEAD FREE, DZR VALUES
SUPPORT AND EXPANSION: PROVIDE ACCEPTABLE SUPPORTING DEVICES FOR ALL PIPING. ALLOW FOR PIPE EXPANSION
TESTING AND FILLING: AFTER INSTALLATION IS COMPLETE, PRESSURE TEST NEW DOMESTIC WASTE, VENT, CW AND HW SYSTEMS PER LOCAL PLUMBING CODE. ISOLATE AND CHLORINATE ALL NEW DOMESTIC WATER PIPING PRIOR TO USE



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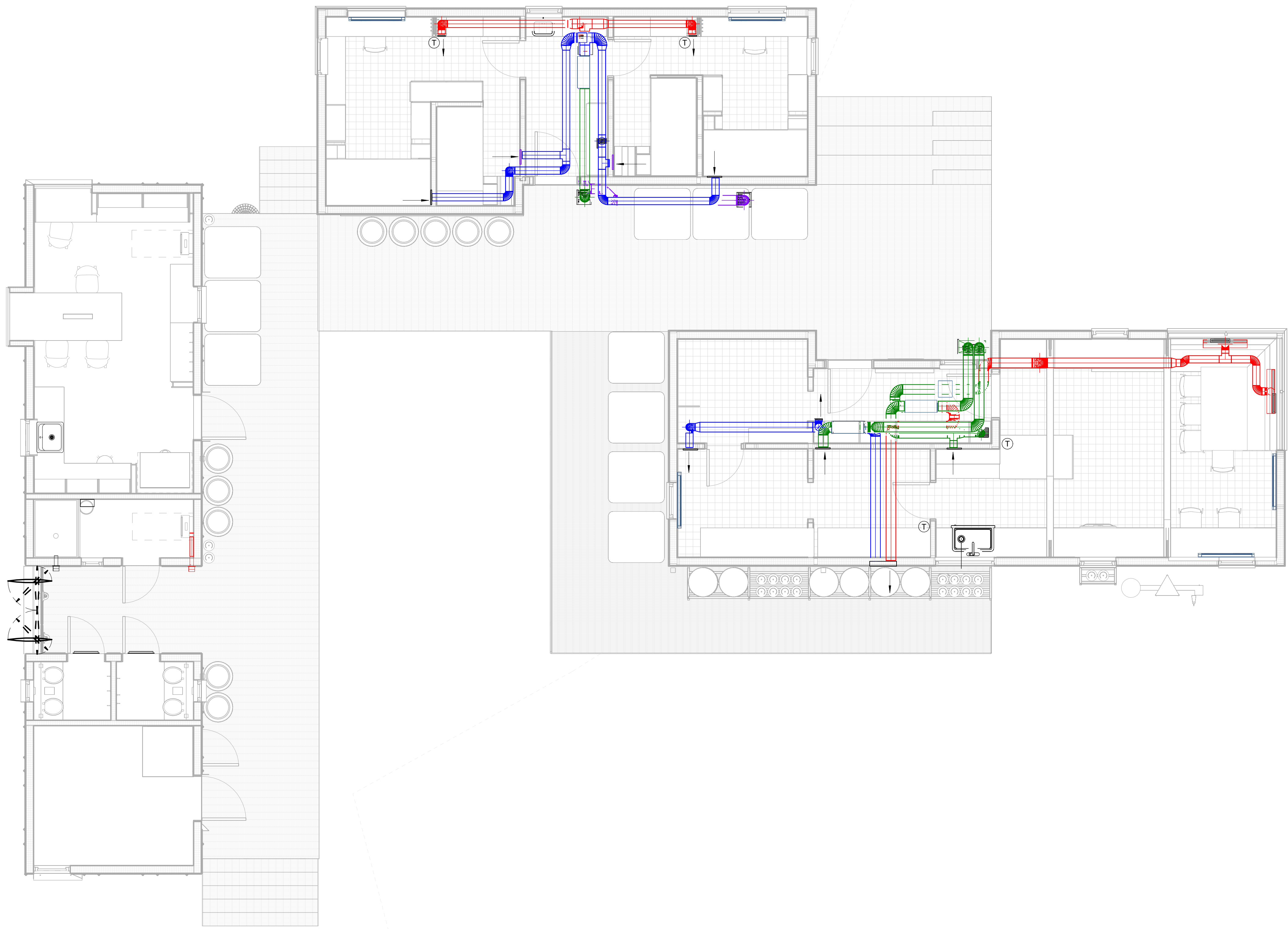
REVISIONS
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MECHANICAL NOTES AND SPECIFICATIONS

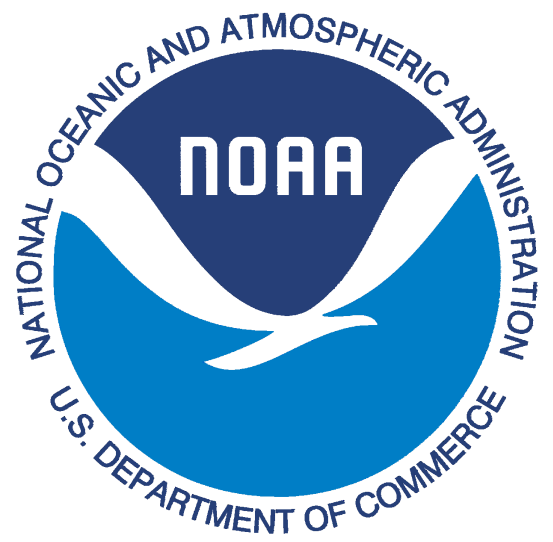
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M-001

WORKNOTE LEGEND	
WORK NOTE VALUE	WORKNOTE



1 MECHANICAL PLAN
1/4" = 1'-0"



Colorado Building Workshop
COLLEGE OF ARCHITECTURE AND PLANNING
UNIVERSITY OF COLORADO DENVER
1250 14th Street
Denver, Colorado 80202



KL&A
Engineers & Builders
1717 Washington Avenue, Suite 100
Golden, Colorado 80401
P: (303) 384 9910 F: (303) 384 9915
Buffalo, WY • Carbonade, CO • Golden, CO • Loveland, CO



**NOAA
ANTARCTIC
RESEARCH
STATION**

Cape Shirreff - Livingston Island
Antarctica

REVISIONS

REV. DATE:	REV. NAME:	REV. NO.:

**MECHANICAL
PLAN**

date: 03/10/22
scale: 1/4" = 1'-0"

M-101

MECHANICAL CONTROLS

ERV CONTROLS:

GALLEY HRV-1 SHALL OPERATE AT THE FOLLOWING CONDITIONS:

TIMES	SPEED
12AM - 6AM	OFF
6AM - 10AM	HIGH
10AM - 4PM	LOW
4PM - 10PM	HIGH
10PM - 12AM	LOW

GALLEY HRV-2 SHALL OPERATE AT THE FOLLOWING CONDITIONS:

TIMES	SPEED
12AM - 6AM	OFF
6AM - 10AM	LOW
10AM - 4PM	OFF
4PM - 10PM	LOW
10PM - 12AM	OFF

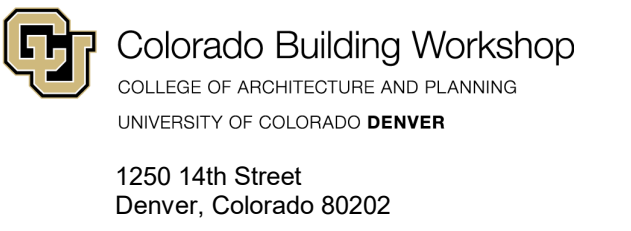
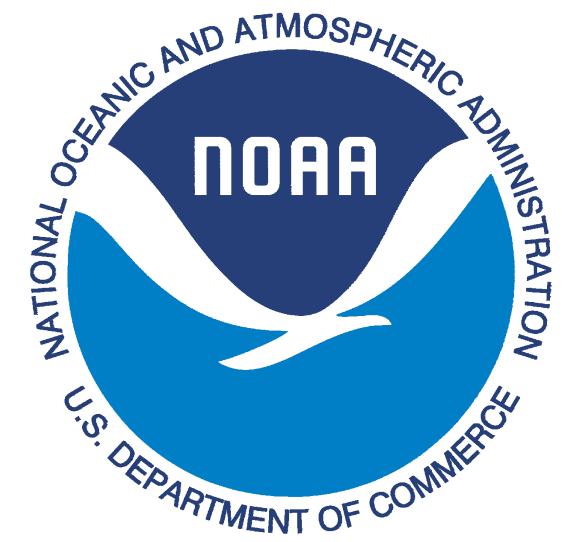
GALLEY HRV-2 SHALL OPERATE AT THE FOLLOWING CONDITIONS:

TIMES	SPEED
12AM - 6AM	HIGH
6AM - 10AM	LOW
10AM - 4PM	OFF
4PM - 10PM	LOW
10PM - 12AM	HIGH

ALL CONTROLS SHALL BE FULLY ADJUSTABLE BY OWNER AND OPERATOR

MECHANICAL SCHEDULE

TYPE MARK	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	SIZE	LOCATION	FINISH	ELECTRICAL INFORMATION	NOTES	QTY.
<u>HRV-1</u>	HEAT RECOVERY VENTILATOR (HRV)	GREENHECK	SYNC 180	22" H X 26" W X 10" D	GALLEY	N/A	120V / 1PH / 60 HZ	PROVIDE WITH WALL MOUNT TIMER AND FAN CONTROLLER	1
<u>HRV-2</u>	HEAT RECOVERY VENTILATOR (HRV)	GREENHECK	SYNC 180	22" H X 26" W X 10" D	GALLEY	N/A	120V / 1PH / 60 HZ	PROVIDE WITH WALL MOUNT TIMER AND FAN CONTROLLER	1
<u>HRV-3</u>	HEAT RECOVERY VENTILATOR (HRV)	GREENHECK	SYNC 180	22" H X 26" W X 10" D	BERTHING	N/A	120V / 1PH / 60 HZ	PROVIDE WITH WALL MOUNT TIMER AND FAN CONTROLLER	1
<u>DH-1</u>	ELECTRIC DUCT HEATER	RENEWAIRE	RH SERIES - 1KW	10" H X 11-1/2" W X 13-1/2" D	GALLEY	N/A	120V / 1PH / 60 HZ HEATER 1 KW		1
<u>DH-2</u>	ELECTRIC DUCT HEATER	RENEWAIRE	RH SERIES - 1KW	10" H X 11-1/2" W X 13-1/2" D	BERTHING	N/A	120V / 1PH / 60 HZ HEATER 1 KW		1
<u>SG-1</u>	SUPPLY GRILLE	PRICE	540/640	4" X 10"	GALLEY & BERTHING	ADB ANODIZED DARK BRONZE	N/A	DOUBLE DEFLECTION	4
<u>SG-2</u>	SUPPLY GRILLE	PRICE	LBP CORE 15A	2.5" X 18"	GALLEY	ADB ANODIZED DARK BRONZE	N/A	PROVIDE WITH ADJUSTABLE PLENUM	2
<u>RG-1</u>	RETURN GRILLE	PRICE	10	6" X 10"	GALLEY & BERTHING	ADB ANODIZED DARK BRONZE	N/A		4
<u>L-1</u>	LOUVER	GREENHECK	EHH-401	12" H X 12" W X 4" D	BERTHING	DARK BRONZE ANODIZE	N/A	INCLUDE GRAVITY BACKDRAFT DAMPER	1
<u>L-2</u>	LOUVER	GREENHECK	EHH-401	12" H X 12" W X 4" D	BERTHING	DARK BRONZE ANODIZE	N/A	INCLUDE GRAVITY BACKDRAFT DAMPER	1
<u>L-3</u>	LOUVER	GREENHECK	EHH-401	12" H X 24" W X 4" D	GALLEY	DARK BRONZE ANODIZE	N/A	INCLUDE GRAVITY BACKDRAFT DAMPER	1
<u>L-4</u>	LOUVER	GREENHECK	EHH-401	12" H X 24" W X 4" D	GALLEY	DARK BRONZE ANODIZE	N/A	INCLUDE GRAVITY BACKDRAFT DAMPER	1
<u>CON-1</u>	CONVECTOR BASEBOARD HEATER	QMARK	2500 SERIES	6-3/4" H X 2'-6" W X 2-7/8" D	GALLEY & BERTHING	NORTHERN WHITE	120V / 1PH / 60 HZ HEATER 0.5 KW		9



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REV. DATE: REV. NAME: REV. NO:

MECHANICAL SCHEDULE AND DETAILS

date: 04/03/22
scale: 12" = 1'-0"

M-201